**Facilitators Guide**

**Description**: This guide is intended to help the faculty deliver this 60-minute discussion on health care waste and over-ordering of tests. It will include a review of several common outpatient and inpatient clinical scenarios (asymptomatic bacteriuria, DVT, and CHF) 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**:

1. Define and explain the rationale for high value care
2. Estimate harms and costs associated with common tests, recognizing both immediate and downstream harms and costs
3. Eliminate testing that will not change management
4. Identify validated decision support and other tools to increase accuracy and diagnostic efficiency
5. Demonstrate diagnostic reasoning and management of uncertainty

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

**Equipment Required**:

* A computer with projector for PowerPoint presentation and a white board or flip chart for recording group work
* Local health care bills for one outpatient evaluation and treatment of an illness typical for your subspecialty and one inpatient evaluation and treatment of the same illness. You should be able to obtain the bills from the finance department by asking for an itemized bill for educational purposes (alternatively, you can use the sample bills provided).
* Print copies of the Choosing Wisely lists that are relevant to your subspecialty from the Choosing Wisely website ([www.choosingwisely.org](http://www.choosingwisely.org)) and the MKSAP High Value Care recommendations from the ACP High Value Care website (<https://hvc.acponline.org/clinrec_mksap.html>). Small groups will use these lists as a guide to create their own choosing wisely list of 5 things physicians and patients should question.
* Print the Clinical Case #2 Benefits, Harms, and Costs worksheet provided.

**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. Thomas Reuters. Where can $700 billion in waste be cut annually from the U.S. Health Care system? October, 2009.
3. Medicare Payment Advisory Commission Data Book. "Healthcare Spending and the Medicare Program;" 2012.
4. Adapted from Owens, D*.* Ann Intern Med.2011;154:174-180.
5. Detsky ME, et al. Does this patient with headache have a migraine or need neuroimaging. JAMA. 2006; 296:1274-1283.
6. Kaniecki R. Headache assessment and management. JAMA. 2003;289:1430-1433.
7. McGarry LJ, et al. Cost effectiveness of thromboprophylaxis with a low-molecular-weight heparin versus unfractionated heparin in acutely ill medical inpatients. Am J Manag Care. 2004;10:632–642.
8. ABIM Foundation, Choosing Wisely Campaign. [www.choosingwisely.org](http://www.choosingwisely.org) (accessed 3/31/16).
9. Qaseem A. Appropriate Use of Screening and Diagnostic Tests to Foster High-Value, Cost-Conscious Care. Ann Intern Med. 2012;156:147-149.

**Presentation #1 Instructions**

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| Step | Description | Estimated Time |
| 1 | Welcome participants, introduce speaker, identify the reason for the discussion, including:* An estimate of approximately 30% of health care costs (>$700 billion per year) are wasted, potentially avoidable, and wouldn’t change quality
* The primary goal of this curriculum is to provide trainees with the tools to become leaders in eliminating this waste
* Explain the learning objectives
 | 5 minutes |
| 2 | Introduce health care spending and health care wastes* Health care spending continues to escalate at an astounding rate
* Physicians' decisions are a major contributor to these unnecessary costs
* Discuss the estimates of health care waste and highlight the approx $200 billion spent each year on “unnecessary services” (slide 4)
* Explain that the majority of the growth has been in imaging and testing (slide 5)
* Emphasize that waste occurs throughout the health care system and affects many patients (slide 6)
* Review the Five-Step Model as a framework for approaching every clinical encounter
 | 5 minutes |
| 3 | Clinical case #1: woman with asymptomatic bacteriuria* Ask the audience what diagnostic testing is indicated
* Discuss the value of testing for and treating asymptomatic bacteriuria
* Note that there are particular circumstances in which screening for and treating asymptomatic bacteriuria is appropriate: pregnancy and before certain invasive urologic procedures
* Ask the audience what the estimated hospital charges are for urinalysis, urine culture, PICC line placement, and 14 days of IV ertapenem
* Use numbers provided from your own institution to give the trainees an idea of costs. Alternatively, use data from online sources such as [https://healthcarebluebook.com](https://healthcarebluebook.com/), <http://clearhealthcosts.com/>, [www.guroo.com](http://www.guroo.com) or <http://www.newchoicehealth.com/Directory/Procedure> Charge data from one academic medical center are provided (see addendum) (slide 12)
* Describe the cascade of testing that occurred in the first clinical case (slide 13)
* Ask the group to use the sites you provided earlier to calculate the downstream charges associated with these unnecessary charges/costs
* Revisit the HVC Frameworks slide and have fellows spend 2-3 mins coming up with scenarios in which they personally over-order tests and then pair-share their responses. Use the whiteboard to create a list specific to your fellows/institution (slide 15)
* Here are a few examples from the literature: 1) Duplicating role modeled behavior, 2) Desire to be complete (“have the answer” on rounds in the AM), 3) Unnecessary duplication of tests (easier to “get our own echo, CT, etc.” than have it sent from OSH), 4) Discomfort with diagnostic uncertainty, 5) Intellectual curiosity, 6) Lack of knowledge of tests and procedures that add value vs. those that are wasteful based on evidence, 7) Defensive medicine, 8) Patient requests/preference
* Review the recent list by the Infectious Diseases Society of America for the ABIM Choosing Wisely campaign (slide 16)
 | 15 minutes |
| 4 | Clinical Case #2: inpatient vs outpatient management* You may use the community-acquired pneumonia case provided in slides 17-24 or choose a case from your specialty that may be managed in the outpatient or inpatient setting. Ideally, obtain bills from patients with that illness managed as an inpatient and one as an outpatient at your institution to allow comparison
* Introduce the case in slides 17 and 18 and ask the questions to the larger group
* Describe the clinical course in slide 19
* Have the trainees work in small groups for 3-5 mins to complete a cost comparison
* Ask them to answer, “What, if any, of the tests/consults/procedures may have been unnecessary?"
* Emphasize the point that cost does not equal value; therefore, low-cost interventions may be of low value just as high-cost interventions may be of high value
* Facilitate a discussion of the separate groups’ findings: were they surprised by the cost differences? What would they eliminate? How might they approach outpatients differently in the future?
 | 15 minutes |
| 5 | Clinical Case #3: diagnostic uncertainty* Facilitate a discussion about the impact of diagnostic uncertainty and its impact on unnecessary testing
* Emphasize the impact of diagnostic uncertainty on higher costs (slide 24)
 | 10 minutes |
| 6 | Summary and individual quality improvement commitments* Briefly review the themes of this module, emphasizing that fellows play a key role in reducing health care waste
* Hand out copies of the Choosing Wisely lists and the MKSAP High Value Care recommendations that are relevant to your subspecialty. Ask the groups to create their own choosing wisely lists from the ones provided on an index card. Have them share their lists with the larger group and submit their cards.
* Collect commitment to change statements and review when selecting QI projects
 | 10 minutes |

