

High Value Care across the Inpatient and Outpatient Settings

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Objectives

- Describe basics of *value-based healthcare*
- Incorporate high value care principles into outpatient and inpatient cases
- Summarize resources available for support in the clinical environment

How do we define “value”?

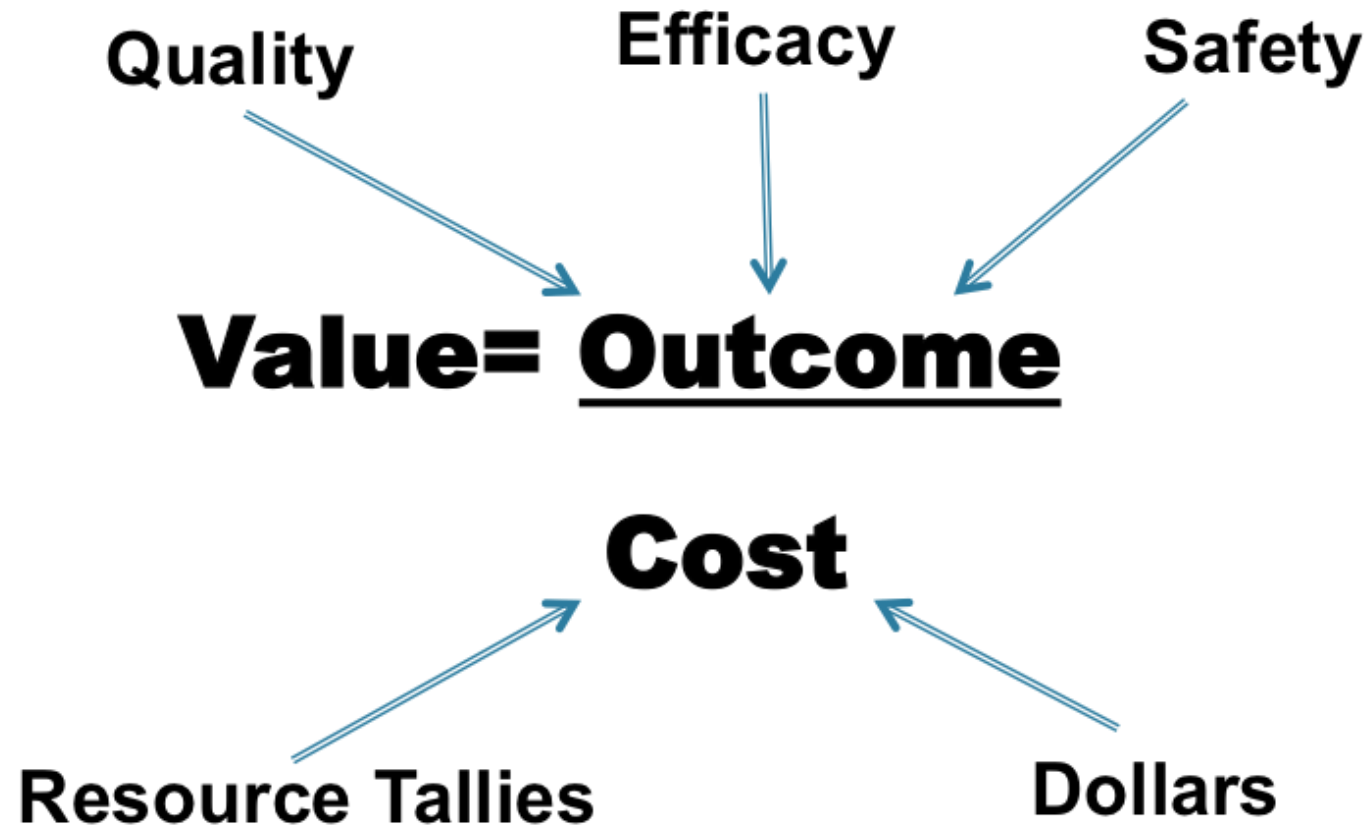
Classically . . .

