



# The Pediatric Value Meal

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*Pediatrics*



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- We have no relevant financial relationships with the manufacturers of any commercial products and/or provider of commercial services discussed in this CME activity.
- We do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

## Goals

- Provide tools with which to teach trainees about high value care

## Objectives

- Identify resources in pediatric high value care education to promote adoption and development of effective curricula and evaluation.
- Effectively employ evidence-based strategies to promote HVC during case based discussions, large group conferences, bedside rounds.
- Utilize techniques teach learners about discussing HVC with patients and families.

## The Big Mac

7 wk old full term infant presents to the ED after an episode of purplish discoloration to the face and not breathing for 10 seconds after a feed. In the ED, the patient had a CBC, CMP, urinalysis, blood and urine cultures sent. Lab work was reassuring. An EKG showed concern for right ventricular hypertrophy. The patient was admitted for observation. Cardiology consulted the next morning and an echocardiogram revealed a structurally normal heart. The patient was discharged home.

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## The Big Mac

Six hours after discharge, the patient's blood culture began to grow gram positive cocci. The patient was called back to be directly admitted to the hospital for a repeat blood culture and antibiotics. The first blood culture speciated into coagulase-negative *Staphylococcus* and the repeat blood culture remained negative. Antibiotics were discontinued and the patient was discharged home to follow up with his primary pediatrician.

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## The Big Mac

- Is this an example of High Value Care?

A. Yes

B. No

C. Maybe/Unsure

## Poll Everywhere

## The Big Mac

- What contributed the most to low value care for this patient?
  - A. Laboratory testing in the ED
  - B. EKG
  - C. Blood culture
  - D. Multiple Admissions
  - E. All of the above

## Poll Everywhere

## Small-group break outs

- High Value Teaching in Case Conferences
- High Value Teaching at the Bedside
- High Value Teaching around Difficult Conversations

## Changes You May Wish to Make

- Reframing of morning report
- Role-playing cost conversations with trainees
- Promoting HVC during bedside rounds

## Next Steps



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## Thank You

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PHM HVC Workshop  
Bedside Rounds

**Background information:**

You are the attending on service of a general pediatric ward team. During rounds, one of your interns presents a patient who was admitted early that morning.

**Intern Presentation:**

ID/CC: Isaac is a five-week-old boy who admitted for a febrile illness.

HPI: He was born at 38 weeks' gestation via normal spontaneous vaginal delivery following an uncomplicated pregnancy throughout which the mother received routine prenatal care. He was in his usual state of good health until last night when he was noted to be fussier than usual. His mother took a rectal temperature which read 101.7 F. There has been no change in his oral intake, no vomiting, diarrhea, rash or respiratory issues.

ER Course: A catheterized urine was obtained. Urinalysis showed  $> 100/\text{mm}^3$  white blood cells, + nitrites, 2+ leukocyte esterase. A urine culture is pending. No other diagnostic tests were obtained prior to admission.

PE: Temperature is 38.5°C, heart rate 155 bpm, respiratory rate 30 bpm. There are no focal findings on physical examination.

Assessment and Plan: Isaac is a 5 week old term male who was admitted for a probable febrile UTI, given the results of his urine analysis. Due to his age, I think we should order a blood culture and lumbar puncture. But I would hold off on getting a CBC with differential since I don't think it would change management. I'd like to continue the ampicillin and cefotaxime that was started in the emergency department. Once the UTI is confirmed, I'd like to order a renal ultrasound and VCUG.



## High Value Case Conferences

### **Example Case:**

Jamie Wilson is a 4 year old previously healthy male who presents to the emergency department with limp and inability to bear weight on his right leg. He has had fevers (Tmax 101.5°F) for the past 2 days and is complaining of pain in his right knee, which has been getting progressively worse for the past week. Over the past 24 hours he has refused to walk, which prompted his parents to bring him in for evaluation. He is previously healthy and fully immunized. His mother recalls that he fell on the playground at school and scraped his right knee a week and a half prior, but that it healed without any need for medical intervention.

