

BACKGROUND

- Urinary tract infections (UTIs) are one of the most common reasons for emergency room visits in the United States. Although common infections, UTIs pose great risk for recurrence if treated incorrectly and may lead to antibiotic resistance.
- Adjustment of antibiotic therapy may be necessary after discharge based on urine culture sensitivities. Prescribing practices vary based on provider, resulting in a plethora of treatment regimens.

PRIMARY OUTCOMES

SECONDARY OUTCOMES

- Percentage of patients appropriately initiated and discharged on antibiotics for UTI based on indication, drug, dose and duration
- Incidence of regimen modification after discharge based on culture results
- Prescribing practices in geriatric patients greater than or equal to 65 years old
- General prescribing practices in all patients
- Incidence of additional visit to ER within 30 days

METHODS

Study Design:

- This single-center retrospective chart review includes adult patients treated and discharged from the emergency department with antibiotics for a UTI-related diagnosis from 7/1/2021 to 9/30/2021.

Inclusion

- All patients presenting to the emergency department with a UTI related diagnosis
- ≥ 18 years of age

Exclusion

- < 18 years of age
- Pregnancy
- Immunosuppressed patients
- Obstruction and foreign body
- Recent history of instrumentation (within a week)

Chart Selection

328 patient charts reviewed

228 patients chart excluded

100 patients met inclusion criteria included in review

RESULTS

Baseline Characteristics (n=100)

Gender		Race	
Male	11	Other/Multiracial	49
Female	89	White	34
		Black	14
		Unknown	2
Age (years)		Native American/Pacific Islander	1
Median	56		
Range	18-95		

Indication (n=100)

Uncomplicated Pyelonephritis	59
Uncomplicated Cystitis	30
Complicated UTI	8
Asymptomatic Bacteriuria	3

RESULTS

Primary Outcomes

Patients appropriately initiated on antibiotics in the emergency department:

91%

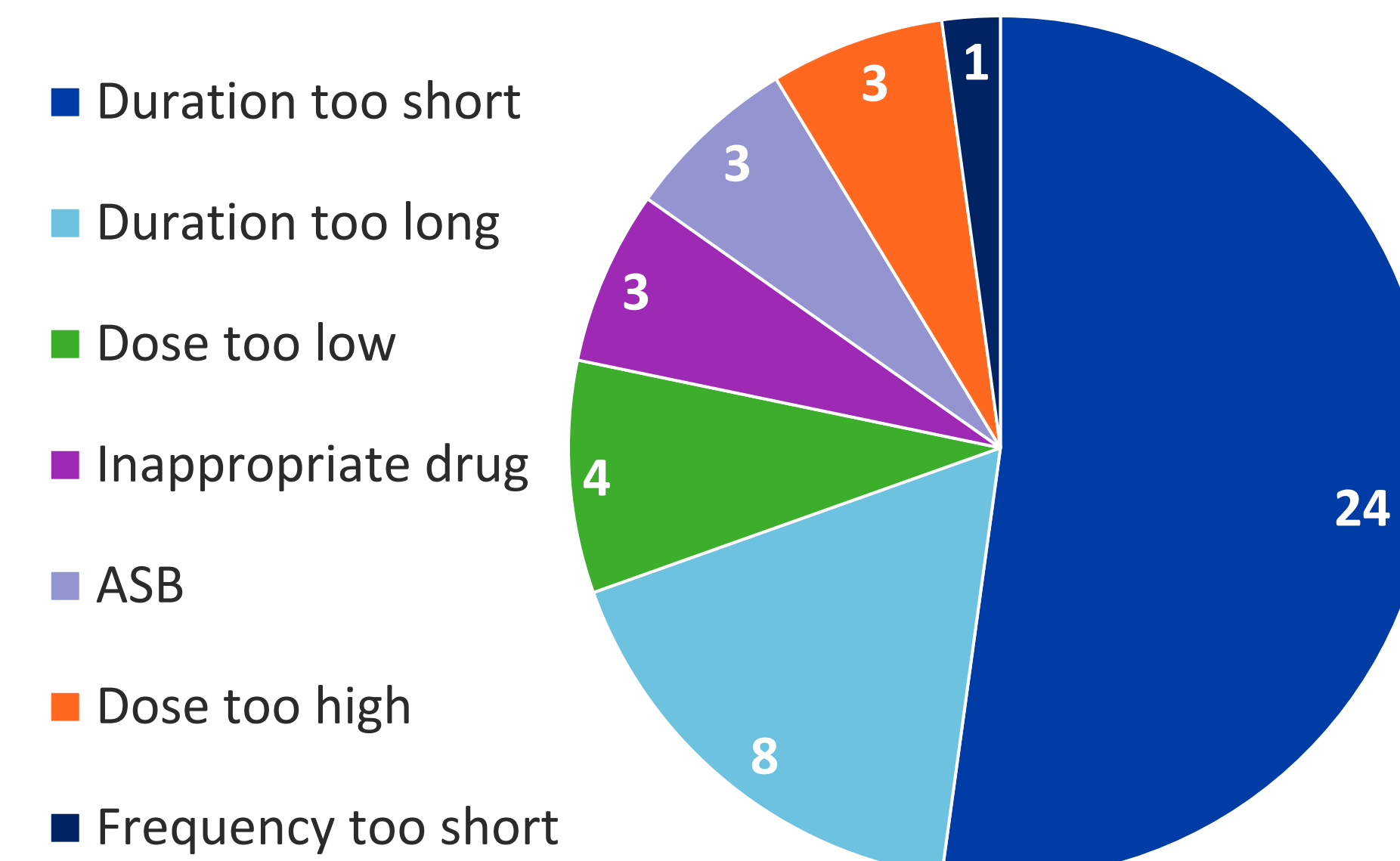
Patients appropriately discharged on antibiotics:

