You must be enrolled in the ABIM’s Maintenance of Certification program to claim MOC points for the Online High Value Care Cases. After the Learning Session, go to the ACP website at: https://hvc.acponline.org/physres_cases.html and follow the links to access the cases and quiz. You must obtain a score of at least 60% on the quiz to be given the option to submit for MOC points. The Online High Value Care Cases are eligible for 13 MOC points through ABIM.

**Module 1: Avoid Unnecessary Testing**

1. Given Ms. Barrow’s high pretest probability, which of the following tests is the most cost-effective for diagnosing pulmonary embolism?
   a. D-Dimer assay
   b. Lower-extremity Doppler ultrasonography
   c. Pulmonary CT angiography
   d. Transthoracic echocardiogram
   e. Ventilation/perfusion scan

2. Which of the following categories of services that Ms. Barrow received contributed the most to her charges with the least clinical benefit?
   a. Imaging studies
   b. Laboratory testing
   c. Pharmacy charges
   d. Physician charges

3. Which of the following tests or procedures is necessary for Mr. Cruz’s workup at this time?
   a. B-type natriuretic peptide
   b. Coronary angiography
   c. Pharmacologic stress test with nuclear imaging
   d. Transthoracic echocardiography
   e. Troponin

4. What is your assessment of the benefits, harms, and costs of cardiac catheterization for Mr. Cruz?
   a. The benefits of a cardiac catheterization clearly outweigh the harms and costs
   b. The harms and costs of a cardiac catheterization clearly outweigh the benefits
   c. The benefits of a cardiac catheterization are equivalent to the harms and costs
   d. It is not my responsibility to weigh benefits or harms and costs

5. Which of the following services provided in Ms. Johnson’s emergency department visit contributed most to her charges with the least clinical benefit?
   a. Imaging studies
   b. Laboratory testing
   c. Pharmacy charges
   d. Physician charges

6. Which of the services provided in the emergency department for Ms. Johnson would you order if you were seeing the patient in an ambulatory setting?
   a. Cardiac enzymes
   b. Electrocardiogram
   c. Intravenous methylprednisolone
   d. Nebulizer treatment
   e. Pulmonary CT angiography

7. What would you do next in the management of Ms. Dixon’s headaches?
   a. Brain CT
   b. Brain MRI
   c. Prescribe an NSAID for symptomatic treatment
   d. Prescribe a triptan for abortive therapy

8. What is the rate of incidental findings on brain CT?
   a. 5%
   b. 10%
   c. 15%
   d. 20%
Module 2: Use Emergency & Hospital Care Judiciously

1. What is the most cost-effective next step in the evaluation of Mr. Norberg’s suspected deep venous thrombosis?
   a. CT angiography with venography
   b. D-Dimer testing
   c. Send patient to emergency department for evaluation
   d. Use a risk stratification tool to inform diagnostic testing

2. Which of the following contributes most to the difference in charges for treating a patient with a deep venous thrombosis?
   a. Hospital bed charges
   b. Imaging charges
   c. Laboratory charges
   d. Pharmacy charges
   e. Physician charges

3. How much less would the total charges be for the same injury in the office setting?
   a. The same as the emergency department charges
   b. Half the amount of the emergency department charges
   c. One third the amount of the emergency department charges
   d. One fourth the amount of the emergency department charges

4. How much more will Cole’s “out-of-pocket” expenses be for his initial and follow-up office evaluation because he has not yet met his deductible?
   a. The same
   b. Twice
   c. Three times
   d. Four times

5. If you were to obtain a chest CT in this patient, how likely is it to change your management?
   a. Not at all likely
   b. Not likely
   c. Somewhat Likely
   d. Extremely likely

6. How much radiation is delivered from a noncontrast chest CT scan compared to a year of background radiation?
   a. The same
   b. Twice
   c. Three times
   d. Four times

7. What should be done at this point to document that Mrs. Delano is responding to antibiotics?
   a. Clinical observation
   b. CT scan
   c. MRI
   d. Plain radiograph
   e. Three-phase bone scan

8. What additional information do you need to know to safely discharge this patient from the hospital?
   a. Access to post-discharge care
   b. Ability of family to help with post-discharge care
   c. Ability to pay for antibiotics
   d. Health insurance status
   e. All of the above
1. What percentage of all personal bankruptcies in the United States would you estimate result from an inability to pay medical bills?
   a. 0%
   b. 10%
   c. 20%
   d. 40%
   e. 60%

2. Under the Affordable Care Act, which of the following preventive services will be covered without need for copayment, coinsurance, or payment toward a deductible when they are provided in-network?
   a. Cholesterol screening
   b. HIV screening
   c. Immunizations
   d. Tobacco use screening and cessation
   e. All of the above

3. Which of the following is the most accurate description of the benefits and risks of aspirin for primary prevention of cardiovascular disease in this patient?
   a. The benefit of aspirin treatment is relatively large and significantly outweighs the risk of bleeding
   b. The risk of bleeding is much greater than any benefit of aspirin treatment
   c. The benefits of aspirin therapy and the risk of bleeding are even
   d. The benefit of aspirin treatment is very small, although the benefit is greater than the risk of bleeding

4. Which of the following is the best initial management?
   a. Determine which lifestyle change the patient believes is most important
   b. Inform the patient he needs to lose weight
   c. Order prostate-specific antigen testing
   d. Provide advice on smoking cessation
   e. Start orlistat

5. Which cancer screening test would have the largest mortality benefit for this patient?
   a. Chest CT
   b. Colonoscopy
   c. Mammography
   d. Pap smear
   e. Pelvic ultrasound

