Stewardship while Preventing and Managing Sepsis in Long Term Care

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Session objectives

Agenda

1. Why stewardship: Right Care at the Right Time at the Right Place
2. Recognizing and managing sepsis: screening, guidelines, treatment while considering stewardship
3. Diagnostic stewardship: the right test, for the right patient, at the right time
4. Antibiotic stewardship: the right drug, dose, and duration
5. Putting it together: role of communication in stewardship

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Right Care – Antibiotic Stewardship



Reliably improves the appropriateness of prescribing

Reduces unnecessary antibiotic exposure without compromising patient safety

- Lowers resistance
- Lowers *C. difficile* rates
- Increases guideline-concordant prescribing from 43% to 58% (RD 15%, 95% CI 14–16%; high-certainty),
- Shortens antibiotic treatment duration by ~1.95 days, and reduces length of stay by ~1.12 days [1]

Measured effect on hard outcomes such as mortality is at least neutral

- Reduces use without causing harm
- **Guideline-adherent empirical therapy has been associated with a 35% relative reduction in mortality**, and de-escalation with a 56% reduction, in the Schuts analysis — suggesting the "right care" benefit is real when adherence itself is the intervention target. [5]

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Influence of Diagnostic Stewardship

Ordering a test often dictates treatment decisions (Morgan 2023)



Misdiagnosis often results from excessive and unnecessary testing.



Holding back treatment of positive testing is very difficult for clinicians.

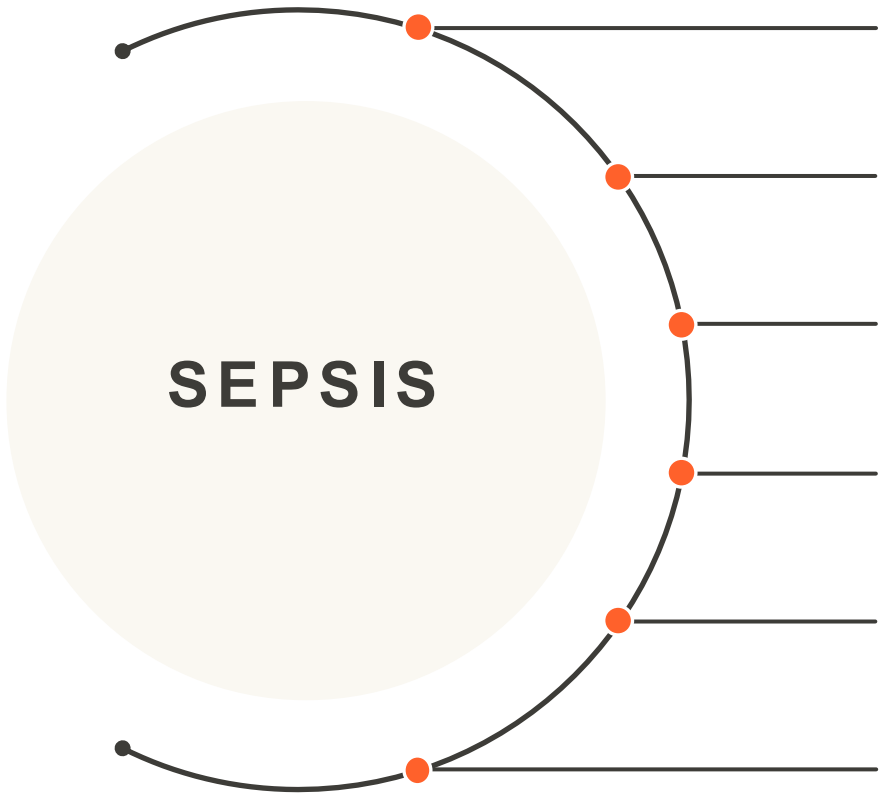
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Recognizing Sepsis

Early recognition and management in the context of stewardship

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Sepsis by the numbers



1.7 million

- New US sepsis cases every year.

$62 billion

- #1 cause of hospitalization in the US by cost.

Leading cause of death

- More deaths than any other condition in US hospitals.

350,000 deaths

- US adults die from sepsis each year.

#1 cause of readmission

- Sepsis drives more hospital readmissions than any other condition.

Nearly 2x

- Death rate in Black individuals versus white individuals.

Source: Sepsis Alliance, 2024

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Sepsis 3 Definition

Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection

- Organ dysfunction can include respiratory, hematologic, liver, cardiovascular, CNS, renal systems

Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality

- Sepsis with persistent hypotension requiring vasopressors to maintain MAP ≥65 mm Hg or serum lactate level >2 despite adequate volume resuscitation.