55%

Patients with modification of antibiotic therapy after discharge:

6%

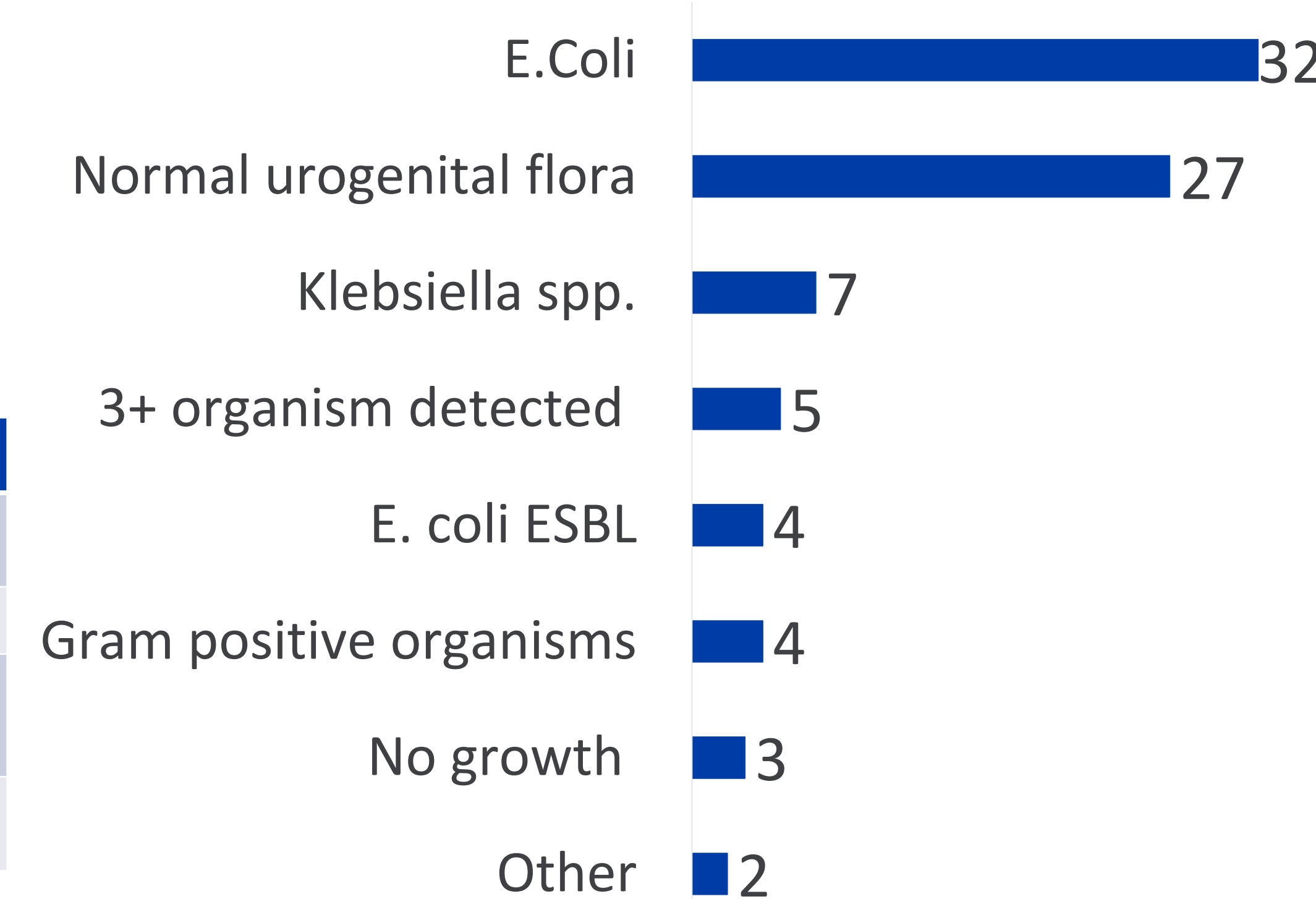
Reasons For Inappropriate Therapy at Discharge (n=45)



Most Common Reason for Inappropriate Therapy at Discharge by Indication (n=42)

Indication	Reason (%)
Uncomplicated Pyelonephritis (n=32)	Duration too short (75)
Uncomplicated Cystitis (n=8)	Duration too long (63)
Complicated UTI (n=2)	Inappropriate Drug (50), Frequency too short (50)

Urine Culture Results (n=84)

