NEBRASKA ASAP NEWSLETTER

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THE ANTIMICROBIAL ADVOCATE

IN THIS ISSUE

CURRENT INFLUENCES ON ANTIMICROBIAL COST

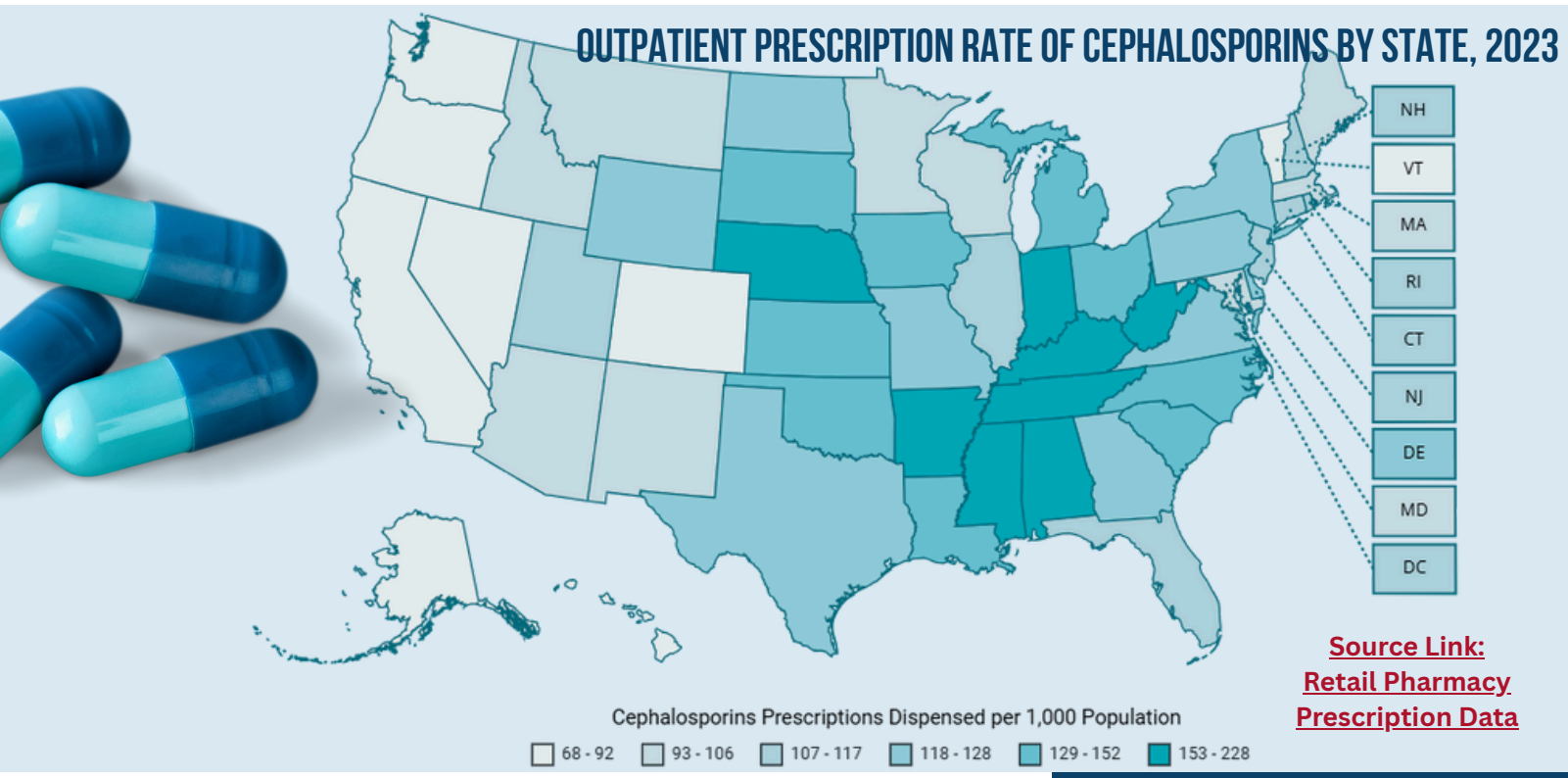
SHEA PODCAST - 22 MINUTES

Host Dr. Jonathan Ryder speaks with Dr. Jamie Wagner and Dr. Sheetal Kandiah about the macro- and micro-influences driving antimicrobial costs. The discussion highlights real-world challenges for stewardship programs and practical steps to improve affordability and equity in antimicrobial use, with a look ahead at future reforms.

