Body System: Cardiovascular		
Session Topic: Adult and Elderly Hypertension		
Educational Format		**Faculty Expertise Required**
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. Please describe your interest and plan for teaching a PBL on your proposal form.

Professional Practice Gap	**Learning Objective(s) that will close the gap and meet the need**	**Outcome Being Measured**
• Family physicians may need additional training on effective counseling methods for patients to encourage healthy behavior changes to reduce their risk for developing hypertension or prehypertension. • Family physicians need additional training on guideline recommendations for diagnosing and appropriately treating patients with hypertension using a stepwise approach to achieve stable tight control of blood pressure. • Family physicians should recognize barriers to care that may prevent some patients from making appropriate health decisions, and they should understand ways to address them and/or offer alternative options. • Family physicians should also be aware that blacks	1. Evaluate current management of hypertension in adult and elderly patients, as compared to current JNC 8 guidelines, AAFP/USPSTF screening recommendations, and AAFP/ACP treatment guidelines. 2. Apply current evidence regarding more accurate methods of blood pressure monitoring. 3. Recognize how therapeutic inertia presents a barrier to blood pressure control. 4. Prepare treatment regimens of antihypertensive medications and tools with an emphasis on patient adherence.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.

and Hispanics may have higher risk of developing hypertension, and that hypertension in these populations could be more severe, requiring enhanced physician vigilance and aggressive management. • Family physicians need to be able to apply current evidence-based guidelines to the management of elderly patients with hypertension. • While patients who have poorly controlled hypertension do not necessarily have "resistant hypertension," family physicians should still be prepared to offer treatment regimens of antihypertensive medications and tools to improve patient adherence. • New JNC-8 guidelines have been released & need to be translated into practice • USPSTF recently released new guidelines: For adults with hypertension or hyperlipidemia, as well as for those aged 40 to 70 years with BMI ≥25 kg/m2, we suggest screening for type 2 diabetes as part of cardiovascular risk assessment • New (2017) AAFP/ACP Treatment of Hypertension in Adults Over 60 Guidelines		

ACGME Core Competencies Addressed (select all that apply)			
X	Medical Knowledge		Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

 Last modified 6-28-17

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
    - Visit http://www.aafp.org/journals for additional resources
    - Visit http://familydoctor.org for patient education and resources
- Provide specific examples of pharmacologic treatment for prehypertension/hypertension in difficult/challenging situations
- Provide specific strategies to manage/treat elderly patients, focusing on adherence and participation in rehabilitation programs
- Provides specific examples illustrating key differences in new guidelines compared to the previous iteration.
- Provide an evaluation of current management of hypertension in adult and elderly patients, as compared to current JNC 8 guidelines, AAFP/USPSTF screening recommendations, and AAFP/ACP treatment guidelines.
- Provide recommendations for applying current evidence regarding more accurate methods of blood pressure monitoring.
- Provide recommendations to help learners recognize how therapeutic inertia presents a barrier to blood pressure control.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.
- Provide instructions regarding the incorporation and use of the PCMH/ACO/Primary Care Core Measure Set into practice.

Needs Assessment

Hypertension is the most common condition for which patients make physician office visits. According to the CDC's 2010 *National Ambulatory Medical Care Survey* (NAMCS), hypertension was the top-ranked medical diagnosis by physicians at office visits; essential hypertension was the most commonly diagnosed condition seen at an office visit.[1]

In addition, the prevalence of hypertension is significantly higher in blacks than in whites—39% compared to 29%, and uncontrolled hypertension may cause up to one-quarter of all deaths among black adults. Blacks also experience earlier onset of hypertension, their disease is more aggressive, and it is more difficult to treat and severe, especially when considering organ damage (e.g., renal failure).[2,3] The prevalence of hypertension in Hispanics is comparable to or lower than that of whites, but the rates have been increasing, and Hispanics who have hypertension are less likely to have their blood pressure treated and controlled than are whites or blacks.[3] The causes of these disparities are not completely understood, though differences in access to care, clinician management, hypertension severity and patient adherence to treatment all may play roles.[2] Family physicians should be aware of these disparities, as well as their own potential bias when treating minority patients, and pay close attention to any signs or symptoms of hypertension.[4]