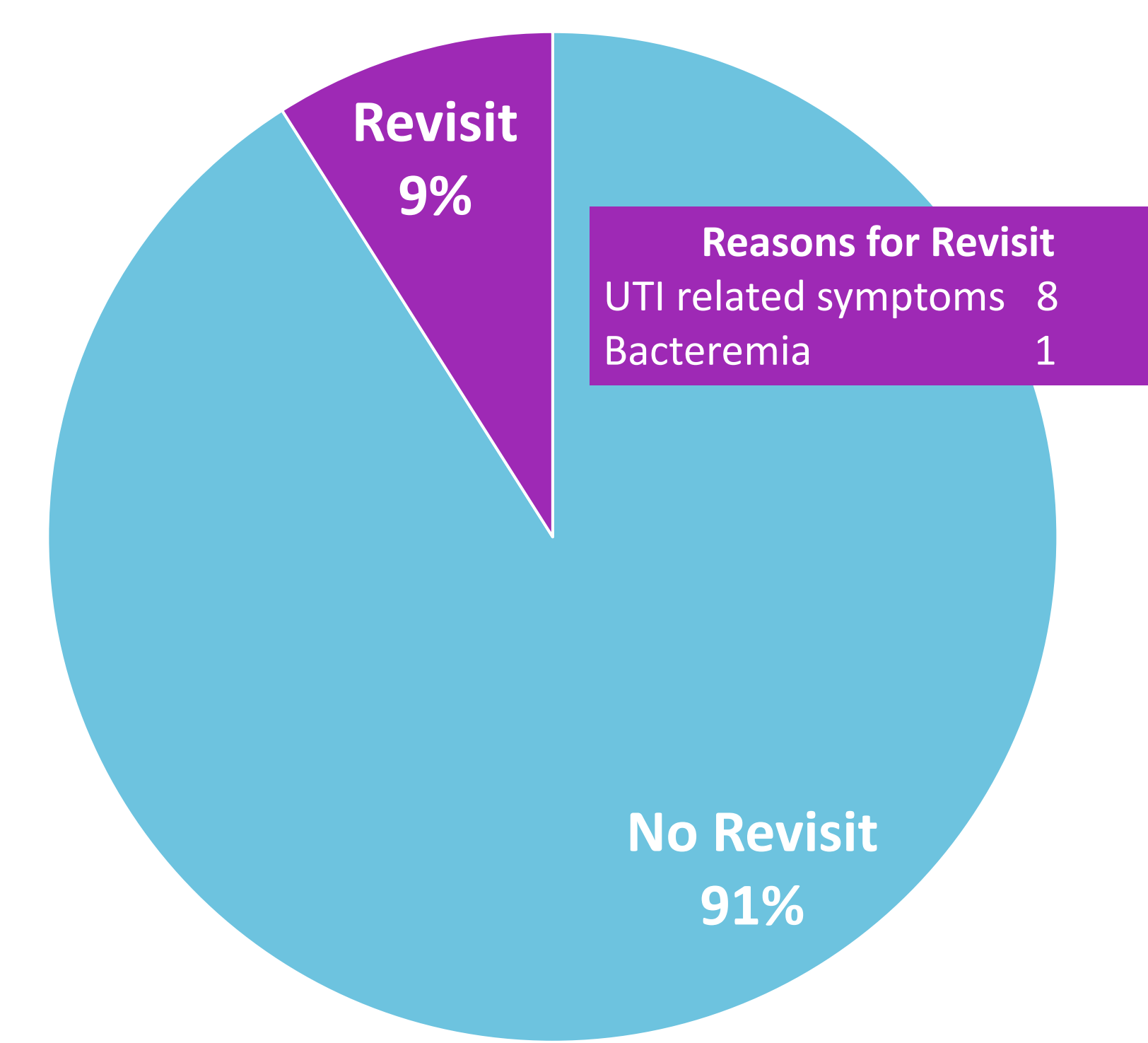


Urine Cultures & Sensitivities - Resistance Rates (n=49)

