**Description**: This guide is intended to help the faculty deliver this 60-minute discussion on health care waste and overordering of tests. It will include a review of several common outpatient and inpatient clinical scenarios (asymptomatic bacteriuria, acute hip pain, and syncope) with a focus on the cost implications (direct and indirect) of the diagnosis and treatment of each. As the first in a series of discussions, this module additionally introduces a five-step model of approaching value and cost in our clinical decisions.

**Learning Objectives**:

* Define and recognize the importance of high value care.
* Introduce a simple five-step model for delivering high value care.
* Discuss the cost implications of several common clinical scenarios and the evidence-based guidelines for appropriate diagnosis and treatment.
* Identify clinical reasoning tools to assist in management of uncertainty.

**Audience and Setting:** The intended audience for this module is Internal Medicine residents. A large group setting with time and space for small group work within the session is best.

**Equipment/Steps Required**:

* A computer with projector for PowerPoint presentation and a white board or flip chart for recording group work
* Print copies of the syncope worksheet associated with this module.

**References**:

1. Sager A, Socolar D. Health Costs Absorb One-Quarter of Economic Growth, 2000-2005. Boston: Health Reform Program, Boston University School of Public Health; 2005.
2. The Healthcare Imperative: Lowering Costs and Improving Outcomes — Workshop Series Summary. The Institute of Medicine Web site. <http://iom.nationalacademies.org/Reports/2011/The-Healthcare>-Imperative-Lowering-Costs-and-Improving-Outcomes.aspx?\_ga=1.219462233.1572788654.1438188089. Published February 24, 2011. Accessed December 15. 2015.
3. Medicare Payment Advisory Commission. A Data Book: Healthcare Spending and the Medicare Program; 2012.
4. Owens, D, Qaseem A, Chou R, Shekelle P; Clinical Guidelines Committee of the American College of Physicians*.* High-value, cost-conscious health care: concepts for clinicians to evaluate the benefits, harms, and costs of medical interventions.Ann Intern Med. 2011 Feb 1;154(3):174-80. [PMID: 21282697]
5. Allison J, Kiefe C, Cook E, Gerrity M, Oray E, Centor R. The association of physician attitudes about uncertainty and risk taking with resource use in a Medicare HMO. Med Decis Making1998 18:320. [PMID: 9679997]
6. Quinn J, McDermott D, Stiell I, Kohn M, Wells G. Prospective validation of the San Francisco Syncope Rule to predict patients with serious outcomes. Ann Emerg Med. 2006 May;47(5):448-54. [PMID: 16631985]

**Presentation #1 Instructions**

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| Step | Description | Estimated Time |
| 1 | Welcome participants, introduce speaker, and identify the reason for this discussion:* The primary goal of this curriculum is to provide trainees with the tools to become leaders in eliminating health care waste.
* Explain the learning objectives.
 | 5 minutes |
| 2 | Introduce health care spending and health care wastes.* Explain the graph on slide #3: Health care spending continues to escalate at an astounding rate; 30% of these costs are wasted care, which is care that either does not benefit or harms patients. We want to continue providing care that benefits patients while eliminating the wasteful care.
* Explain the material on slide #4: Health care spending is rising faster that the GDP and is not sustainable. Physicians’ decisions are a major contributor to unnecessary costs.
* Discuss the estimates of health care waste and highlight the approximately $210 B spent each year on “unnecessary services” (slide #5).
* Explain that the majority of the growth has been in imaging and testing (slide #6).
 | 5 minutes |
| 3 | Why do residents overorder tests?* Ask the audience why residents overorder tests; after they discuss some common reasons, reveal the list on slide #7.
* Introduce the 5 steps toward high value, cost-conscious care on slide #8.
 | 5 minutes |
| 4 | Case #1- asymptomatic bacteriuria* Present the case of a woman with a history of UTIs presenting to the ED for chest pain (slide 9). Ask the audience whether or not she should get a routine UA and culture.
* After discussing with the group, show slide #10 and ask if their recommendations would change if she had an indwelling Foley catheter.
* Ask the residents what they think the charges would be for UA, culture and oral antibiotics. Discuss other potential downstream costs such as allergic reactions, resistance, antibiotic associated diarrhea, *C. diff*, etc.
* Provide follow up for the case (slide #12).
* Review the approximate charges for this element of the patient’s care (slide #13). Remind the audience that this string of events can be avoided by following the steps toward high value, cost-conscious care on slide #14.
* Review the Choosing Wisely lists regarding this topic from the IDSA on slide #15 and the American Urological Association on slide #16.
 | 10 minutes |
| 5 | Diagnostic Uncertainty* Transition from the asymptomatic bacteriuria case by reflecting that the guidelines for asymptomatic bacteriuria are fairly straightforward; however, we encounter a lot of uncertainty in our routine practice.
* Ask the participants how they handle uncertainty in their practice. Does it depend on the severity of the problem and the magnitude of potential diagnoses? Does it cause them to order more tests? (slide #17)
* Present the data showing that increased physician anxiety and concern about uncertainty translates into higher charges for patients (slide #18).
* Suggest tools that are available to clinicians to assist in management of diagnostic uncertainty (slide #19).
* Present the case on slide #20 of an elderly man with hip pain and inability to ambulate after a fall. Initial x-rays were negative for fracture, but he still could not bear weight on his leg. Ask the participants what they would do next. How certain are they that a fracture is not present based on the negative x-rays?
* Introduce the American College of Radiology Appropriateness Criteria (slide #21). These criteria present evidence-based guidelines to assist physicians in making appropriate decisions regarding imaging studies for various conditions. Slide #22 presents a table on acute hip pain evaluation for suspected fracture when initial radiographs are negative (but clinical suspicion persists). With this information in mind, the next best test is MRI.
* Slide #23 shows the follow-up management. Explain what occurred and present the charges associated with this case, as well as the related nonfinancial costs, such as delay in therapy, unnecessary radiation, etc.
* This case is a good way to highlight the idea that high value is not always equivalent to low cost. In this example, the higher cost test (MRI) would have made the diagnosis sooner than the lower cost test (CT scan). Review this concept on slide #25.
 | 10 minutes |
| 6 | Case #3 - syncope* Present the case of a 42-year-old man with syncope (slide #26). Ask the participants to work in small groups to discuss their workup for this patient. (Questions to discuss are on slide #27.) Hand out the worksheet which provides a “menu” of tests/procedures that they can consider ordering for this patient. Ask them to defend their decisions by explaining how the test will benefit the patient.
* Provide follow up for this case (slide #28) and share the approximate charges on slides #29 and #30. Note that the charges are estimates and actual charges will vary at each institution. (These charges are from the CA Chargemaster website [<http://www.oshpd.ca.gov/chargemaster/>] and from patient bills.) Point out the nonfinancial costs of unnecessary hospitalization, as listed.
* Slide #31 is a conversation starter: Ask participants how they decide whether a patient with syncope requires a limited or more extensive workup. Make sure to highlight the value of a detailed history and physical exam, including orthostatic vital signs.
* Slide #32: Discuss the elements of San Francisco Syncope Rule and apply it to the case you are discussing.
* Slide #33: Review the limitations of decision aids and decision support tools with specific examples from the San Francisco syncope rule. Stress that rules may be used to aid decision making but are not meant to replace clinical judgment.
* Review the Choosing Wisely lists regarding this topic from the American College of Emergency Physicians on slide #34 and the American Academy of Neurology on slide #35.
 | 10 minutes |
| 7 | Summary * Briefly review the themes of this module, emphasizing that residents play a key role in reducing health care waste.
 | 5 minutes |