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have significant knowledge gaps with regard to managing adult hypertension, patient-adherence/shared decision making, and cardiovascular pharmacology.[5] More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly: *Adult Hypertension* sessions suggest that physicians have knowledge and practice gaps with regard to integration of recommendations from current guidelines into practice, especially where guidelines differ from one another; health coaching and lifestyle modifications; putting tighter bp control into place; monitoring therapy adherence; and evidence-based prescribing practices.[6-9]

Elderly patients have significant morbidity and mortality from coronary heart disease (CHD), with 84 percent of persons 65 years or older dying from this disease; however, medical therapies for hypertension have shown to have a positive effect on cardiovascular morbidity and mortality rates in older patients.[10] This is further validated by Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 8) and summarized by key points of the report summarized below:[11,12]

- In the general population ages 60 and older, pharmacologic treatment to lower BP should be initiated at a systolic blood pressure (SBP) of 150 mmHg or higher or a diastolic blood pressure (DBP) of 90 mmHg or higher. Patients should be treated to a goal SBP lower than 150 mmHg and a goal DBP lower than 90 mmHg. If treatment results in lower achieved SBP and is not associated with adverse effects, treatment does not need to be adjusted.
- In the general population younger than age 60, initiate pharmacologic treatment at a DBP of 90 mmHg or higher or an SBP of 140 mmHg or higher and treat to goals below these respective thresholds.
- In the population ages 18 years or older with diabetes or CKD, initiate pharmacologic treatment at an SBP of 140 mmHg or higher or a DBP of 90 mmHg or higher and treat to goals below these respective thresholds.
- In the general nonblack population, including those with diabetes, initial treatment should include a thiazide-type diuretic, calcium channel blocker (CCB), angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB).
- In the general black population, including those with diabetes, initial treatment should include a thiazide-type diuretic or a CCB.
- In the population ages 18 or older with CKD and hypertension, initial (or add-on) treatment should include an ACE inhibitor or an ARB to improve kidney outcomes. This applies to all patients in this population regardless of race or diabetes status.

- The main objective of hypertension treatment is to attain and maintain goal BP. If goal BP is not reached within a month of initiating treatment, increase the dose of the initial drug or add a second drug from one of these four classes. The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached. If goal BP cannot be reached with two drugs, add and titrate a third drug from the list provided.
- Consider referral to a hypertension specialist for patients in whom goal BP cannot be attained or for complicated patients.

Additionally, the United States Preventives Services Task Force (USPSTF) and the AAFP have released updates to their clinical guidelines. Both now *recommend* screening for high blood pressure in adults aged 18 years or older. The AAFP recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment. Additionally, for adults with hypertension or hyperlipidemia, as well as for those aged 40 to 70 years with BMI ≥25 kg/m2, we suggest screening for type 2 diabetes as part of cardiovascular risk assessment.[13-15] Recent attention has been given to the accuracy of office-based BP monitoring, and evidence suggests that ambulatory, home, and serial automated office BP measurements may improve accuracy of diagnosis, reduce the white coat effect, and better predict CV outcomes than manual sphygmomanometry.[16]

In January 2017, the AAFP and American College of Physicians (ACP) released joint guidelines, *Treatment of Hypertension in Adults Over Age 60*, summarized as follows:

- Adults over age 60 with persistent systolic blood pressure ≥150 mm Hg should be treated to achieve a target systolic blood pressure of <150 mm Hg.
- Adults 60 years or older with a history of stroke or TIA may be treated to a lower target blood pressure of <140 mm Hg to reduce the risk of recurrent stroke.
- Adults over age 60 with a high cardiovascular risk may be treated to a lower target blood pressure of <140 mm Hg to reduce the risk of stroke or cardiac events.
- Treatment goals should be based on a periodic discussion of the benefits and harms specific blood pressure targets.