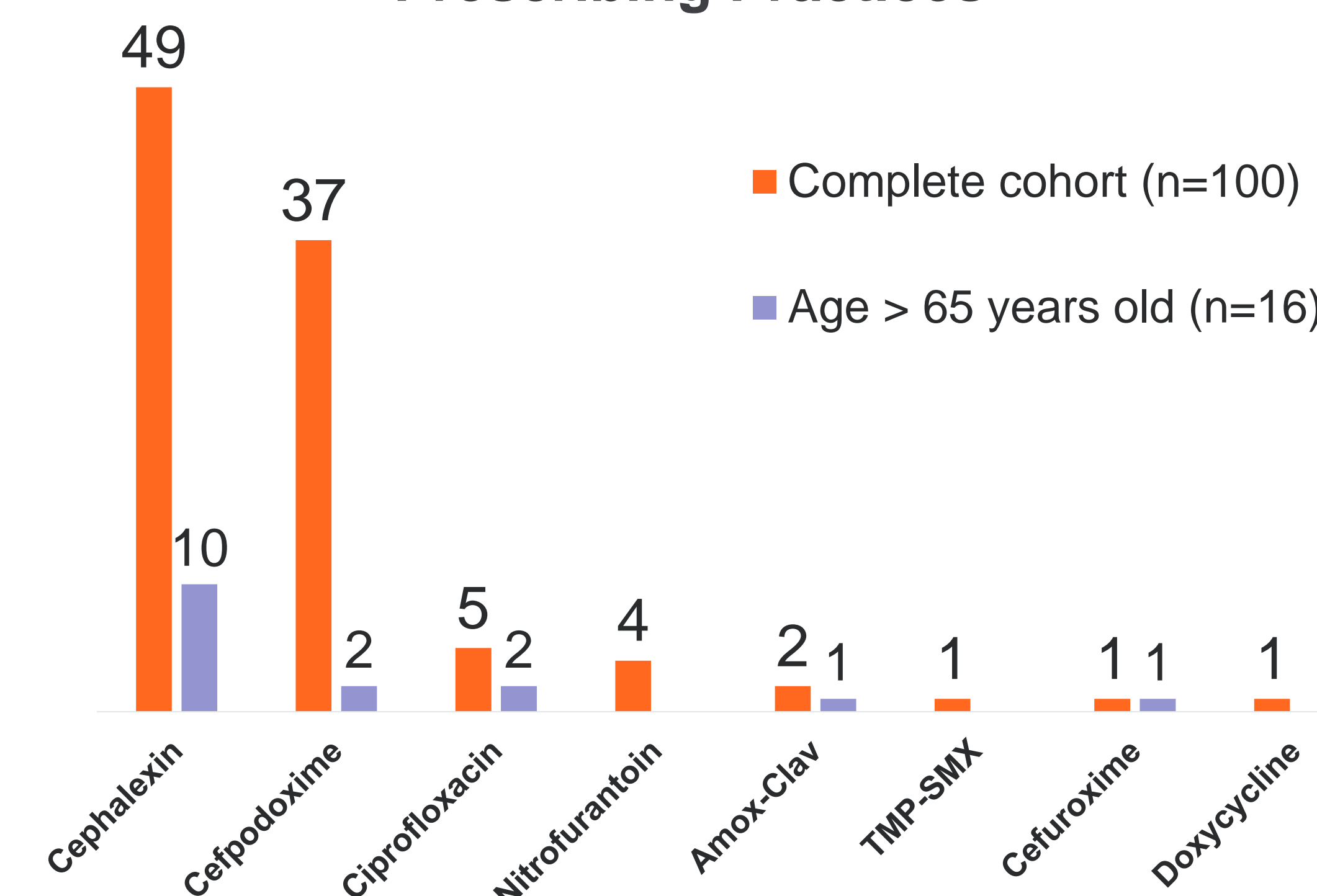
Antibiotic	Percent
Fluoroquinolone	12
Nitrofurantoin	2
Trimethoprim-sulfamethoxazole	27
Cefazolin	18

Secondary Outcomes

Revisit to the Emergency Department within 30 days (n=100)