Listen Here!

REVIEW OF ORAL CEPHALOSPORINS FOR OUTPATIENT INFECTIONS

Cephalosporins are commonly prescribed in the outpatient setting; in 2023 Nebraska prescribers used cephalosporins at a rate of 153 prescriptions per 1,000 population, meaning over 1 in 10 Nebraska residents were prescribed a cephalosporin in 2023. Understanding differences among them is important, and this review article provides a useful summary table for prescribers and pharmacists.



Source Link: Retail Pharmacy Prescription Data

Click Here to Read - Pharmacy Times

- **Cephalosporins are categorized into 5 generations, with varying spectrums of activity, and are widely used in outpatient settings.**
- **Oral formulations are available for first-, second-, and third-generation cephalosporins, making them suitable for outpatient infections.**
- **Key considerations for selecting cephalosporins include bioavailability, absorption, infection site, resistance patterns, and cost.**
- **Cephalosporins are crucial in treating skin and soft tissue infections, urinary tract infections, and community-acquired pneumonia.**

Download and Print this helpful summary table!

TABLE. Summary of Oral Cephalosporins

Generation	Potential role in therapy	Usual adult dose with normal renal function	Clinical pearls	Spectrum of activity
First Cephalexin Cefadroxil	Mild nonpurulent SSTI UTI Uncomplicated GN-BSI (cephalexin)	Cephalexin: • SSTI: 500 mg orally every 6 hours • UTI: 250-500 mg orally every 12 hours • Uncomplicated GN-BSI: 1000 mg orally every 6 hours Cefadroxil: • SSTI/UTI: 500-1000 mg orally every 12 hours	Local resistance patterns should be considered when using first-generation cephalosporins in UTI treatment	*Staphylococcus* spp (MSSA), *Streptococcus* spp., *Enterobacterales*, gram-positive anaerobes
Second Cefuroxime Cefaclor Cefprozil	UTI CAP URI SSTI Lyme disease (cefuroxime)	Cefuroxime: • UTI: 250-500 mg orally every 12 hours • CAP: 500 mg orally every 12 hours • Lyme: 500 mg orally every 12 hours Cefaclor: • UTI: 250-500 mg orally every 8 hours • CAP: 500 mg orally every 8 hours Cefprozil • SSTI: 250-500 mg orally every 12 hours • URI: 500 mg orally every 12-24 hours	Not agents for CAP, URIs, or UTIs despite having FDA-approved indications Cefuroxime tablets can be administered with and without food intake Cefuroxime is the only second generation without a suspension formulation, and tablets cannot be split or crushed.	*Staphylococcus* spp. (MSSA), *Streptococcus* spp., *Enterobacterales*, respiratory, gram-positive anaerobes
Third Cefpodoxime Cefdinir Cefixime	UTI CAP Gonorrhea (cefixime)	Cefpodoxime: • UTI: 100-200 mg PO q12h • CAP: 200 mg PO q12h Cefdinir: • UTI/CAP: 300 mg PO q12h Cefixime • URI/UTI: 400 mg PO q24h • Uncomplicated Gonorrhea: 800 mg PO as a single dose	Not first line agents for CAP, URI, or UTIs despite having FDA approved indications Lower bioavailability compared to other oral cephalosporins Cefdinir and cefpodoxime have reduced absorption when administered with an antacid- separation is recommended Cefixime is less effective than ceftriaxone for gonorrhea – use cefixime only if ceftriaxone cannot be used Susceptibility cannot be inferred from ceftriaxone	*Staphylococcus* spp. (MSSA), *Streptococcus* spp., Enterobacterales, respiratory gram-negatives (*H influenzae*, *M catarrhalis*), gram-positive anaerobes

HITTING PAUSE ON PCR: RETHINKING UTI TESTING IN LONG-TERM CARE

A recently published Consensus Statement from the Post-Acute and Long-Term Care Medical Association (PALTmed) recommends against the routine use of urine polymerase chain reaction (PCR) testing for the diagnosis of urinary tract infection (UTI). Urine culture remains the gold standard diagnostic method.