Although most physicians routinely check blood pressure as part of regular office visits, hypertension remains a challenging condition for both patients and physicians. The American Heart Association (AHA) reports that interventions targeting weight loss, physical activity and dietary modification can result in behavior change that, if sustained over time, can reduce morbidity and mortality associated with CVD.[17] However, because such practices take time to develop and adhere to, some patients may still require the use of medications and treatments, which family physicians can prescribe and monitor, to control risk factors (such as gender, age, family history and race/ethnicity) that cannot be controlled, or in cases in which hypertension is present with comorbidities such as hyperlipidemia and diabetes.

Most patients with hypertension have no clear etiology and are classified as having essential hypertension; however, 5 to 10 percent have secondary hypertension and may require specific imaging modalities to identify the secondary cause.[18] The most common cause of secondary hypertension is renal vascular hypertension, and is potentially curable if identified and treated properly.[19] Data from the 2012 AAFP CME Needs Assessment Survey indicates that family physicians require additional education and training in the selection and use of imaging modalities.[5] Additionally, some patients are diagnosed with “resistant hypertension,” in which

high blood pressure persists despite patient adherence to medications, and other patients are at increased risk of cardiovascular diseases due to chronic conditions – such as diabetes – for which blood pressure control is a critical component of their care.[18] As a result, family physicians must be prepared to treat all different forms of hypertension in multiple types of patient encounters.

According to the ACCF/AHA/PCPI Hypertension Performance Measurement Set, only 65% of patients with hypertension receive the recommended quality care outlined in current evidence-based guidelines.[20] Part of the problem for this is due to therapeutic inertia.[21] This PCPI measurement set outlines the desired hypertension outcomes as a reduction in mortality, the reduction in cardiovascular and renal morbidity, the reduction of hospitalization, improved adoption of lifestyle modifications, the reduction in patient harm, and improved patient understanding of/adherence to the prescribed treatment plan. Family physicians integrate the AMA PCPI Hypertension Measures into practice to improve overall patient care for patients with hypertension. Adherence to evidence-based guidelines alone is insufficient in providing optimal patient care. In addition to being up to date on current evidence-based guidelines, family physicians also require tools and resources for evaluating hypertension.[22]

In order for family physicians to understand what treatment options are available – and be able to refer patients to a specialist, if necessary – they must have knowledge and understanding of the various elements associated with cardiovascular conditions (not just hypertension), their comorbidities and their risks. Consistency in treatment, follow-up and adherence to guidelines offered by a family physician may be a patient's best opportunity to decrease the incidence of cardiovascular conditions and improve his or her quality of life. Providing family physicians with appropriate education and training on how to screen, diagnose, assess and treat patients with various cardiovascular diseases will help to decrease or eliminate practice gaps and lead to improved patient care.

Physicians should also be kept up to date on new treatment therapies, changes to therapies, or warnings associated with existing therapies. Provide recommendations regarding new FDA approved medications for the treatment of hypertension; including safety, efficacy, tolerance, and cost considerations relative to currently available options. The U.S. Food and Drug Administration (FDA) has approved a number of new drugs in recent years for the treatment of a variety of cardiology/vascular diseases.[23] Physicians need to be kept up to date on new treatment options, including safety, efficacy, tolerance, and cost considerations relative to currently available options. Examples from the last five years include, but are not limited to the following:[23]

- Prestalia (perindopril arginine and amlodipine besylate); Symplmed Pharmaceuticals; For the treatment of hypertension, Approved January 2015
- Edarbi (azilsartan medoxomil); Takeda; For the treatment of hypertension, Approved February 2011
- Edarbyclor (azilsartan medoxomil and chlorthalidone); Takeda; For the treatment of hypertension, Approved December of 2011
- Amturnide (aliskiren + amlodipine + hydrochlorothiazide); Novartis; For the treatment of uncontrolled hypertension, Approved December 2010
- Tekamlo (aliskiren + amlodipine); Novartis; For the treatment of hypertension, Approved August 2010
- Tribenzor (olmesartan medoxomil + amlodipine + hydrochlorothiazide); Daiichi Sankyo; For the treatment of hypertension, Approved July 2010