Emergency Department Antibiotic Prescribing Practices



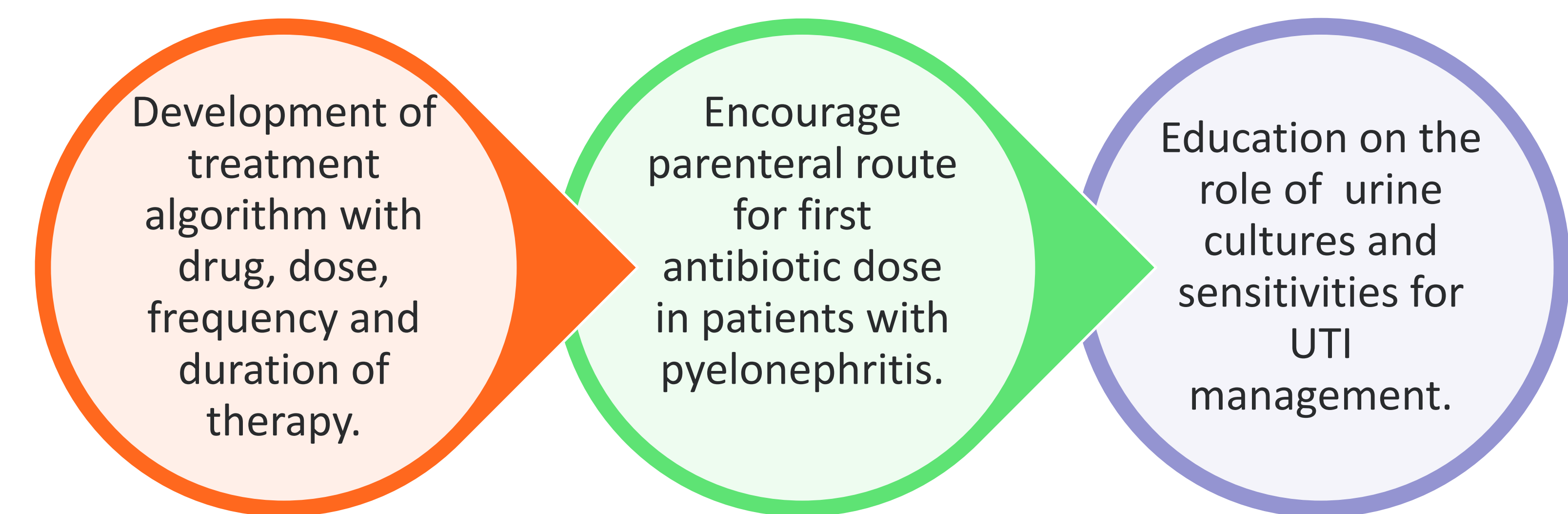
DISCUSSION

- The most commonly identified reason for inappropriate therapy at discharge was duration of therapy (71%). This was most prevalent in patients with pyelonephritis discharged on beta-lactam antibiotics for less than 10 to 14 days.
- In patients with pyelonephritis, oral therapy was used over parenteral therapy as the first antibiotic dose in 69% of patients.
- Patients with uncomplicated pyelonephritis did not have cultures collected 34% of the time, limiting the ability to confirm sensitivity of antibiotic prescribed at discharge.
- All patients with *E coli* ESBL (4%) identified via urine culture received inappropriate therapy after post-discharge follow up.

LIMITATIONS

- As a retrospective chart review, data collection is limited to information documented at the time of encounter.
- Acute UTI was the most commonly encountered diagnosis during chart review, requiring the investigator to establish a more specific diagnosis based on retrospective documentation.
- The small sample size and predominantly female population of this study makes results difficult to generalize to a diverse patient population.
- Access to patient records was limited to Northwell Health System hospitals.

NEXT STEPS



REFERENCES

- Chu CM, Lowder JL. Diagnosis and treatment of urinary tract infections across age groups. *Am J Obstet Gynecol.* 2018 Jul;219(1):40-51. doi: 10.1016/j.ajog.2017.12.231. Epub 2018 Jan 2. PMID: 29305250.
- Foxman B. Urinary tract infection syndromes: occurrence, recurrence, bacteriology, risk factors, and disease burden. *Infect Dis Clin North Am.* 2014 Mar;28(1):1-13. doi: 10.1016/j.idc.2013.09.003. Epub 2013 Dec 8. PMID: 24484571.
- Maddali N, Cantin A, Koshy S, Eiting E, Fedorenko M. Antibiotic prescribing patterns for adult urinary tract infections within emergency department and urgent care settings. *Am J Emerg Med.* 2021 Jul;45:464-471. doi: 10.1016/j.ajem.2020.09.061. Epub 2020 Sep 30. PMID: 33067064.

DISCLOSURES

The author of this presentation has nothing to disclose concerning possible financial or personal relationships with commercial entities that may have had a direct or indirect interest in the subject matter of this presentation.