Clinical Policy: A Critical Issue in the Outpatient Management of Adult Patients Presenting to the Emergency Department With Asymptomatic Elevated Blood Pressure
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From the American College of Emergency Physicians Clinical Policies Subcommittee (Writing Committee) on Asymptomatic Hypertension:

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ABSTRACT

This clinical policy from the American College of Emergency Physicians addresses key issues in the outpatient management of adult emergency department patients presenting with asymptomatic elevated blood pressure. A writing committee conducted a systematic review of the literature to derive evidence-based recommendations to answer the following clinical question: In adult emergency department patients being discharged with asymptomatic elevated blood pressure, is initiation of outpatient antihypertensive medications from the emergency department safe and effective? Evidence was graded and recommendations were made based on the strength of the available data.

INTRODUCTION

Approximately half of adults in the United States (119.9 million) are affected by hypertension, but only 25% (27.0 million) of these individuals effectively control their blood pressure.[1,2] Hypertension, defined as blood pressure more than 130/80 mmHg, is the primary risk factor for cardiovascular disease, and good blood pressure control reduces the likelihood of subsequent stroke and heart attack.[3,4] There are just over 6 million emergency department (ED) visits annually in the United States for a primary chief complaint of hypertension, and of those patients, about 64% receive a primary diagnosis of hypertension.[5]

In general, ED physicians excel at identifying acute life-threatening emergencies like stroke or myocardial infarction but have less experience with the long-term treatment for chronic illness such as asymptomatic hypertension. Wide variation in practice patterns exist among ED physicians for the management of patients with asymptomatic elevated blood pressure, despite the reliability of blood pressure measurements taken in the ED.[6,7] The benefits of starting or modifying blood pressure medications for asymptomatic high blood pressure in the ED may be countered by the potential risks. For example, some ED physicians believe that blood pressure treatment should be left to the primary care practitioner due to the need for long-term management and titration. Other ED physicians believe that treating asymptomatic high blood pressure in the ED represents an opportunity to provide education and initiate treatment to a patient who does not have access to reliable outpatient care. A recent scientific statement from the American Heart Association regarding the management of asymptomatic high blood pressure in the acute care setting supports the avoidance of intensifying hypertension medications in the ED, with a preference toward restarting home medication(s) and arranging close follow-up.[8] The 2013 American College of Emergency Physicians (ACEP) Clinical Policy on asymptomatic hypertension did not recommend routine ED medical interventions for asymptomatic elevated blood pressure unless the patient had poor follow-up or the patient was part of a select high-risk patient population.[9] This current ACEP clinical policy updates the 2013 clinical policy by incorporating new evidence with the aim of providing guidance for ED physicians to determine if initiation of

antihypertensive medications at and/or prior to discharge from the ED is safe and effective. This clinical policy does not revisit the 2013 question related to screening of patients for target organ injury nor evaluate the need for the lowering of acute asymptomatic elevated blood pressure within the ED.

METHODOLOGY

This ACEP clinical policy was developed by ED physicians with input from medical librarians and a patient safety advocate, is based on a systematic review and critical descriptive analysis of the medical literature, and is reported in accordance with Preferred Reporting Items for Systematic reviews and Meta-Analyses guidelines.[10]

Search and Study Selection

This clinical policy is based on a systematic review with critical analysis of the medical literature meeting the inclusion criteria. Searches of PubMed, SCOPUS, Embase, Web of Science, and the Cochrane Database of Systematic Reviews were performed by a second librarian. Search terms and strategies were peer reviewed by a second librarian. All searches were limited to human studies published in English. Specific key words/phrases, years used in the searches, dates of searches, and study selection are identified under the critical question. In addition, relevant articles from the bibliographies of included studies and more recent articles identified by committee members and reviewers were included.

Using Covidence (Covidence, Melbourne, Australia), 2 subcommittee members independently reviewed the identified abstracts to assess for possible inclusion. Of those identified for potential inclusion, each full-length text was reviewed for eligibility. Those identified as eligible were subsequently abstracted and forwarded to the committee's methodology group (emergency physicians with specific research methodological expertise) for methodological grading using a Class of Evidence framework (Appendix E1, available at http://www.annemergmed.com).