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10–52%

Range of sepsis mortality rates

6%

Of deaths attributed to sepsis on death certificates

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Sepsis – NEWS2 Scoring

National Early Warning Score 2 (NEWS2): Score ≥ 7 indicates high risk of poor outcome from sepsis

Physiological parameter	Score 3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9-11	12-20		21-24	≥25
SpO_2 scale 1 (%)	≤91	92-93	94-95	≥96			
SpO_2 scale 2 (%)	≤83	84-85	86-87	88-92 ≥93 on air	93-94 on oxygen	95-96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mm Hg)	≤90	91-100	101-110	111-219			≥220
Pulse (per minute)	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness				Alert			CVPU
Temperature (˚C)	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

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Sepsis Screening Tools for the Nursing Home Patient

SIRS	qSOFA	3 – 100's
2 or more of following: • RR >20 • Temp >38 C (100.4) or <36 C (96.8) • P >90 • WBC >12 or <4 or >10% bands	2 or more of following: • RR ≥ 22 • AMS (GCS ≤ 13) • SBP ≤ 100	2 or more of the following: • T >100 F • P >100 • SBP <100
Sensitivity (true +)= good Specificity (true -) = poor	Sensitivity (true +)= poor *Specificity* (true -) = good	Only 1 published study using tool in NH

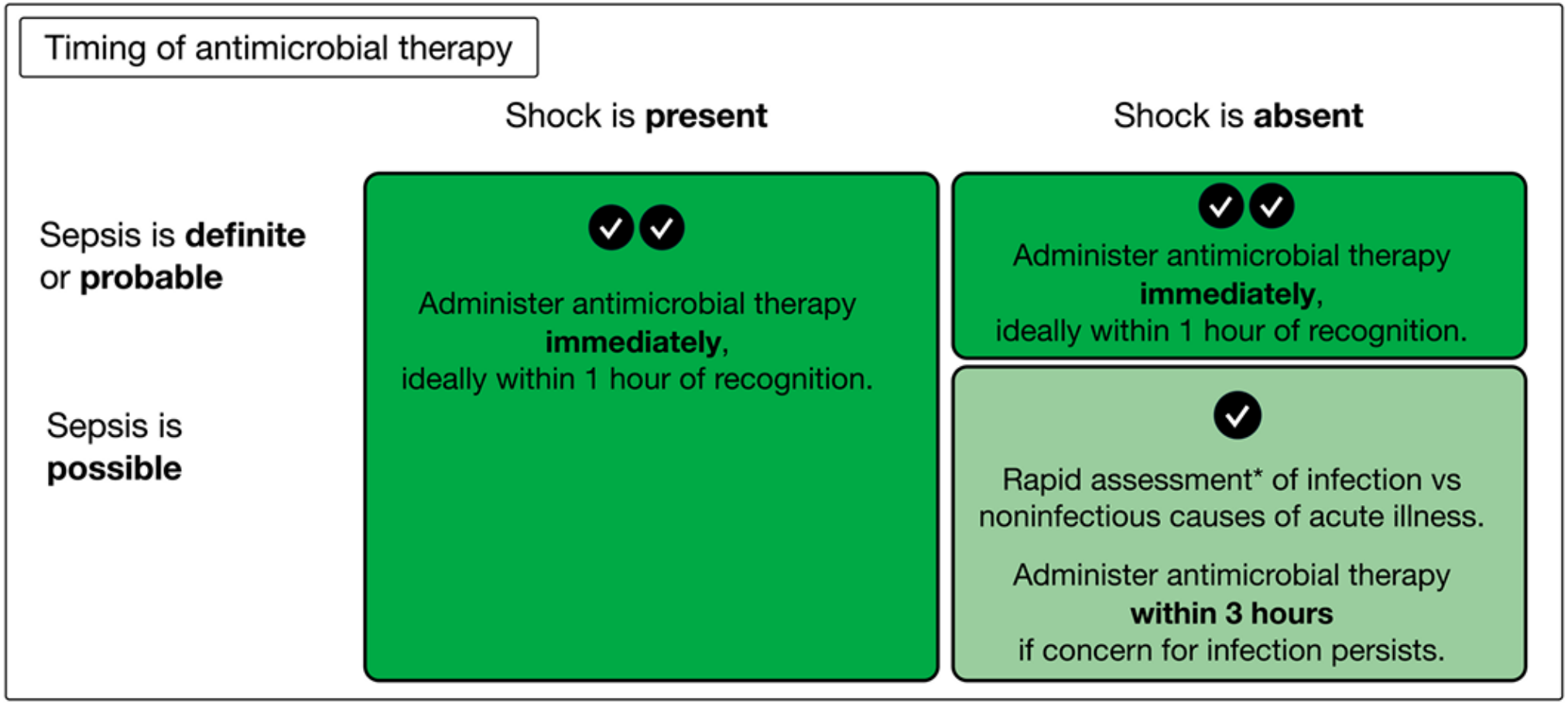
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Surviving Sepsis: 2026