On physical examination, the patient is overall well appearing and in no acute distress. His temperature is 38.5°C, pulse is 105 beats per minute, and blood pressure is 98/65 mm Hg, and respiration rate is 20 breaths per minute. His mucous membranes are moist and capillary refill is <2 seconds. His heart, lung and abdominal exams are normal. On musculoskeletal exam, the patient's right knee is not swollen or erythematous; however, he has tenderness over the distal femur and limited range of motion with flexion limited to 45 degrees due to pain. When asked to ambulate, the patient has an antalgic gait, favoring the right leg.

Materials from "The Pediatric Value Meal: Supersizing High Value Care Education", PHM 2016, Walker, Tchou, Herrmann, Beck, Quinonez, Schroeder

Case adapted from "High Value Care Pediatric Cases." (2016 April 5) Retrieved from <http://hvc.acponline.org/pedcases>

# Toolkit for Teaching High Value Medicine

## *Overall Key Concepts in Teaching High Value Care*

### **Focus Conversations around Value and balancing risks and benefits of diagnostic testing and treatment interventions**

- Talk about benefits to patient
- Talk about risks to patient and cost

### **Keep Conversation Patient Focused**

- The goal is the best possible outcome for patients
  - Quickest recovery
  - Least adverse events
  - Least unnecessary care/overtreatment
  - Least cost

### **Definition of Value**

Value Equation

$$\text{Value} = \frac{\text{Benefits to Patient}}{\text{Risk and Cost}}$$

### **Categorizing Value and Cost as Separate Concepts**

	<b>High Value</b>	<b>Low Value</b>
<b>High Cost</b>	Appendectomy Chemotherapy for ALL	MRI for uncomplicated headache
<b>Low Cost</b>	Vaccines	Albuterol for bronchiolitis

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## High Value Teaching in Case Conferences

Goal of Discussion = **How can we make the patient better?** (NOT what is the diagnosis?)

- Keeps learners focused on outcomes that matter to the patient

### Picking the case:

- Does not have to be a zebra
- Common chief complaints work well for discussing utility of the “standard” work up
- Known diagnoses allow for in-depth discussion of treatment options or utilization of resources
- Chief complaints with guidelines allow for discussion of evidence behind the guidelines

### HPI & Physical Exam:

- Give some/all of history & exam to the audience instead of Q&A format for HPI
  - eliciting it through their questions takes a significant amount of time
  - allows group to focus on diagnostic and treatment decisions

### Differential:

- For each diagnosis:
  - Will establishing this diagnosis benefit the patient?
  - How likely is the diagnosis? Can a pre-test probability be estimated?
  - Is this something that would cause harm if missed (in the immediate future)?
- Can be helpful to use a High-Value Chart:

Differential Diagnosis	Pre-test probability (high vs low)	Level of risk (high vs low)	Value of making the diagnosis (high vs low)

- After a list is generated, highlight the most common and those important to rule out

### Work Up and Treatment:

- Open this section saying: “What can we do to make this patient better?”
  - Often (but not always) a diagnosis needs to be established in order to make the patient better
  - Some of our interventions are designed not necessarily to make patients better, but to prevent them from getting worse, or to be there for them if and when they do get worse
- For each test/study:
  - What are you looking for?

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- o What are the benefits?
- o What are the risks or potential complications?
- o What are the downstream effects of a false positive?
- o How much does it cost? (see resources below)
- o Cost to the family – days of lost work, anxiety over potential diagnosis, etc . .
- Other issues to discuss:
  - o pre-test probability & likelihood ratio
  - o number needed to treat
- May be useful to use a High-Value Care Chart

<b>Test/ Study</b>	<b>PreTest Probability/ Likelihood of leading to change in management (high vs. low)</b>	<b>Quality/Benefits</b>	<b>Costs (including nonfinancial)/Risks/ Effects of False Positive</b>	<b>Value (high vs. low)</b>