6. Which of the following is the most important immunization for this patient to get today?
   a. Influenza vaccination
   b. Pneumococcal vaccination
   c. Tetanus, diphtheria, and pertussis (Tdap)
   d. Zoster vaccination

7. Given Mr. Young's medical history and clinical presentation, how likely do you think it is that his symptoms are caused by CAD?
   a. I am sure that his symptoms are not caused by ischemic CAD (0% likely)
   b. It seems unlikely that his symptoms caused by CAD (0%-10% likelihood)
   c. His symptoms may be caused by CAD (10%-90% likelihood)
   d. I am pretty sure that his symptoms are caused by CAD (>90% likelihood)

8. How would the results of an exercise stress test affect the likelihood that Mr. Young has coronary artery disease (CAD)?
   a. The test would not change the likelihood of CAD
   b. A positive test would make CAD more likely
   c. A negative test would rule out CAD
   d. A positive test would rule in CAD
Module 4: Prescribe Medications Safely & Cost Effectively

1. Which of the following choices would be the most cost-effective approach for treating Mr. Deerman's allergies?
   a. Azelastine nasal spray
   b. Cetirizine oral
   c. Desloratadine
   d. Fluticasone propionate nasal spray

2. How much more would Mr. Deerman’s out-of-pocket costs been for these medications if he did not have a prescription plan?
   a. 5%
   b. 10%
   c. 30%
   d. 50%

3. What is the difference in the cost of a month's supply of Mrs. Gomez's pre-hospitalization home medications and her discharge medications?
   a. $300
   b. $500
   c. $700
   d. $900

4. Which of Mrs. Gomez's current medications would you have substituted with a generic equivalent on discharge?
   a. Levemir
   b. Nexium
   c. Crestor
   d. Prinivil

5. Which of the following is next step in management of this Ms. Jefferson's HTN?
   a. CT angiography of the renal arteries
   b. Plasma aldosterone concentration/plasma renin activity ratio
   c. Lifestyle modification
   d. Start combination therapy with lisinopril and HCTZ

6. Which of the following is the most cost-effective next step in managing Ms. Jefferson's HTN?
   a. Atenolol
   b. Chlorthalidone
   c. Amlodipine
   d. Irbesartan

7. In addition to emphasizing lifestyle changes, starting which of the following medications is the most cost-effective management of Mr. Silverman's hyperlipidemia?
   a. Atorvastatin
   b. Ezetimibe
   c. Gemfibrozil
   d. Niacin
   e. Rosuvastatin

8. In addition to emphasizing lifestyle changes, which of the following is the most cost-effective next step to prevent recurrent gout in Mr. Silverman?
   a. Measure 24-hour uric acid excretion
   b. Start allopurinol
   c. Start febuxostat
   d. Stop chlorthalidone
Module 5: Overcome Barriers to High Value Care

1. What is the probability that an MRI of the lumbar spine will change how you manage Mr. Thompson's back pain?
   a. Very low
   b. Medium
   c. High
   d. Very high

2. What would you estimate the probability of Mr. Thompson leaving your office satisfied with his care after having the above conversation?
   a. Very low
   b. Medium
   c. High
   d. Very high

3. Which of the following is the most appropriate next step in management?
   a. Start antibiotics now
   b. Give a prescription for antibiotics to fill in case she worsens
   c. Do not prescribe antibiotics
   d. Rapid antigen detection test for streptococcus

4. What would be your next steps in communicating with Ms. Kenmore about not prescribing antibiotics?
   a. Describe the epidemiologic problem of antibiotic resistance worldwide
   b. Explain why antibiotics will not help her, empathize, & provide a clear follow-up plan
   c. Scare her with warnings about antibiotic-associated diarrhea and allergic reactions
   d. Tell her that the antibiotics will cost the health system too much money

5. What should you do next for Mrs. Hernandez?
   a. Call the surgeon's supervisor to complain about his recommendation
   b. Document the orthopedic surgeon's recommendations in the chart and clearly state that you disagree with him
   c. Order the MRI and wait because he is the specialist and that is what he recommended
   d. Reframe your question to the consultant in order to clearly communicate what you are concerned about and why

6. Which of the following things do you tell Mrs. Hernandez to prepare her for the consultation?
   a. “A specialist is going to come by to take some fluid out of the knee with a needle to check for infection. You will also get an MRI of your knee.”
   b. “I want to be sure your knee is not infected so I have asked a specialist to come by to take a look at your knee. He will discuss his recommendations with me directly after he sees you. He may need to put a small needle in your knee and extract some fluid to look for infection and may order an x-ray or other imaging studies.”
   c. “I am not sure why your knee is sore, so I asked a specialist to come by and examine you.”
   d. The patient does not need to be informed of the consultation.

7. Before calling the nephrologist to see Mr. Hanson, you make sure your patient has an appropriate workup. Which of the following represents the essential tests that should be performed prior to nephrology consultation in this case?
   a. ANCA serology testing and venous mapping for hemodialysis access
   b. Complete metabolic profile and stone protocol CT scan
   c. Urinalysis and basic metabolic profile, including blood urea nitrogen and creatinine
   d. Urine eosinophils and renal ultrasonography

8. When you ask the nephrologist about these recommendations because you feel these diagnoses are unlikely in Mr. Hanson, he agrees, but says that from a medico-legal standpoint, he feels obligated to order these tests on every patient to protect himself from a lawsuit. Which of the following should you take into account before adopting this strategy to limit malpractice lawsuits?
   a. Defensive medicine protects against lawsuits
   b. Forty percent of malpractice claims do not involve medical errors
   c. More testing results in fewer lawsuits
   d. You are more likely to be sued for not ordering a test than for an adverse event that resulted from a test you ordered