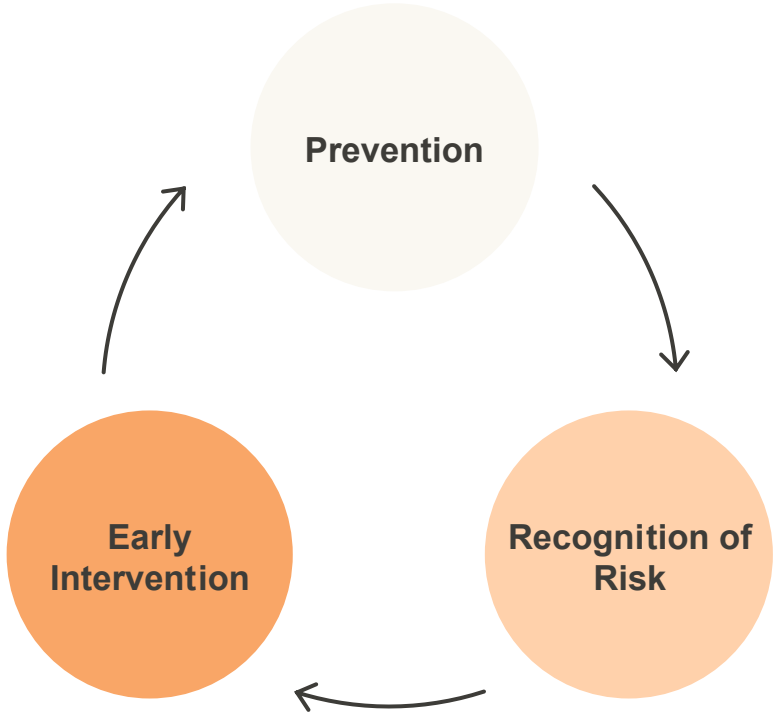


https://www.sccm.org/clinical-resources/guidelines/guidelines/surviving-sepsis-campaign-international-guidelines-for-management-of-sepsis-and-septic-shock-2026

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Sepsis Prevention & Management in Long Term Care vs Hospital



	Long Term Care	Hospital
Recognition of Risk	✓	✓
Initiation of Antibiotics	✓	✓
Initiation of IV Fluids	✓	✓
Initial Labs / Diagnostics	✓	✓
High Volume Fluids & Vasopressors	○	✓
Frequent Lab Draws	○	✓

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Diagnostic Stewardship

Role in sepsis management

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Diagnostic stewardship influence

A Statewide Quality Initiative to Reduce Unnecessary Antibiotic Treatment of Asymptomatic Bacteriuria. (Vaughn 2023)

Antibiotic stewardship strategies

- Antibiotic timeout at 48-72 h
- Restrict use of fluoroquinolones
- Institutional guidelines for treatment (including rec for not treating ASB)
- Clinician education on UTI and ASB
- Audit/ feedback
- Use of EMR and CPOE

Diagnostic stewardship strategies

- Removal of urine culture from standard order sets (preop, ED, admission, others)
- Add reflex urine culture testing based on UA
- Hide urine culture results in some settings
- Requiring physician order for urine culture
- Frame urine culture results in test results

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Diagnostic stewardship influence

A Statewide Quality Initiative to Reduce Unnecessary Antibiotic Treatment of Asymptomatic Bacteriuria. (Vaughn 2023)

Antibiotic use in asymptomatic bacteriuria (ASB) **declined from 29% to 17%**

Percentage of patients with a positive urine culture who had ASB **declined from 34% to 22%**

Percentage of patients with ASB who were treated with antibiotics remained stable

Diagnostic stewardship had more influence in reducing inappropriate antibiotic use than antibiotic stewardship did**.**

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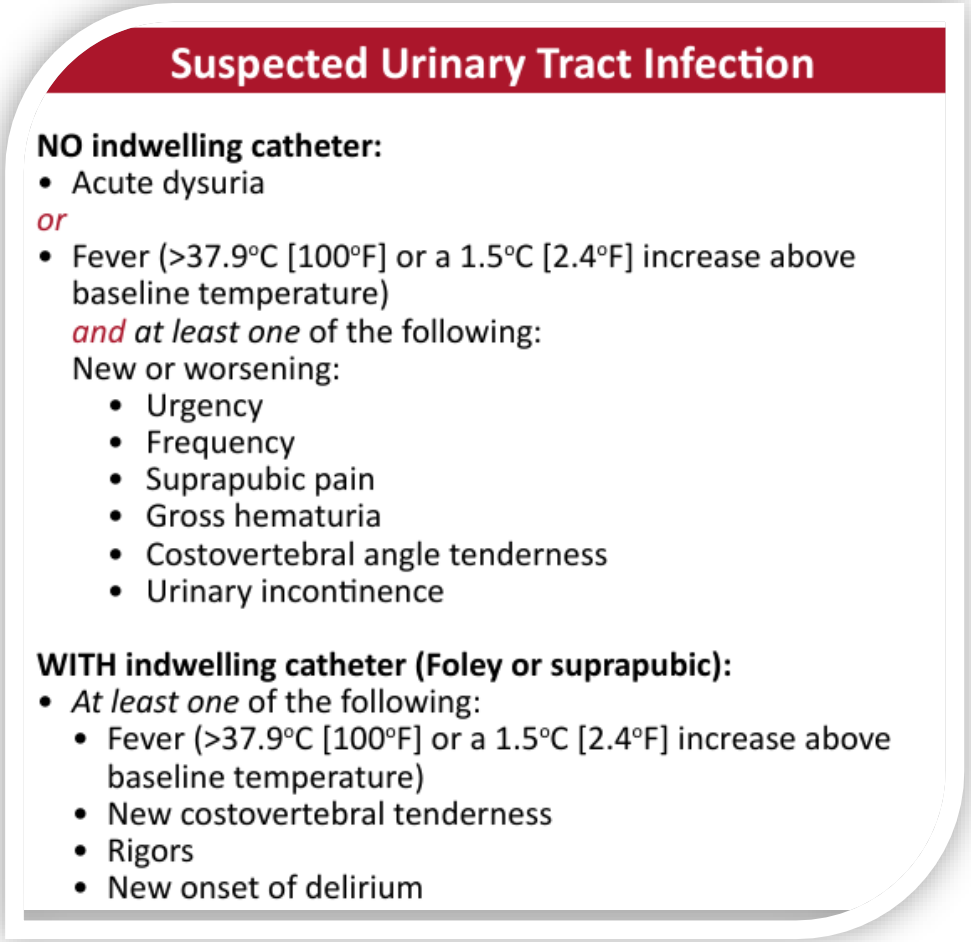
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What Is Diagnostic Stewardship?