Value = Costs

Redefine as . . .

$$\text{Value} = \frac{\text{Outcome}}{\text{Costs}}$$

Ways to Affect Value



Benefits of Value-Based Healthcare

PATIENTS

Lower Costs
& better
outcomes

PROVIDERS

Higher Patient
Satisfaction
Rates &
Better Care
Efficiencies

PAYERS

Stronger Cost
Controls &
Reduced Risks

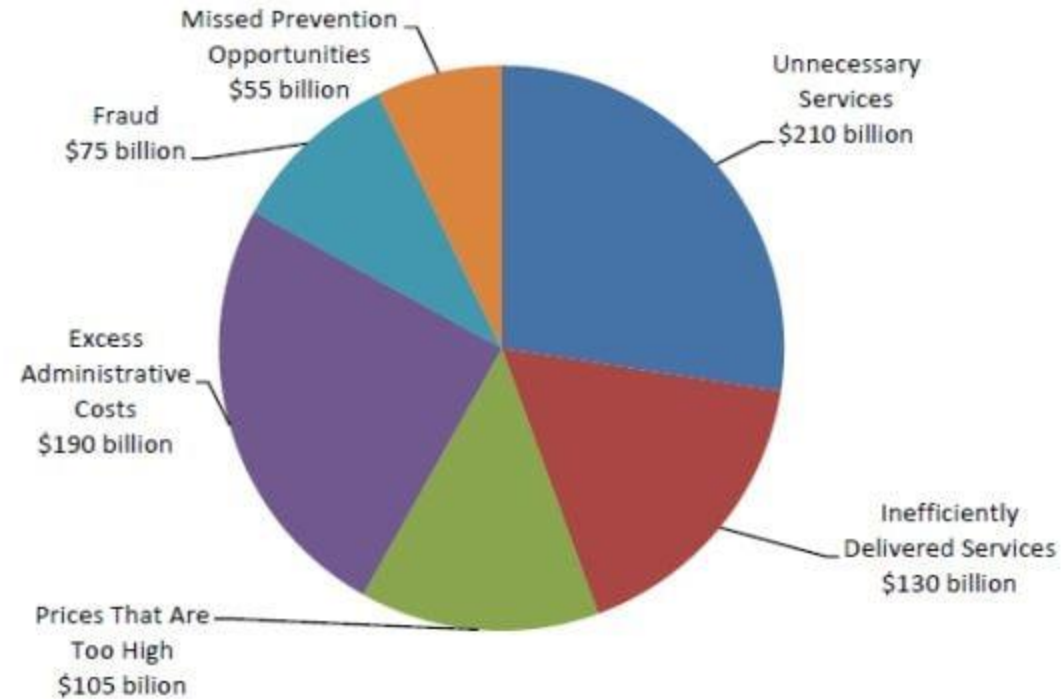
SUPPLIERS

Alignment of
Prices with
Patient
Outcomes

SOCIETY

Reduced
Healthcare
Spending &
Better Overall
Health

Why is the cost so high?



Institute of Medicine. (2012). Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. S-23.

How does this affect the patient?



DO NO HARM
(MALEFICENCE)



**DO GOOD FOR
PATIENTS**
(BENEFICENCE)



**PATIENT
AUTONOMY**



JUSTICE

Current high-value care models

 **Choosing Wisely**[®]

An initiative of the ABIM Foundation

Population Health



Accountable
Care
Organizations



sh.m.
Society of Hospital Medicine
Journal of Hospital Medicine

165 THINGS WE DO

 **DOCUSATE**  **ECHO**  **SSI**

FOR NO REASON[™]

The Curbsiders featuring Drs. Lenny Feldman and Tony Breu

THE CURBSIDERS
INTERNAL MEDICINE

Ambulatory HVC Case 1

G. Weasley is a 34 year-old woman with a history of type 2 diabetes (treated with semaglutide 1mg weekly) presenting for follow up.

She tells you her brother, who also has diabetes and is on long-acting insulin, has a glucometer to check his glucose each morning. He recently visited her so she started checking her glucose throughout the day. She's worried because some of her glucose readings were in the 300s. They were especially high after she ate her typical breakfast of a bagel with cream cheese and strawberries. She'd like you to prescribe her a glucometer so she can keep checking her sugars at home.