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## Further Resources for Practicing High Value Medicine:

### Cost Resources:

- For Hospitals in California (<http://www.oshpd.ca.gov/chargemaster/>) - it is state law that the charge master be available to the public! Remember charge does NOT equal cost
- Health Care Blue Book (<https://healthcarebluebook.com>) - cost of care by location
- Guroo (<http://www.guroo.com/#!>) - cost of care organized by care bundle
- Costs of Care ([www.Costsofcare.org](http://www.Costsofcare.org))
- Fair Health ([www.fairhealth.org](http://www.fairhealth.org))

### High Value Medicine Organizations:

- [www.choosingwisely.org](http://www.choosingwisely.org)
- [www.lowninstitute.org](http://www.lowninstitute.org)
- Consumer Health Choices ([www.consumerhealthchoices.org](http://www.consumerhealthchoices.org))
- APA High Value Care Special Interest Group (SIG):  
[https://academicpeds.org/specialInterestGroups/sig\\_HealthCareValue.cfm](https://academicpeds.org/specialInterestGroups/sig_HealthCareValue.cfm)

### Good Reads:

- Overdiagnosed (H. Gilbert Welch)
- Overtreated (Shannon Brownlee)
- Hippocrates Shadow (David H. Newman)
- How We Do Harm (Otis Webb Brawley)
- Ellipsis - Blog - <http://ellipsisslr.blogspot.com/>

### Journal Sections on Value:

- Bending the Value Curve, Hospital Pediatrics:  
<http://www.hospitalpediatrics.org/content/4/4/261.full>
- Too Much Medicine, British Medical Journal: <http://www.bmj.com/too-much-medicine>
- Teachable Moments, JAMA Internal Medicine:  
<http://archinte.jamanetwork.com/article.aspx?articleid=1741887>
- Things We Do For No Reason, Journal of Hospital Medicine

### Further Curricula on Value

- *American College of Physicians High Value Care Curriculum*  
<https://www.acponline.org/clinical-information/high-value-care>
- *PedsValue Cases sponsored by the American College of Physicians*  
<https://www.acponline.org/clinical-information/high-value-care/resources-for-clinicians/high-value-care-pediatric-cases>
- *Duke University High Value Care Curriculum*  
Woods S, Avery C, Bartlett K, et al. High value care pediatric curriculum. MedEdPORTAL Publications. 2015;11:10146. <https://www.mededportal.org/publication/10146>
- *The Teaching Value Workshop*

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Moriates C, Shah N, Levy A, Lin M, Fogerty R, Arora V. The teaching value workshop. MedEdPORTAL Publications. 2014;10:9859. <https://www.mededportal.org/publication/9859>

- *Teaching and evaluating high value care through a novel case-based morning report curriculum* Blackwell M, Moore K, Kocoloski A, Gill P. Teaching and evaluating high-value care through a novel case-based morning report curriculum. MedEdPORTAL Publications. 2016;12:10356. <https://www.mededportal.org/publication/10356>

### **Approaches to Teaching About Value:**

- 20/20 Value Hindsight: Review a case history in full by telling the story of a child's care as a vignette. Include the initial presentation, workup, diagnosis, treatment, total cost, and out of pocket costs to the family. Then provide the costs of the care provided by domain (hospital room costs, staffing/physician treatment/consult costs, costs of tests/studies, etc.) and by itemized services individually. Ask two simple questions: 1) what aspects of this patient's care were high value? 2) What aspects were low value?
- What Could Go Wrong?: Review a case presentation up to the moment when it's time to choose a test for further workup. For each test proposed, ask a simple question: "What could go wrong?" Let the group fully engage their imagination, though they will probably be able to identify plenty of side effects, "incidentalomas", dead ends, and patient harms from their own experience with these tests. The idea of this exercise is to flip the usual approach to picking tests -- usually tests are picked based on potential gains, rather than declining to use tests based on awareness of their potential harms.

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