> Ordering the right tests for the right patient at the right time to inform optimal clinical care
>
> - Curren 2022

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Possible urinary tract infection (UTI): when to order urinalysis, culture



Higher pre-test probability for UTI

- Signs of sepsis
- Loeb criteria met
- ➢ Check urine studies

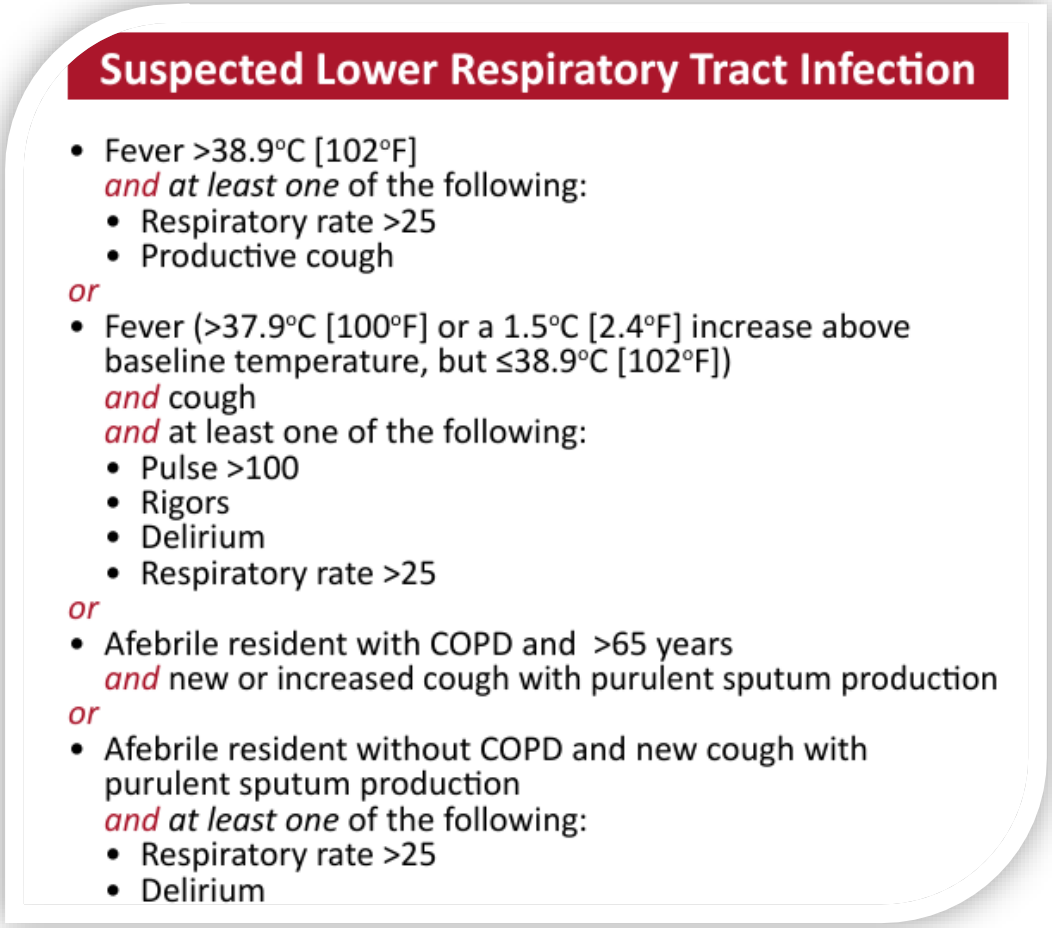
Lower pre-test probability for UTI

- Foul smelling urine
- Cloudy urine
- Altered mental status without localizing signs of genitourinary infection
- ➢ Don't check urine studies

MN Dept of Health

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Possible pneumonia: when to order chest x-ray