Read the Full Statement Here!

Factor	Urine Culture	Urine PCR
Sensitivity and Specificity of UTI diagnosis	90%	Unknown
Can diagnose a UTI	No	No
Organism Scope	Live only	Live + dead
Turnaround time	Up to 72 hours	24 hours
Detects resistance genes	No	Yes
Antibiotic susceptibilities	Yes	No
Detects contaminants	Yes	Yes
Non-industy-funded outcomes data	Yes	No
Cost (Medicare claims data)	$8	$585

- Evidence supporting urine PCR is often biased due to funding sources. There is **no objective evidence of patient benefit at 73 times the cost!**
- Positive results may not correlate with symptomatic UTI, especially in populations with high rates of asymptomatic bacteriuria, like the elderly.
- Urine PCR testing likely will lead to unnecessary antibiotic use, which drives antimicrobial resistance. PCR tests have high sensitivity but low specificity – often detecting colonization or non-pathogenic organisms, leading to false positives.
- Nursing homes should use the **CDC's Core Elements of Antibiotic Stewardship for Nursing Homes** as a framework when making decisions on urine testing as a facility.

SEPSIS SEPTEMBER

SAY SEPSIS SAVE LIVES

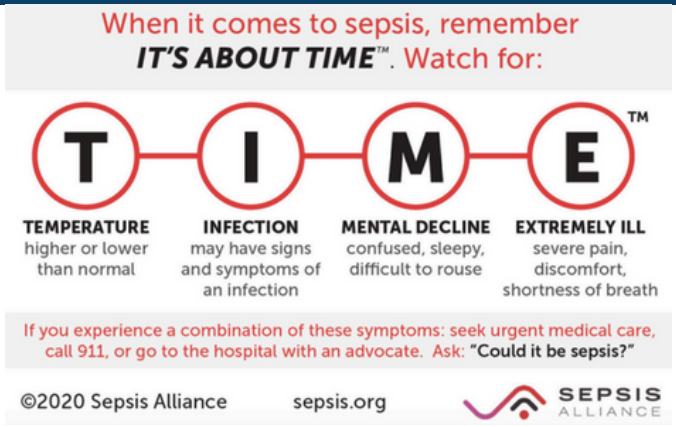
SepsisAwarenessMonth.org

DID YOU KNOW?

- More than 1.7 million people in the U.S. are diagnosed with sepsis each year.
- In the United States, sepsis takes a life every two minutes.
- 350,000 adults die from sepsis every year in the U.S. This is more than opioid overdoses, breast cancer, and prostate cancer combined.
- Sepsis is the leading cause of death in U.S. hospitals.
- Over 75,000 children develop severe sepsis each year in the U.S. and 6,800 of these children die, **more than from pediatric cancers**.
- Sepsis is the #1 cause of hospital readmissions, costing > $3.5 billion each year.

Sepsis Alliance Toolkit Link

This toolkit contains helpful patient education resources - graphics, facts, social media content



RECENT SEPSIS LITERATURE REVIEW

- Epidemiology and Outcomes of Antibiotic De-escalation in Patients With Suspected Sepsis in US Hospitals - **LINK**
- Frequency of Antibiotic Overtreatment and Associated Harms in Patients Presenting With Suspected Sepsis to the Emergency Department - **LINK**
- Electronic Sepsis Screening Among Patients Admitted to Hospital Wards - **LINK**
- Preventing New Gram-negative Resistance Through Beta-lactam De-escalation in Hospitalized Patients With Sepsis - **LINK**

IDSA ANTIMICROBIAL STEWARDSHIP CENTERS OF EXCELLENCE

CONGRATULATIONS TO NEBRASKA HOSPITALS!

Children's Nebraska and Nebraska Medicine were recognized as Antimicrobial Stewardship Centers of Excellence by the Infectious Diseases Society of America in 2025!

The IDSA Antimicrobial Stewardship CoE program is intended to recognize hospitals that implement and maintain highly effective ASPs.

Read more here!

Children's Nebraska ASP team - On left: Jennifer Zwiener, PharmD On right: Andrea Green Hines, MD

A few members of the Nebraska Medicine ASP team - Pictured above from left: Jonathan Ryder, MD, Scott Bergman, PharmD, and Jillian Mack, PharmD