Next best steps...

- A. Sure. She should check her glucose each morning before eating.
- B. Sure. She should check her glucose in the morning and before each meal.
- C. No. She doesn't need to check her glucose as she isn't taking insulin.

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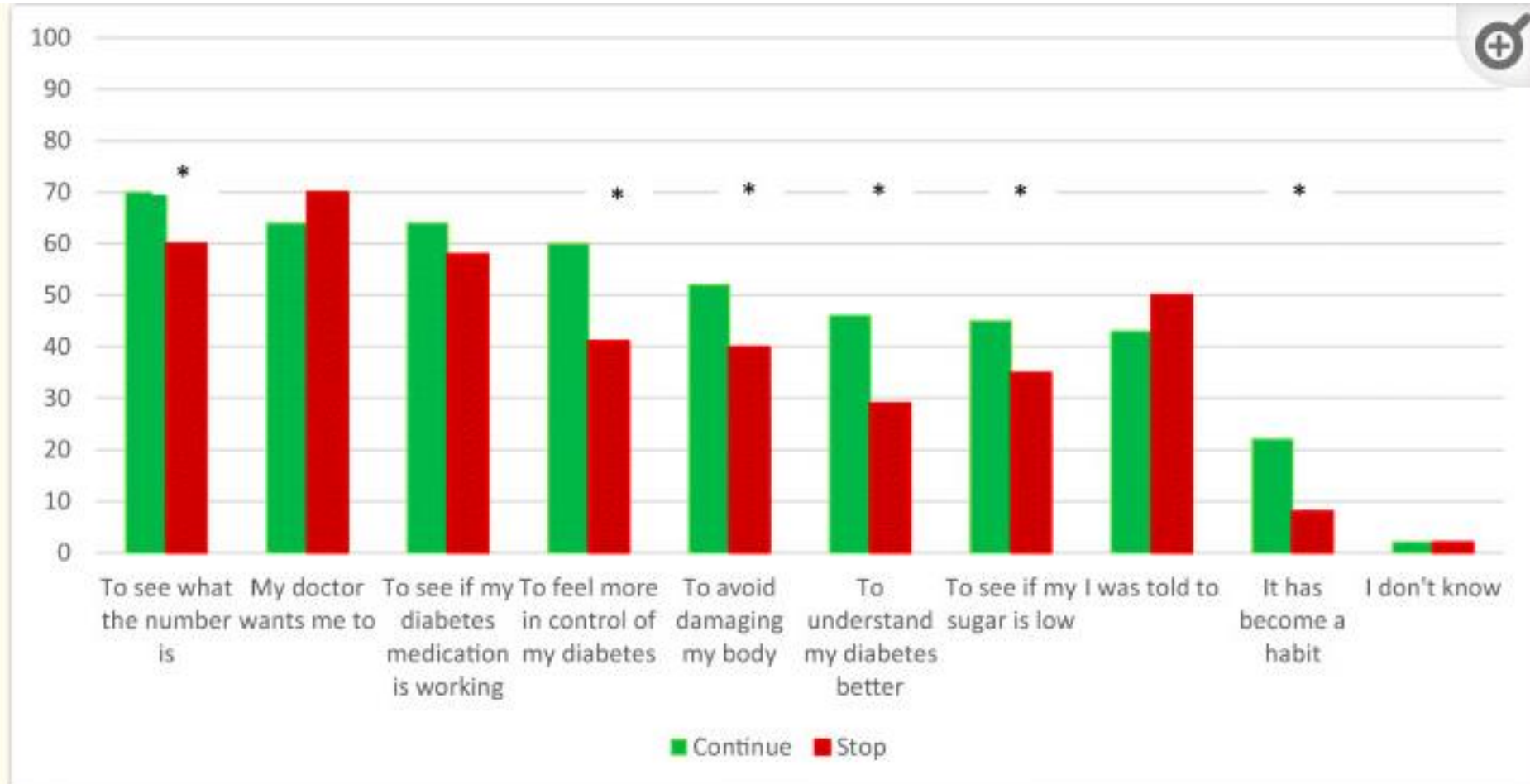
Don't recommend daily home glucose monitoring in patients with Type 2 Diabetes Mellitus not using insulin.