**Addendum**

**Case 1**

**Charge Data (from one academic medical center)**

**Unnecessary test charges**

**Urinalysis $94**

**Urine culture $94**

**Downstream charges**

**Ciprofloxacin 500 mg po bid x 7 days $23**

**PICC line kit $1300**

**Ceftriaxone 2 g IV daily x 14 days $502**

**Downstream charges/costs**

***C. difficile* PCR assay $38**

**Metronidazole x 10 days $36**

**Vancomycin po x 10 days $2,284**

**Illness and lost days of work due to *C. difficile* colitis**

**Case 2**

**Placeholder: Community-acquired Pneumonia Case**

Mr. P., a 62-y/o man with hypertension and hyperlipidemia, presents to the emergency department with fever, chills, and a productive cough for the past 3 days.

T 38.5 °C, BP 130/70, HR 110, RR 22, 02 sat 94% on RA

Exam notable for: coarse breath sounds in the right mid-lung

CXR: right lower lobe consolidation

**Step 1: Benefits, harms, costs of evaluation and management**

*At this time, have the fellows use the worksheet table provided for common tests ordered in the evaluation of CAP and work in small groups to think through benefits, harms, and costs (both direct and indirect) of each.*

What is your evaluation for a patient with this illness?

What factors lead us to make orders or recommendations for our patients?

Which labs or initial studies do you want to order?

What are the benefits, harms, and costs of each test or intervention?

*When managing a patient with CAP, consider utilizing a decision support tool (CURB-65, Pneumonia Severity Index Scoring System) to assist in the decision to admit or treat as an outpatient.*

Mr. P. was admitted for 3 days, during which time:

Blood and sputum cultures, urine *Legionella* and pneumococcal antigens, and respiratory virus panel were ordered

He was treated empirically with ceftriaxone and azithromycin IV

RVP + rhinovirus; sputum culture showed normal flora; blood cultures were negative; urine *Legionella* and pneumococcal antigens were negative

He was discharged on oral levofloxacin to complete a total of 7 days of antibiotic therapy

**Step 2: Decrease or eliminate care that provides no benefit and/or may be harmful**

What, if any, of the tests/consults/procedures may have been unnecessary in this case?

Remember that High Cost ≠ Low Value and likewise Low Cost ≠ High Value

High-cost interventions may provide good value because they are highly beneficial (bronchoscopy for selected patients with pneumonia, screening colonoscopy)

Low-cost interventions may have little or no value if they provide little benefit or increase downstream costs (BNP measurement in patient with clear heart failure, annual pap smears in an average-risk woman)

**Charges/Costs**

What is the total cost for this patient’s 3-day admission?

At least $12,717 plus physician professional fees

In addition to direct monetary costs, what are some harms and potential downstream costs of this patient’s management?

Examples: Repeated phlebotomy, IV catheter-related phlebitis or infection, DVT, etc.

**Charge Data (from one academic medical center)**

**3 nights in the hospital $5,016**

**Physician fees (per day): $200**

**Consulting physician fee (per day): $300**

**Electrolyte panel $137**

**Daily x 3 $411**

**CBC with differential $137**

**Daily x 3 $411**

**CXR $604**

**Chest CT $4,000**

**RVP $1,113**

**Blood cultures (2) $406**

**Sputum culture $131**

***Legionella* urine Ag $279**

**Pneumococcal urine Ag $193**

**Ceftriaxone plus azithromycin x 3 d $85**

**Levofloxacin 500 mg po daily x 4 d $68**

References

Aujesky D, et al. Prospective comparison of three validated prediction rules for prognosis in community-acquired pneumonia. Am J Med. 2005 Apr;118(4):384-92. [PMID: 15808136]

Mandell LA, et al. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. Clin Infect Dis. 2007 Mar 1;44 Suppl 2:S27-72. [PMID: 17278083]