Higher pre-test probability for pneumonia

- Signs of sepsis
- Loeb criteria met
- ➢ Check CXR

Lower pre-test probability for pneumonia

- No signs of sepsis
- No cough or increased sputum
- No shortness of breath
- No chronic lung disease
- ➢ Don't check CXR

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Diagnostic stewardship key points



Ordering a test often dictates treatment decisions, even if it should not



Pre-test probability influences test interpretation



Treat the person, not the test

Order the right test for the right patient at the right time to inform optimal clinical care

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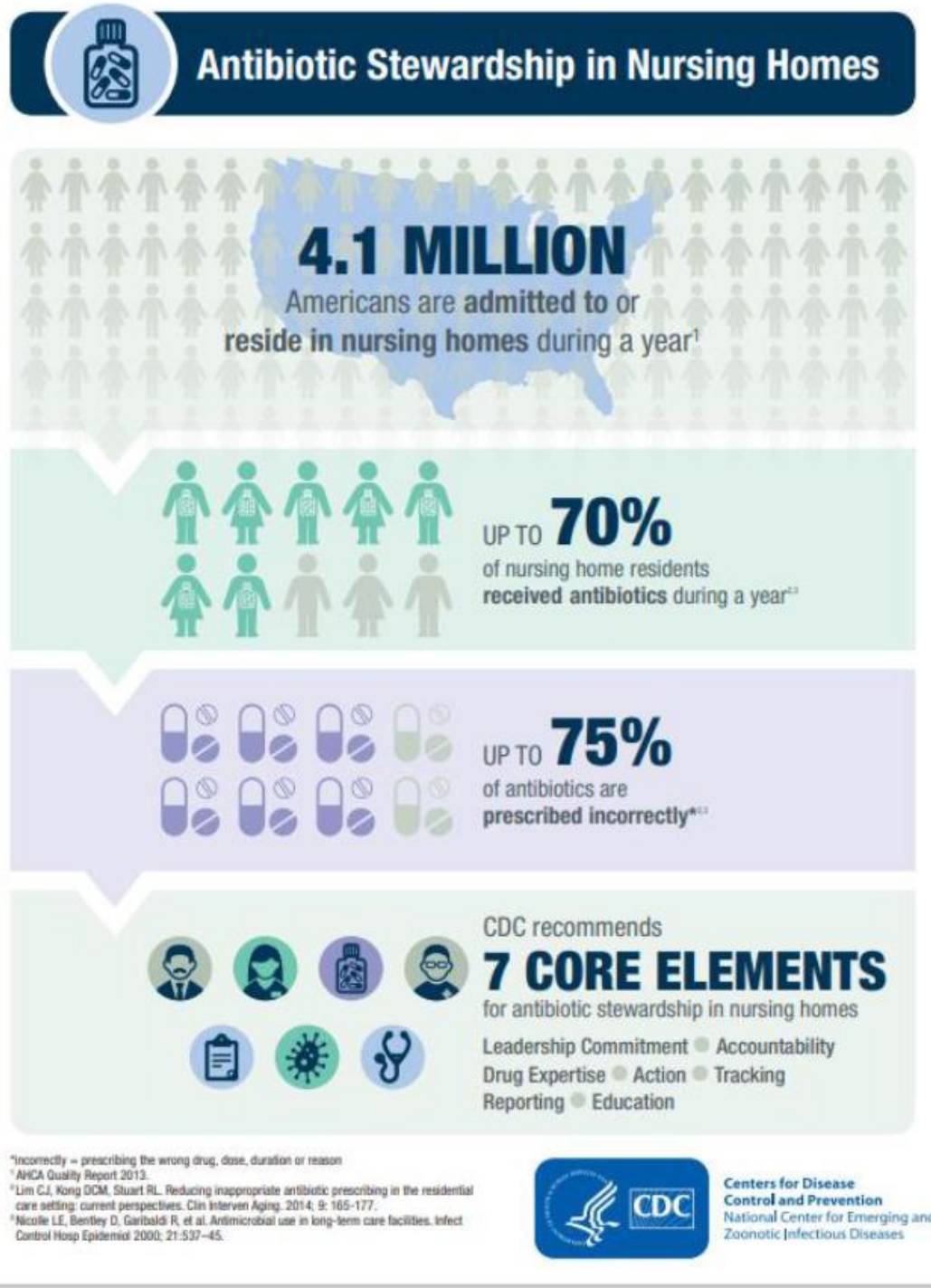
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Antibiotic Stewardship: The Right Drug

Choosing, narrowing, and stopping antibiotics

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CDC Antibiotic Stewardship in Nursing Homes