Assessment of Risk of Bias and Determination of Classes of Evidence

Each study identified as eligible by the subcommittee was independently graded by 2 methodologists. Design 1 represents the strongest possible study design to answer the critical question, which relates to whether the focus was therapeutic, diagnostic, prognostic, or a meta-analysis. Subsequent design types (ie, Design 2 and Design

3) represent respectively weaker study designs. Articles are then graded on dimensions related to the study's methodological features and execution, including but not limited to randomization processes, blinding, allocation concealment, methods of data collection, outcome measures and their assessment, selection and misclassification biases, sample size, generalizability, data management, analyses, congruence of results and conclusions, and potential for conflicts of interest.

Using a predetermined process that combines the study's design, methodological quality, and applicability to the critical question, 2 methodologists independently assigned a preliminary Class of Evidence grade for each article. Articles with concordant grades from both methodologists received that grade as their final grade. Any discordance in the preliminary grades was adjudicated through discussion, which involved at least 1 additional methodologist, resulting in a final Class of Evidence assignment (ie, Class I, Class II, Class III, or Class X) (Appendix E2, available at http://www.annemergmed.com). Studies identified with significant methodologic limitations and/or ultimately determined to not be applicable to the critical question received a Class of Evidence grade "X" and were not used in formulating recommendations for this policy. However, content in these articles may have been used to formulate the background and to inform expert consensus in the absence of evidence. Question-specific Classes of Evidence grading may be found in the Evidentiary Table included at the end of this policy.

Translation of Classes of Evidence to Recommendation Levels

Based on the strength of evidence for each critical question, the subcommittee drafted the recommendations and supporting text synthesizing the evidence using the following guidelines:

Level A recommendations. Generally accepted principles for patient care that reflect a high degree of scientific certainty (eg, based on evidence from 1 or more Class of Evidence I, or multiple Class of Evidence II studies that demonstrate consistent effects or estimates).

Level B recommendations. Recommendations for patient care that may identify a particular strategy or range of strategies that reflect moderate scientific certainty (eg, based on evidence from 1 or more Class of Evidence II studies, or multiple Class of Evidence III studies that demonstrate consistent effects or estimates).

Level C recommendations. Recommendations for patient care that are based on evidence from Class of Evidence III studies or, in the absence of adequate published literature, based on expert consensus. In instances where consensus recommendations are made, "consensus" is placed in parentheses at the end of the recommendation.

There are certain circumstances in which the recommendations stemming from a body of evidence should not be rated as highly as the individual studies on which they are based. Factors such as consistency of results, uncertainty of effect magnitude, and publication bias, among others, might lead to a downgrading of recommendations. When possible, clinically oriented statistics (eg, likelihood ratios [LRs], number needed to treat) are presented to help the reader better understand how the results may be applied to the individual patient. This can assist the clinician in applying the recommendations to most patients but allow adjustment when applying to patients with extremes of risk (Appendix E3, available at http://www.annemergmed.com).

Evaluation and Review of Recommendations

Once drafted, the policy was distributed for internal review (by members of the entire committee) followed by external expert review and an open comment period for all ACEP membership. Comments were received during a 30-day open comment period, with notices of the comment period sent electronically to ACEP members, published in *EM Today*, posted on the ACEP website, and sent to other pertinent physician organizations. The responses were used to further refine and enhance this clinical policy, although responses do not imply endorsement. Clinical policies are scheduled for revision every 3 years; however, interim reviews are conducted when technology, methodology, or the practice environment changes significantly.

Application of the Policy

This policy is not intended to be a complete manual on the evaluation and management of adult patients with asymptomatic hypertension but rather a focused examination of a critical question that has particular relevance to the current practice of emergency medicine. Potential benefits and harms of implementing recommendations are briefly summarized within the critical question.