Choosing Wisely, Society of General Internal Medicine

Self-monitoring of blood glucose (SMBG)

- DM control reduces complications such as kidney and heard disease, nerve damage, poor wound healing, increased infections
- 75% of DMII patients reporting monitoring blood glucose

Why do patients do it?



*Asterisks indicate a statistically significant difference between patients who want to continue versus stop at the $p < 0.03$ level using chi-square test.

Should doctors recommend SMBG?

Routine SMBG

- Insight into how diet, exercise, medication affect glucose
- Assess hypoglycemia
- Evaluate discrepancies between HbA1C and glucose levels
- Adjust medications using structured SMBG data

No or variable SMBG

- Cost
 - To patient
 - To healthcare system
- Utility variable based on patient engagement, education, awareness

What does the ADA say?

- ADA does not include a recommendation on SMBG for patients NOT on insulin therapy
 - Randomized trials have raised questions about the clinical utility and cost-effectiveness of routine SMBG in non-insulin treated patients*
- Recommend instruction to use SMBG to adjust therapy
- Many patients who report checking glucose at least daily report taking no action when results are high or low
- Need for and frequency of SMBG should be re-evaluated at each visit to avoid overuse especially if not being used for self-management

Summary:

- Why do doctors routinely recommend it?
 - Patients better understand their blood sugars
 - Guides daily exercise, food choices
- What does the data say?
 - Overall inconclusive to RECOMMEND routinely
 - Multiple studies have show no change OR change that was not statistically significant in HbA1C measures at 1 year
 - Lack of evidence in improving patient-related health outcomes

Don't recommend daily home glucose monitoring in patients with Type 2 diabetes mellitus not using insulin.

Choosing Wisely, Society of General Internal Medicine

What about CGM (continuous glucose monitoring)?

When CGM is prescribed, intensive diabetes education, training, and support are required for optimal implementation and ongoing use of a continuous glucose monitor. (Grade E recommendation)

Don't recommend daily home glucose monitoring in patients with Type 2 diabetes mellitus not using insulin.

Choosing Wisely, Society of General Internal Medicine

In summary:

- Self-monitoring glucose is important in type I diabetes mellitus
- For type 2 diabetics who are NOT on insulin or medications associated with hypoglycemia, daily glucose monitoring:
 - Small statistically significant but NOT CLINICALLY important changes in glucose control
 - Small significant patient harms
- Reserve self-monitored glucose for medication titration, changes in diet or exercise patterns

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Ambulatory HVC Case 2

William Weasley (Ginny's brother) is a 45 year-old man comes in for an acute care visit. He's had some left lower quadrant abdominal pain with diarrhea for the last three days; no vomiting but has some nausea. On exam his LLQ is tender to palpation. You suspect diverticulitis but decide to get a CT scan—you're in luck, it can happen later today.

At 505pm, you get a call from radiology confirming your diagnosis. You contact Mr. Weasley and let him know, recommending a bland diet. He wants to know if you're prescribing him antibiotics because that's what his mother had last year when she had diverticulitis.

Ambulatory HVC Case 2

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Do you:

- A. Tell him to head to the ED because he needs IVF and should be NPO until he's better
- B. Tell him to monitor his symptoms, eat a bland diet and let you know if things worsen
- C. Start Cipro + Flagyl

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Antibiotic treatment can be used selectively, rather than routinely, in immunocompetent patients with mild uncomplicated diverticulitis.