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Antibiotic Choices



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Antibiotic Choices

ROCHESTER GUIDELINES

Guidelines for Treatment of Urinary Tract Infections

Guidelines for Treatment of Pneumonia

Active Monitoring Pocket Card

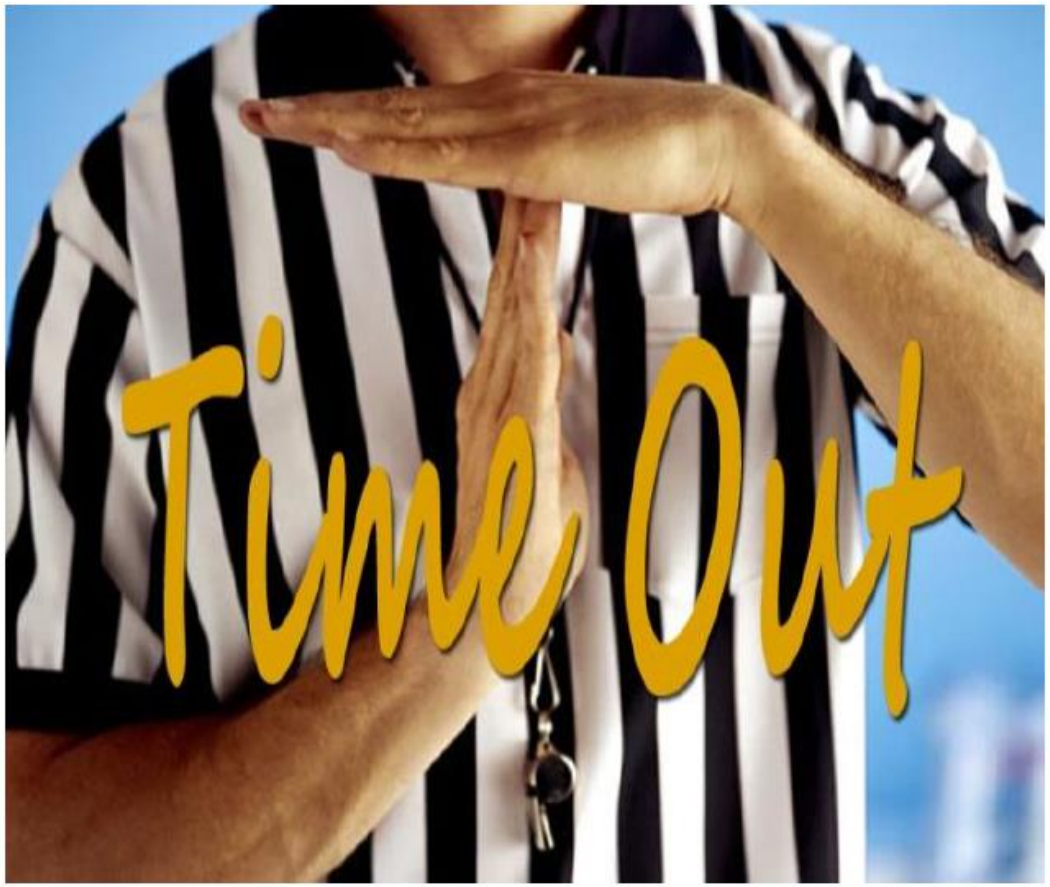
Renal Dosing Guidelines for Common Antibiotics

Guidelines for the Diagnosis and Treatment of SSTI

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Antibiotic Time-Out

- Time-outs are a core practice in antibiotic stewardship providing active reevaluation of an antibiotic regimen that occurs 48–72 hours after first administration. Laboratory results, culture and sensitivity results, response to therapy and resident condition should be considered. Time-Outs provide the opportunity to make any necessary changes in treatment.



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What is the 90 day re-hospitalization rate for patients who survive sepsis?

A) 10 %

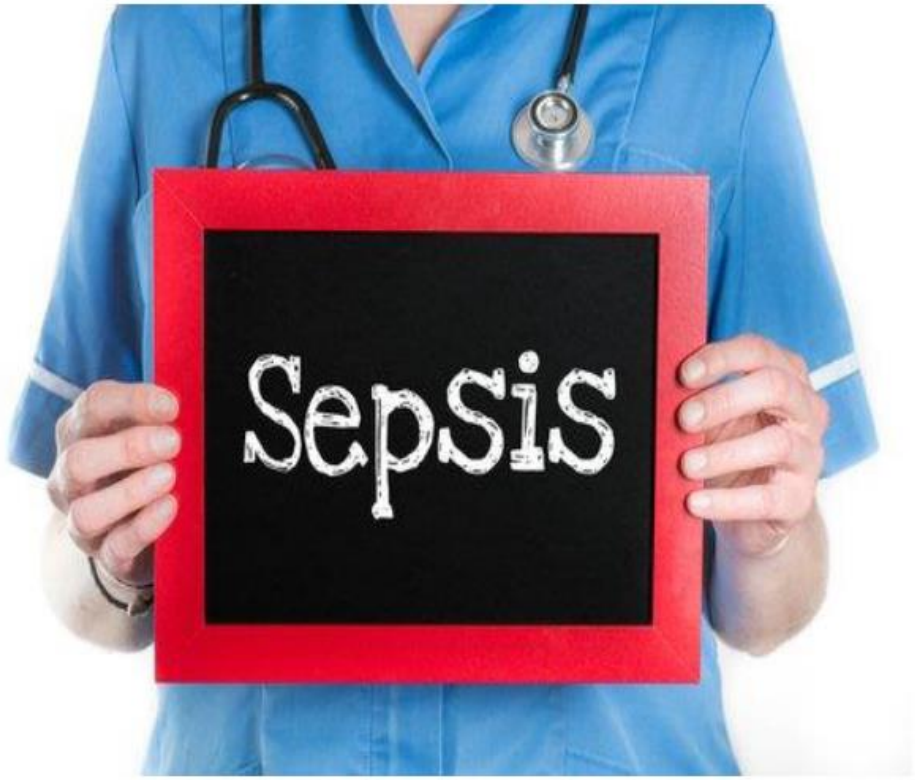
B) 25%

C) 40%

D) 55%

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Post-Sepsis Monitoring



- **50% patients recover**
- **30% die during first year post-sepsis**
- **40% re-hospitalized within 90 days**