It is the goal of the Clinical Policies Committee to provide evidence-based recommendations when the scientific literature provides sufficient quality information to inform recommendations for the critical question. In accordance with ACEP Resolution 56(21), ACEP clinical policies do not use race-based calculators in the formulation of recommendations. When the medical literature does not contain adequate empirical data to inform a critical question, the members of the Clinical Policies Committee believe that it is equally important to alert emergency physicians to this fact.

This clinical policy is not intended to represent a legal standard of care for emergency physicians. Recommendations offered in this policy are not intended to represent the only diagnostic or management options available to the emergency physician. ACEP recognizes the importance of the individual physician's judgment and patient preferences. This guideline provides clinical strategies for which medical literature exists to inform the critical question addressed in this policy. ACEP funded this clinical policy.

Scope of Application. This guideline is intended for physicians working in the ED.

Inclusion Criteria. This guideline is intended for patients aged ≥18 years who present to the ED with asymptomatic elevated blood pressure without signs and symptoms of acute target organ injury.

Exclusion Criteria. This guideline is not intended for patients who present to the ED with signs or symptoms of acute hypertensive emergencies (ie, patients with clinical findings that suggest acute target organ injury such as acute stroke, cardiac ischemia, pulmonary edema, encephalopathy, and congestive heart failure), pregnant patients, patients with end-stage renal insufficiency, emergent conditions that are likely to cause elevated blood pressure not directly related to acute target organ injury (eg, trauma, other pain syndromes), and acute presentations of serious medical conditions associated with hypertension such as stroke, myocardial infarction, and congestive heart failure.

CRITICAL QUESTION

In adult ED patients being discharged with asymptomatic elevated blood pressure, is initiation of outpatient antihypertensive medications from the ED safe and effective?

Patient Management Recommendations

Level A recommendations. None specified.

Level B recommendations. None specified.

Level C recommendations. Consider the initiation of outpatient antihypertensive medications for patients being discharged from the ED with asymptomatic elevated blood pressure.

Patients with asymptomatic elevated blood pressure should be referred for outpatient follow-up (Consensus recommendation).

Potential Benefit of Implementing the Recommendations:

- Improvement in cardiovascular and cerebrovascular risk.
- Initiation of treatment sooner.
- Potential reduction in health care disparities.

Potential Harm of Implementing the Recommendations:

- Adverse effect of the medication.
- Treating of a falsely elevated blood pressure and thus creating hypotension.

Key words/phrases for literature searches: Antihypertensive, Antihypertensive Agent, Antihypertensive Agents, Antihypertensive Therapy, Asymptomatic, Blood Pressure, Clevidipine, Discharge, Discharge Planning, Elevated Blood Pressure, Emergency Department, Emergency Medicine, Emergency Service, Enalaprilat, Esmolol, Fenoldopam, Glyceryl Trinitrate, High Blood Pressure, Hospital Discharge, Hydralazine, Hypertension, Labetalol, Nicardipine, Nitroglycerin, Nitroprusside, Nitroprusside Sodium, Patient Discharge, Phentolamine, Pulmonary Hypertension, and variations and combinations of key words/phrases. Searches included January 2011 to the search dates of August 23 and 24, 2022, and July 24, 2023 (Appendix E4, available at http://www.annemergmed.com).

Study Selection: One thousand seventeen articles were identified in the searches. Six hundred sixty-seven articles were selected from the search results as candidates for further review. After grading for methodological rigor, no Class I studies, no Class II studies, and 1 Class III study was included for this critical question (Appendix E5, available at http://www.annemergmed.com).

Managing a chronic condition beyond discharge from the ED carries potential risks due to the inability for emergency physicians to provide ongoing care. Emergency physicians might hesitate to initiate chronic medications due to both limited expertise in this area and concerns about the ongoing monitoring of the medication's safety and effectiveness. Yet, considering the widespread challenges in accessing health care in the United States, the ED visit might represent the sole opportunity for timely intervention. There is limited high-quality evidence directly addressing this critical question.