AGA Clinical Practice Update on Medical Management of Colonic Diverticulitis

Diverticulitis

- Presentation: acute/subacute left lower quadrant abdominal pain
- May also have: fever, change in bowel habits, nausea, elevated WBCs
- Clinical suspicion correct in 40-65% of cases; CT abd/pelvis highly accurate

Uncomplicated

- Thickening of colon wall + pericolic inflammatory changes
- ~5% develop smoldering diverticulitis

Complicated (~12% of presentations)

- Thickening of colon wall + absence of (at least one):
 - Abscess
 - Peritonitis
 - Obstruction
 - Stricture
 - Fistula

When should antibiotics be used in uncomplicated diverticulitis:

- Immunocompromised
- Comorbidities
- Refractory symptoms or vomiting
- CRP >140mg/L
- WBC >15 x10⁹cells/L
- Fluid collection
- Longer segment of inflammation

Why the change?

- Antibiotics have been first-line therapy for years
- Recent evidence: no benefit in immunocompetent patients with MILD ACUTE UNCOMPLICATED diverticulitis
- No difference in*:
 - Time to resolution
 - Risk of readmission
 - Progression to complication
 - Need for surgery
 - Adverse events
- Shorter hospital stay (2 vs 3 days)

*: studies limited to immunocompetent patients without evidence of sepsis

Ambulatory HVC Case Continued

- After 5 days , he calls back. He was feeling better but now has started vomiting.

Sadly, he was one of the 5% of people with uncomplicated diverticulitis that develop complications so you recommend he head into the ED for some fluids and to start antibiotics



Case 1

Jeff Potter is a 63-year-old man who presented to the emergency room with acute onset sore throat, lymphadenopathy and absent cough. His rapid strep testing was positive. He reports he is allergic to penicillin.

Best Next Steps

- Prescribe clindamycin
- Admit to ICU for desensitization therapy
- Prescribe amoxicillin
- Take a thorough allergy history

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PCN Allergies

- 10% adult population reports an allergy to PCN and derivatives
 - Up to 15% of hospitalized patients report allergy
- Clinical studies report up to 90% of patients with reported allergies can tolerate PCN.
 - Lose sensitivity
 - Non IgE-mediated reactions attributed to IgE-mediated process (viral exanthems)
 - Patients report if a family member has an allergy

Why not just use 2nd line agent?

- Patients labeled as PCN allergic have poorer outcomes d/t increased rates of serious infectious and tend to have longer hospital stays
- Higher rates of C.diff and VRE

Who should avoid PCN?

- Medically frail (ICU, unable to communicate)
- Documented IgE mediated allergic reaction to a beta-lactam within 5 years
 - 50%

What is a thorough drug history?

- If history is not consistent with a personal history of an IgE mediated reaction or they have had PCN since
 - PCN or a beta-lactam can be given
- Exception- for patients with both a cephalosporin and PCN allergy- approach as two separate allergies

Case 2

Phyllis Potter is a 92 year-old woman who presented to the emergency room from home with dyspnea and fevers after a recent GI illness including nausea and vomiting. On exam she is edentulous, febrile, has bibasilar crackles on exam and a leukocytosis. Her CXR is concerning for a right sided consolidation.

Best next step

You decide that she has aspiration pneumonia:

- start vanc/cefepime/flagyl
- start ceftriaxone and azithromycin
- start vanc/zosyn
- start ampicillin/sulbactam

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- start vanc/cefepime/flagyl
- **start ceftriaxone and azithromycin**
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Recommendation