- Screen for: Functional Disability, Swallowing, Mental Health
- Review medication list
- Monitor for: Infection, Heart failure, COPD exacerbation, Depression/Anxiety, Renal failure, Mental status change & Pain
- Evaluate Goals of Care

Prescott HC, Angus DC. Enhancing Recovery From Sepsis: A Review. JAMA. 2018;319(1):62– 75. doi:10.1001/jama.2017.17687

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Empowering Practitioners: Communication & Stewardship

Recognizing that the phrases you use INFLUENCE the decisions that are made

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Quality case presentation template

Audience: APC & RN

Overview

Quality Case Presentations require an organized concise pertinent flow of information to be most impactful. This template is meant to support organizing your patient story to create a quality case presentation.

Situation	Introduce yourself and why you are calling - who is the pt you're calling about and what is the issue you are calling about. This can be viewed as the chief compliant or the opening line.
Background	Here is where you will List acute issues, related past medical history and medications pertinent to the concern or update you are calling about This is also where you will be clear about the patients prognosis, goals of care and advance directives
Assessment	This is where you will present concerns including actual vital signs, assessment, and patient positive and negative findings. Share your differential diagnoses.
Recommendation	Summarize your plan in a clear and concise manner. Inform the Physician that you have updated the family and will keep in touch with any significant changes. Ask if they have anything else they would like to add.

“

In post-acute and long-term care, where we manage chronic symptoms, functional decline, and complex medication regimens, the way we communicate is not just bedside manner—it is part of the treatment itself. Every explanation, every framing of a diagnosis or therapy, carries embedded cues that shape patient expectations. And those expectations, in turn, influence outcomes in measurable ways.

Ronald Rosen, MD, CWSP, CMD

The Prescription You Didn’t Know You Were Writing

, Caring for the Ages, July 9, 2026

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Framing

Framing Effects

How treatment information is presented substantially influences patient choices. A systematic review found that surgery was preferred over alternatives when outcomes were framed positively (survival rates) rather than negatively (mortality rates), with a relative risk of **1.51** (95% CI 1.39–1.64). [2] The framing effect is well-documented in cancer treatment decisions, where positive framing favors surgery and negative framing favors adjuvant therapy. [9] Current best practice recommends presenting risks and benefits in **both positive and negative frames** and using numerical data rather than vague terms like "rare" or "common". [1][2]

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Framing

Drivers of overtesting:

- A thematic framework of over testing identified "interpersonal" factors — including pressure from colleagues and medical culture — as key contributors to unnecessary test ordering.

- Poor communication can lead to redundant testing when care goals are unclear; notably, use of shared daily goals worksheets significantly improved nurse-physician agreement on the plan of care, which would logically reduce duplicative or unnecessary testing. [3][4]

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Anchor negotiation in goals and values, then offer a recommendation

Divergence over specific treatments is often more tractable when the conversation is first reframed around goals and values rather than procedures. [5-6] The ICU shared decision-making policy statement from the American College of Critical Care Medicine and American Thoracic Society recommends that after eliciting the values and concerns of patient, surrogate, and family through open back-and-forth deliberation, the clinician generally offer a recommendation grounded in both the medical facts and the patient's values, while explicitly distinguishing recommendations based on medical facts from those reflecting personal values—and taking care not to pressure or intimidate. [6]

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Take Home Messages



Ordering a test often dictates treatment decisions, even if it should not.



Stewardship is a multistep process involving diagnostics, antibiotics and your communication.



Education for all stakeholders helps create understanding.



We all play an important role in stewardship.