- Cleviprex (clevidipine); The Medicines Company; For the treatment of hypertension when oral therapy is not feasible or not desirable, Approved August 2008

Physicians can improve blood pressure control by using medical assistants and health education specialists in a team-based approach to patient care; however, roles, responsibilities, evaluation and communication plans should be carefully planned and established to ensure optimal effectiveness and buy-in.[24-27] Hypertension is one of the most preventable contributors to disease and death.[28] Physicians should consider non-pharmacologic strategies to help patients lower blood pressure, including:[28]

- A diet that emphasizes vegetables, fruits, and whole grains is recommended to lower blood pressure.
- Limiting sodium intake to 2,400 mg per day is recommended to lower blood pressure. Additional benefit occurs with a limit of 1,500 mg per day.
- To lower blood pressure, patients should engage in moderate to vigorous aerobic physical activity three or four times per week for an average of 40 minutes per session.
- Clinicians should ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products.
- To lower blood pressure, alcohol consumption should be limited to no more than two drinks per day for most men and one drink per day for women.
- Self-measured blood pressure monitoring, with or without additional support (e.g., education, counseling, telemedicine, home visits, Web-based logging), lowers blood pressure compared with usual care, although the benefits beyond 12 months are not clear.
- Patients with hypertension and obstructive sleep apnea should use continuous positive airway pressure to lower blood pressure.

The American Academy of Family Physicians Academy has participated in the Core Measures Collaborative (the Collaborative) convened by America's Health Insurance Plans (AHIP) since August 2014. The Collaborative is a multi-stakeholder effort working to define core measure sets of various specialties promoting alignment and harmonization of measure use and collection across both public and private payers.

Participants in the Collaborative included Centers for Medicare and Medicaid Services (CMS), the National Quality Forum (NQF), private payers, provider organizations, employers, and patient and consumer groups. This effort exists to decrease physician burden by reducing variability in measure selection, specifications and implementation– making quality measurement more useful and meaningful for consumers, employers, as well as public and private clinicians.

With significant AAFP input, a PCMH/ACO/Primary Care Core Measure Set has been developed for primary care. The goal of this set is to decrease burden and allow for more congruence between payer reporting programs.[29]

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- AAFP/ACP Treatment of Hypertension in Adults Over Age 60[30]
- Screening for high blood pressure[31]

- A tool for evaluating hypertension[22]
- Secondary prevention of coronary heart disease in elderly patients[10]
- Evaluation and management of the patient with difficult-to-control or resistant hypertension[18]
- Radiologic evaluation of suspected renovascular hypertension[19]
- AAFP/U.S. Preventive Services Task Force. Screening for High Blood Pressure: Reaffirmation Recommendation Statement.[14]
- AMA/ACCF/AHA PCPI Hypertension Performance Measurement Set[20]
- Guidelines for the primary prevention of stroke: a statement for healthcare professionals from the American Heart Association/American Stroke Association[32]
- USPSTF: Behavioral Counseling Interventions to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults[33]
- Nonpharmacologic management of hypertension: what works?[28]
- 2014 evidence-based guideline for the management of high blood pressure in adults: Report from the panel members appointed to the eighth joint national committee (jnc 8)[11]
- How to document and code for hypertensive diseases in ICD-10[34]
- Health coaching for patients with chronic illness[35]
- Engaging Patients in Collaborative Care Plans[36]
- Encouraging patients to change unhealthy behaviors with motivational interviewing[37]
- Medication adherence: we didn't ask and they didn't tell[38]
- Adding health education specialists to your practice[27]
- FamilyDoctor.org. High Blood Pressure | Overview (patient resource)[39]

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