Of the 3 studies assessed for eligibility, the only study meeting ACEP's methodological criteria for inclusion was a Class III study by Brody et al.[11] The results of this study indicated that prescribing antihypertensive medication on discharge from the ED was associated with short-term lowering of blood pressure without any increase in adverse events (Figure 1). In this retrospective analysis of 2 prospective, longitudinal randomized controlled trials (RCTs), uncontrolled blood pressure was defined as more than 140/90 mmHg or 160/90 mmHg,

depending on which of the 2 RCTs was referenced.[12,13] Patients were included if they were asymptomatic and excluded if they had a cardiovascular or neurovascular event or history of cardiovascular disease. Antihypertensive medications were initiated by the ED practitioner (Table 1). There was a total of 217 patients, of which 124 were women (57%). Importantly, 208 (96%) of the patients were Black, and 65 (86%) had established hypertension at the time of the ED visit. The patients that received the antihypertensive prescription from the ED had a reduction of 11 mmHg in blood pressure at follow-up (95% CI 17 to 4 mmHg). Both groups, with and without antihypertensive prescription, had similar rates of adverse events (1.59 versus 1.43; difference=0.16, 95% CI −0.34 to 0.67). No new neurologic deficits, ischemic events, life-threatening anaphylactic reactions or clinically significant hypotension (SBP<100 mmHg) were reported in either group. The results of these studies are consistent with Joint National Committee 8 guidelines that recommend treating hypertensive persons aged more than 60 years to a blood pressure goal of less than 150/90 mmHg based on strong evidence and treating a blood pressure of less than 140/90 mmHg for other groups based on expert opinion.[14]

Summary

The previous ACEP clinical policy discouraged routine intervention in the ED, except for specific populations, following a consensus recommendation. However, a recent review of current literature revealed a study demonstrating both efficacy and safety in treating patients with elevated blood pressure initiated from the ED. Considering this study's findings, there appears to be merit in contemplating the commencement of treatment for individuals arriving at the ED with asymptomatic elevated blood pressure.

Future Research

Given that only 1 study was identified of quality, more research is needed to better answer the critical question. Also, future research should seek to address the following:

- Are there certain patient demographics that influence the initiation of antihypertensive medications from the ED?
- What are the potential barriers and facilitators that influence the initiation of blood pressure management from the ED?
- Does the availability of timely outpatient follow-up influence short- or long-term efficacy and safety in prescribing from the ED?
- What is the appropriate outpatient follow-up time frame after discharging from the ED?
- For those without an established diagnosis of hypertension, is initiation of outpatient antihypertensive medications from the ED safe and effective?

- What are the preferred first-line antihypertensive medications that should be prescribed from the ED?

Quality Measures and Aims

ACEP uses an evidence-based approach to develop quality measures targeting variations in emergency care. ACEP's approach links measures to patient outcomes, reducing clinician burden and delivering meaningful information to clinicians and patients. Working with the ACEP Quality and Patient Safety Committee and Clinical Emergency Data Registry Committee, the Clinical Policies Committee identified and elected to include Quality Payment Program (QPP) measure: *QPP317 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented* (Appendix E6, available at http://www.annemergmed.com). The aims of this measure are as follows:

1. Increase the percentage of patients aged ≥18 years who are screened for high blood pressure during the measurement period.

2. Discharge the patient with a documented follow-up plan if the result of the blood pressure screening is prehypertensive or hypertensive.

Relevant industry relationships: There were no relevant industry relationships disclosed by the subcommittee members for this topic.

Relevant industry relationships are those relationships with companies associated with products or services that significantly influence the specific aspect of disease addressed in the critical question.

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Figure 1. Adverse events related to the administration of antihypertensive therapy.[15] (Used with permission)

Major adverse events:

(1) Death from coronary heart disease (CHD);
(2) Death from other cardiovascular disease (CVD) including stroke;
(3) Death from other causes;
(4) Nonfatal myocardial infarction;
(5) Nonfatal stroke;
(6) Congestive heart failure;
(7) Surgery for aortic aneurysm;
(8) Coronary artery bypass surgery;
(9) Coronary angioplasty;
(10) Thrombolytic therapy; or
(11) Hospitalization for unstable angina.