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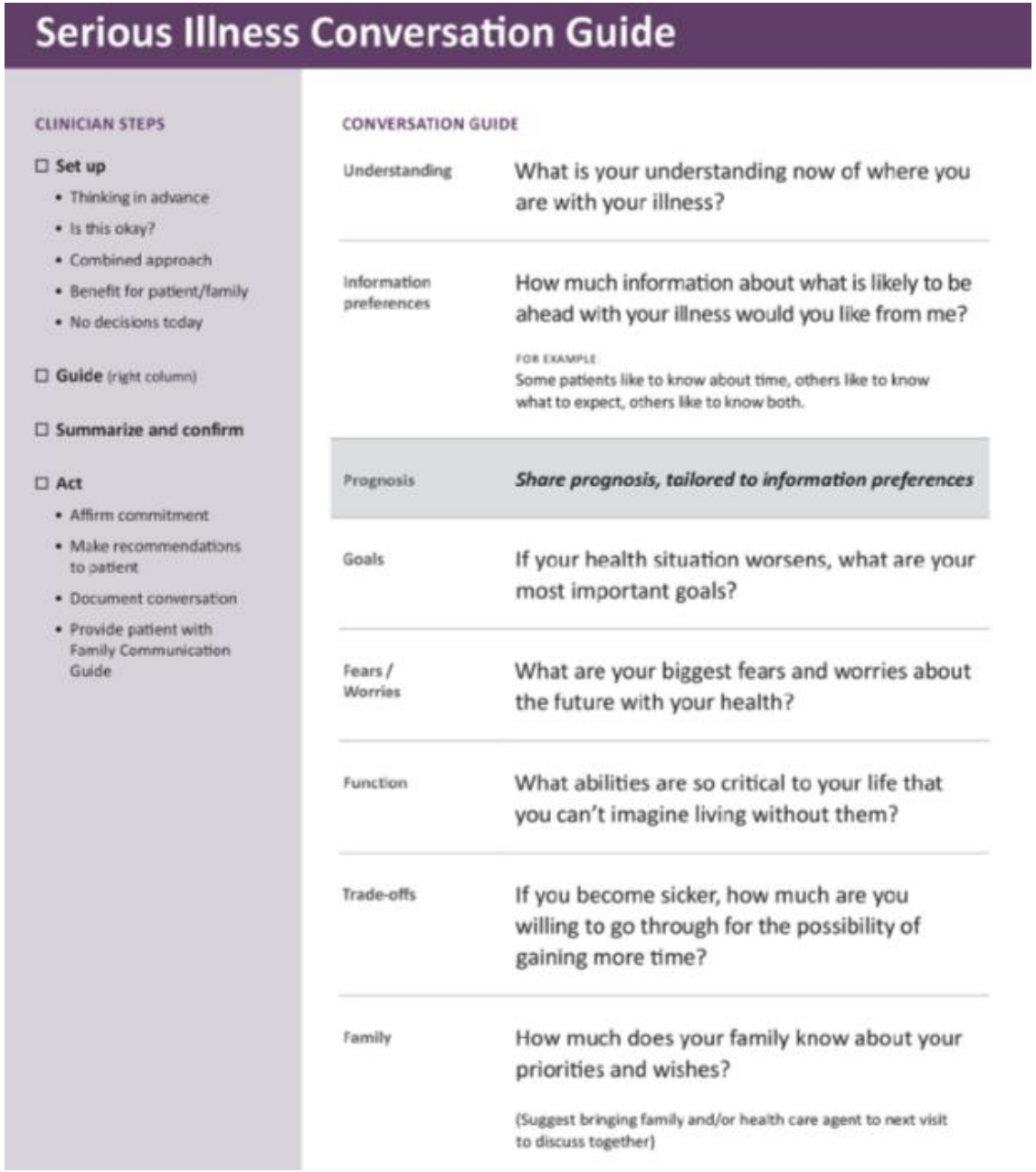


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Appendix Slides

[Communication About Serious Illness Care Goals: A Review and Synthesis of Best Practices.](#) JAMA Intern Med. December 1, 2014.



Serious Illness Conversation Guide

CLINICIAN STEPS

- ☐ **Set up**
  - Thinking in advance
  - Is this okay?
  - Combined approach
  - Benefit for patient/family
  - No decisions today
- ☐ **Guide** (right column)
- ☐ **Summarize and confirm**
- ☐ **Act**
  - Affirm commitment
  - Make recommendations to patient
  - Document conversation
  - Provide patient with Family Communication Guide

CONVERSATION GUIDE

Understanding	What is your understanding now of where you are with your illness?
Information preferences	How much information about what is likely to be ahead with your illness would you like from me? FOR EXAMPLE Some patients like to know about time, others like to know what to expect, others like to know both.
Prognosis	***Share prognosis, tailored to information preferences***
Goals	If your health situation worsens, what are your most important goals?
Fears / Worries	What are your biggest fears and worries about the future with your health?
Function	What abilities are so critical to your life that you can't imagine living without them?
Trade-offs	If you become sicker, how much are you willing to go through for the possibility of gaining more time?
Family	How much does your family know about your priorities and wishes? (Suggest bringing family and/or health care agent to next visit to discuss together)

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Phases of Diagnostic Stewardship



Ordering

Pre-Analytic



Processing

Analytic



Interpretation

Post-Analytic

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Diagnostic Stewardship Phases in Practice

Pre-Analytic

Listen to treatment goals

Educate on diagnostic testing

Use clinical decision-support tools

Understand right test, time, patient

Anticipate impact or lack thereof

Analytic

Collect samples accurately

Ensure appropriate test

Partner with facility, laboratory

Post-Analytic

Interpret results

Apply to patient

Educate stakeholders

Contextualize in trajectory

Track outcomes, feedback



Diagnostic stewardship is a multidisciplinary effort

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