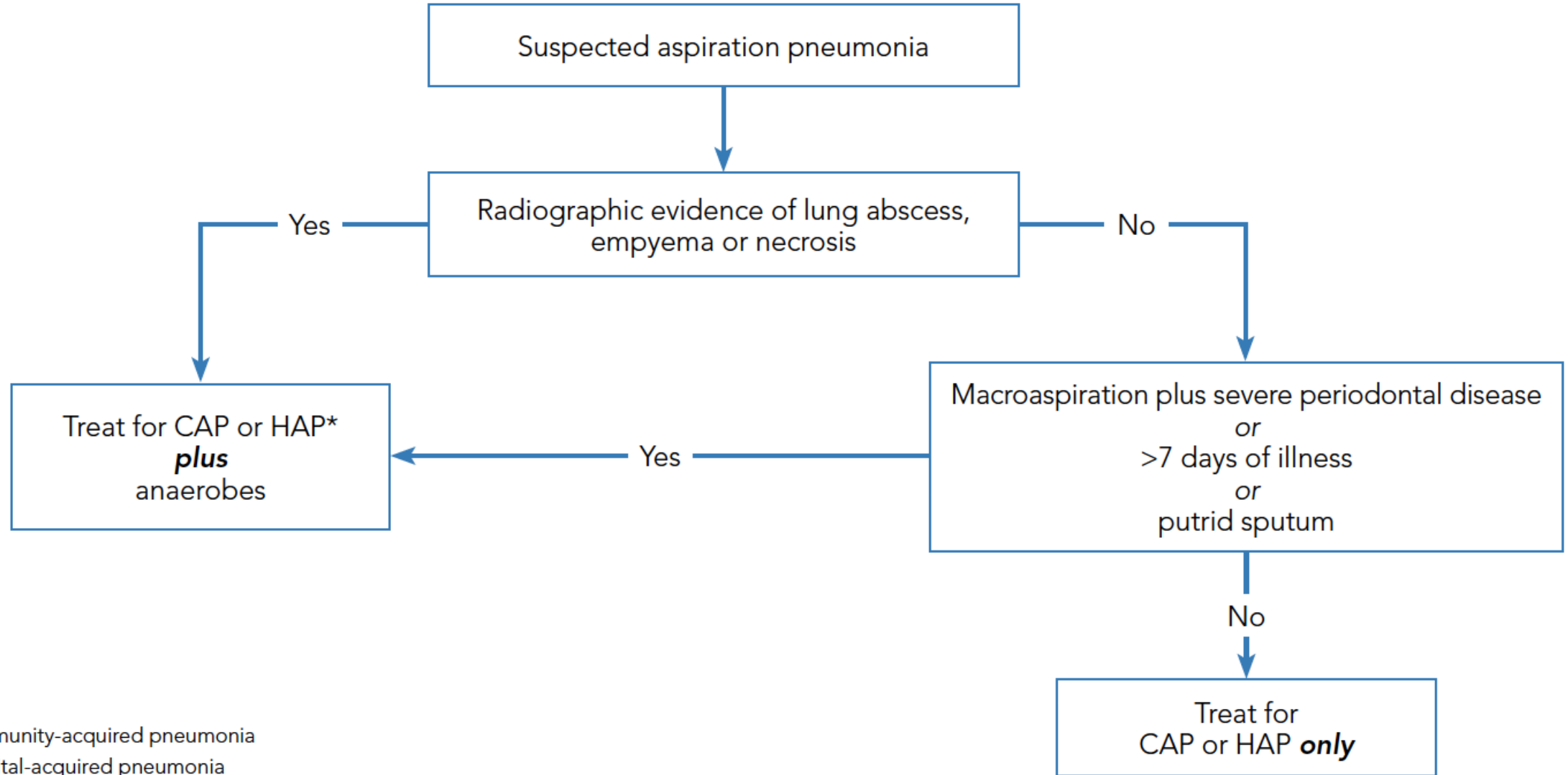
- Empirically treat most suspected cases of Aspiration Pneumonia with regimens similar to standard antibiotics for CAP and HAP. In the absence of specific risk factors for anaerobic infections, do not routinely provide anaerobic coverage.

Aspiration Pneumonia



Aspiration Pneumonitis

- Pneumonia:
 - Days/gradual onset; consolidation
- Pneumonitis: acute lung injury within hours of aspiration event
 - - hypoxemia, pulm edema



*CAP: Community-acquired pneumonia
HAP: Hospital-acquired pneumonia

When should you provide anaerobic coverage?

- Severe periodontal disease
- Putrid sputum
- Longer Duration of Illness

- Necrotizing pneumonia
- Empyema
- Lung Abscess

Summary

- Value include costs and harms against benefits of a treatment.
- Several resources including Choosing Wisely, Things We Do For No Reason, and Curbsiders podcasts to assist in navigating
- These conversations are difficult and patients don't always trust the data.

References

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