Other adverse events defined a priori as outcome variables:

(1) Hospitalization for cerebral transient ischemic attacks (TIAs);
(2) Definite angina or intermittent claudication by Rose questionnaire; and
(3) Peripheral arterial occlusive disease defined as absent or diminished pedal pulses on one side with a bruit in the femoral artery on that side or absent or diminished pulse in any artery (femoral, posterior tibial, or dorsalis pedis) with ischemic ulcers, or history of surgery for peripheral arterial insufficiency.

Table 1. Class of antihypertensive medications prescribed.[11]

Drug Class	**Prevalence in Study**
Thiazide-like diuretics	54%
Angiotensin-converting enzyme inhibitors	26%
Calcium channel blockers	10%
Beta blockers	6%

Appendix E1. Literature classification schema.*

Design/ Class	Therapy†	Diagnosis‡	Prognosis§
1	Randomized, controlled trial or meta-analysis of randomized trials	Prospective cohort using a criterion standard or meta-analysis of prospective studies	Population prospective cohort or meta-analysis of prospective studies
2	Nonrandomized trial	Retrospective observational	Retrospective cohort Case control
3	Case series	Case series	Case series

*Some designs (eg, surveys) will not fit this schema and should be assessed individually.
†Objective is to measure therapeutic efficacy comparing interventions.
‡Objective is to determine the sensitivity and specificity of diagnostic tests.
§Objective is to predict outcome, including mortality and morbidity.

Appendix E2. Approach to downgrading strength of evidence.

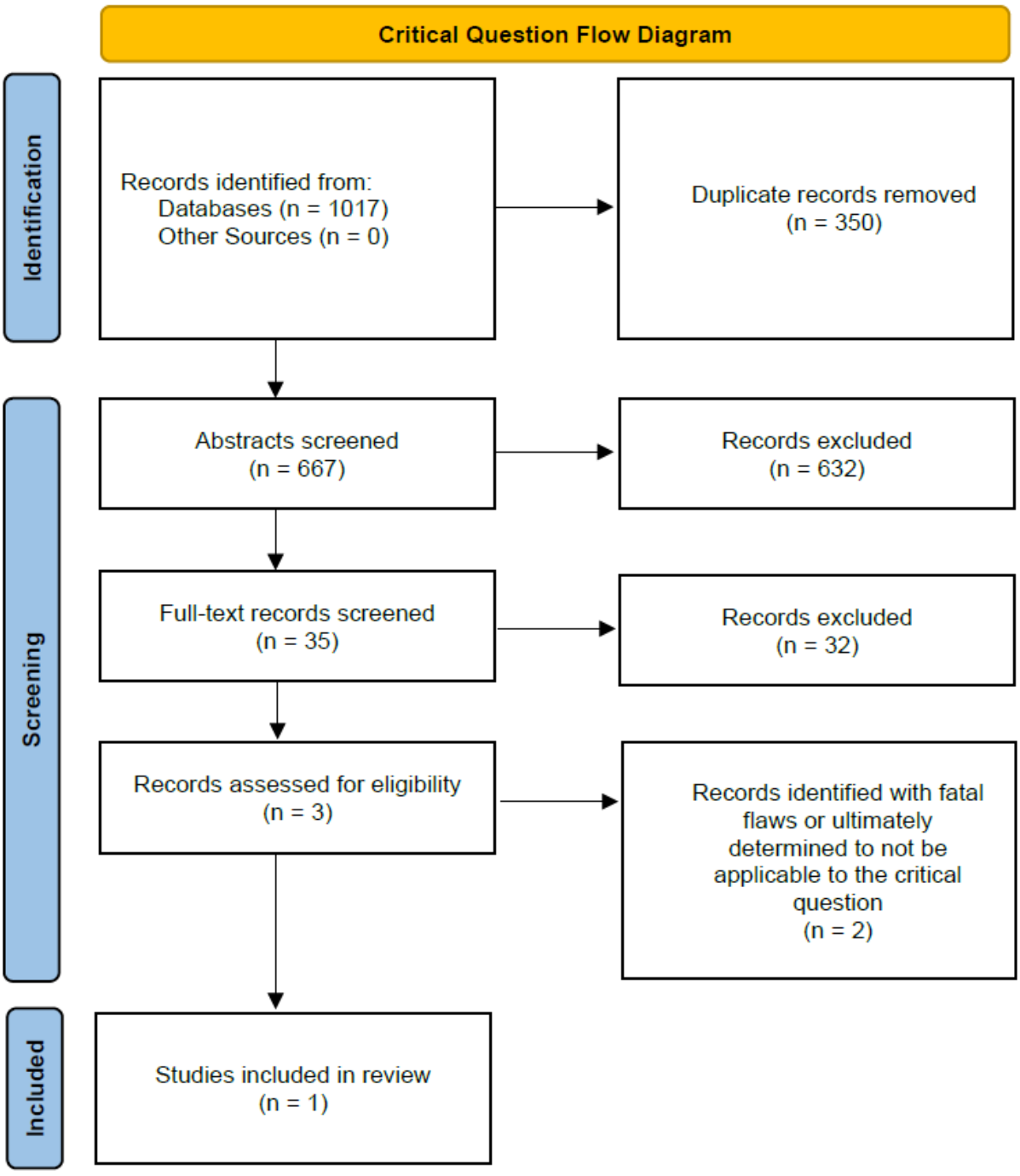
	Design/Class		
Downgrading	**1**	**2**	**3**
None	I	II	III
1 level	II	III	X
2 levels	III	X	X
Fatally flawed	X	X	X

Appendix E3. Likelihood ratios and number needed to treat.*

LR (+)	LR (–)	
1.0	1.0	Does not change pretest probability
1-5	0.5-1	Minimally changes pretest probability
10	0.1	May be diagnostic if the result is concordant with pretest probability
20	0.05	Usually diagnostic
100	0.01	Almost always diagnostic even in the setting of low or high pretest probability

LR, likelihood ratio.
*Number needed to treat (NNT): number of patients who need to be treated to achieve 1 additional good outcome; NNT=1/absolute risk reduction×100, where absolute risk reduction is the risk difference between 2 event rates (ie, experimental and control groups).

Appendix E4. PRISMA flow diagram.[10]



Appendix E5. Literature Searches.

Search Date	Database	Search Strings	Filters
8/23/2022	PubMed	((“Hypertension”[tiab]) OR (“Blood Pressure”[tiab]) OR (“Hypertension”[MH]) OR (“Blood Pressure”[MH])) AND ((“Antihypertensive”[tiab]) OR (“Clevidipine”[tiab]) OR (“Enalaprilat”[tiab]) OR (“Esmolol”[tiab]) OR (“Fenoldopam”[tiab]) OR (“Hydralazine”[tiab]) OR (“Labetalol”[tiab]) OR (“Nicardipine”[tiab]) OR (“Nitroglycerin”[tiab]) OR (“Nitroprusside”[tiab]) OR (“Phentolamine”[tiab]) OR (“Antihypertensive Agents”[MH]) OR (“Antihypertensive Agents”[Pharmacological Action]) OR (“Clevidipine”[Supplementary Concept]) OR (“Enalaprilat”[MH]) OR (“Esmolol”[Supplementary Concept]) OR (“Fenoldopam”[MH]) OR (“Hydralazine”[MH]) OR (“Labetalol”[MH]) OR (“Nicardipine”[MH]) OR (“Nitroglycerin”[MH]) OR (“Nitroprusside”[MH]) OR (“Phentolamine”[MH])) AND ((“Emergency Medicine”[tiab]) OR (“Emergency Treatment”[tiab]) OR (“Emergency Department”[tiab]) OR (“Emergency Medical Service*”[tiab]) OR (“EMS”[tiab]) OR ("Emergency Medicine"[MH]) OR ("Emergency Service, Hospital"[MH]) OR ("Emergency Treatment"[MH]) OR ("Emergency Medical Services"[MH])) NOT (("Pregnant"[tiab]) OR ("Pregnancy"[tiab]) OR ("Pregnancies"[tiab]) OR ("Pregnancy"[MH]) OR ("Stroke"[tiab]) OR ("Stroke"[MH]) OR ("Myocardial Ischemia"[tiab]) OR ("Myocardial Ischemia"[MH]) OR ("Pulmonary Edema"[tiab]) OR ("Pulmonary Edema"[MH]) OR ("Heart Failure"[tiab]) OR ("Heart Failure"[MH]))	2011-Current
8/24/2022	Scopus	TITLE-ABS-KEY(“Hypertension” OR “Blood Pressure” OR “Hypertension”) AND TITLE-ABS-KEY(“Antihypertensive” OR “Antihypertensive Agent*” OR “Clevidipine” OR “Enalaprilat” OR “Esmolol” OR “Fenoldopam” OR “Hydralazine” OR “Labetalol” OR “Nicardipine” OR “Nitroglycerin” OR “Nitroprusside” OR “Phentolamine”) AND TITLE-ABS-KEY(“Emergency Medicine” OR “Emergency Treatment” OR “Emergency Department” OR “EMS” OR “Emergency Medical Service*”) AND NOT ("Pregnant" OR "Pregnancy" OR "Pregnancies") AND NOT ("Stroke") AND NOT ("Myocardial Ischemia") AND NOT ("Pulmonary Edemia") AND NOT ("Heart Failure")	2011-Current
8/24/2022	Embase	('asymptomatic':ti,ab,kw AND 'hypertension':de,ti,ab,kw OR 'pulmonary hypertension':de,ti,ab,kw) AND ('antihypertensive agent':de,ti,ab,kw OR 'antihypertensive therapy':de,ti,ab,kw OR 'clevidipine':de,ti,ab,kw OR 'enalaprilat':de,ti,ab,kw OR 'esmolol':de,ti,ab,kw OR 'fenoldopam':de,ti,ab,kw OR 'hydralazine':de,ti,ab,kw OR 'labetalol':de,ti,ab,kw OR 'nicardipine':de,ti,ab,kw OR 'nitroglycerin':ti,ab,kw OR 'glyceryl trinitrate':de,ti,ab,kw OR 'nitroprusside':ti,ab,kw OR 'nitroprusside sodium':de,ti,ab,kw) AND ('emergency medicine':de,ti,ab,kw OR 'emergency treatment':de,ti,ab,kw OR 'emergency department':ti,ab,kw OR 'emergency ward':de,ti,ab,kw OR 'emergency medical service*':ti,ab,kw OR 'emergency health service':de,ti,ab,kw) NOT ('Pregnant':ti,ab,kw OR 'Pregnancy':de,ti,ab,kw OR 'Pregnancies':ti,ab,kw) NOT ('Stroke':ti,ab,kw) NOT ('Mycoardial Ischemia':ti,ab,kw OR 'Heart Muscle Ischmeia':de,ti,ab,kw) NOT ('Pulmonary Edema':ti,ab,kw OR 'Lung Edema':de,ti,ab,kw) NOT ('Heart Failure':de,ti,ab,kw)	2011-Current

Appendix E5. Literature Searches (continued).

Search Date	Database	Search Strings	Filters
8/24/2022	Web of Science	TS=(“Hypertension” OR “Blood Pressure” OR “Hypertension”) AND TS=(“Antihypertensive” OR “Antihypertensive Agent*” OR “Clevidipine” OR “Enalaprilat” OR “Esmolol” OR “Fenoldopam” OR “Hydralazine” OR “Labetalol” OR “Nicardipine” OR “Nitroglycerin” OR “Nitroprusside” OR “Phentolamine”) AND TS=(“Emergency Medicine” OR “Emergency Treatment” OR “Emergency Department” OR “EMS” OR “Emergency Medical Service*”) NOT TS=("Pregnant" OR "Pregnancy" OR "Pregnancy" OR "Stroke" OR "Myocardial Ischemia" OR "Pulmonary Edemia" OR "Heart Failure")	2011-Current
8/24/2022	Cochrane Library	('asymptomatic':ti,ab,kw AND 'hypertension':ti,ab,kw OR 'pulmonary hypertension':ti,ab,kw) AND ('antihypertensive agent':ti,ab,kw OR 'antihypertensive therapy':ti,ab,kw OR 'clevidipine':ti,ab,kw OR 'enalaprilat':ti,ab,kw OR 'esmolol':ti,ab,kw OR 'fenoldopam':ti,ab,kw OR 'hydralazine':ti,ab,kw OR 'labetalol':ti,ab,kw OR 'nicardipine':ti,ab,kw OR 'nitroglycerin':ti,ab,kw OR 'glyceryl trinitrate':ti,ab,kw OR 'nitroprusside':ti,ab,kw OR 'nitroprusside sodium':ti,ab,kw) AND ('discharge':ti,ab,kw OR 'patient discharge':ti,ab,kw OR 'hospital discharge':ti,ab,kw) AND ('emergency medicine':ti,ab,kw OR 'emergency treatment':ti,ab,kw OR 'emergency department':ti,ab,kw OR 'emergency ward':ti,ab,kw OR 'emergency medical service*':ti,ab,kw OR 'emergency health service':ti,ab,kw)	2011-Current

Appendix E6. Quality Payment Program (QPP)

Measure ID

QPP317 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented.

Measure Description

Percentage of patients aged ≥18 years seen during the submitting period who were screened for elevated blood pressure AND a recommended follow-up plan is documented based on the current blood pressure reading as indicated.

Data of Interest

$$\frac{\begin{array}{c}Patients\ who\ were\ screened\ for\ elevated\ blood\ perssure \\ AND \\ have\ a\ recommended\ followup\ plan\ documented, as\ indicted\ if\ the\ blood\ pressure\ is\ pre-hypetentsive\ or\ hypertensive\end{array}}{All\ patients\ aged\ 18\ years\ and\ older\ at\ the\ beginning\ of\ the\ measurement\ period\ with\ at\ least\ one\ eligible\ encounter\ during\ the\ measurement\ period}$$

Denominator Exclusions:

Patient not eligible due to active diagnosis of hypertension.

Denominator Exceptions:

- Patient refuses to participate (either blood pressure measurement or follow-up).
- Patient is in an urgent or emergent medical situation where time is of the essence and to delay treatment would jeopardize the patient's health status. This may include but is not limited to severely elevated blood pressure when immediate medical treatment is indicated.
- Documented reason for not screening or recommending a follow-up for high blood pressure.

Numerator Exclusions:

Not Applicable

Evidentiary Table.

Author & Year Published	Class of Evidence	Setting and Study Design	Methods & Outcome Measures	Results	Limitations and Comments
Brody et al (2015)	III	Secondary analysis of data pooled from 2 RCTs; single, urban, academic medical center	Included ED patients with asymptomatic hypertension and subclinical hypertensive heart disease; patients with uncontrolled blood pressure (>140/90 mmHg in one study and >160/90 mm Hg for the other study) and discharged from the ED; excluded potential hypertensive emergencies, cardiovascular, or neurovascular events; outcomes: short-term blood pressure reduction; adverse events; multivariable regression to evaluate association with antihypertensive initiation from the emergency department and blood pressure reduction	N=217; baseline characteristics were similar between those who received an antihypertensive prescription and those who did not except for higher systolic blood pressure among those who received a prescription; systolic blood pressure reduction was independently associated with antihypertensive prescriptions from the emergency department (*P*=.001); the antihypertensive prescription accounted for a reduction of 11 mmHg (95% CI 4 to 17 mmHg; *P*=.001); adverse events were comparable and low in both groups	Retrospective; small no. of observations from 1 health system; predominantly Black population (96%)