

Objectives

- Urinary tract infections (UTIs) are among the most common bacterial infections.
- Complicated UTI, defined as a symptomatic UTI which goes beyond the bladder in women or men that includes pyelonephritis, febrile or bacteremic UTI, and catheter-associated UTI, are associated with greater morbidity, higher risk of treatment failure and hospitalizations, and a longer course of antibiotics.
- This study aimed to describe the prevalence and healthcare burden of complicated UTI among hospitalized patients in the United States.

Methods

Data Source

- Geographically diverse, large US hospital/health system-based administrative Premier Healthcare Database (PHD)

Study Population & Design

- Retrospective cross-sectional study
- Period: Jan 1, 2018 – Dec 31, 2024
- Inclusion criteria:
 - ✓ Aged ≥ 18 years on index admission date
 - ✓ Had an inpatient visit at one of the PHD hospitals between January 1, 2018, and December 31, 2024
- Exclusion criteria:
 - ✓ Pregnancy-related visit

Outcomes

- Prevalence of complicated UTI was defined using diagnosis codes as:
 - Primary or admitting diagnosis of complicated UTI
 - Primary or admitting diagnosis of catheter-related UTI
 - Primary or admitting diagnosis of bacteremia with secondary diagnosis of any UTI
 - Primary or admitting diagnosis of uncomplicated UTI and with at least one of the following:
 - Urologic abnormalities
 - Uncontrolled or complicated diabetes
 - Immunosuppressed conditions
 - Severe renal dysfunction
 - With urological or nephrological procedures
 - With ureteral stent procedures

Statistics

Descriptive statistics are reported using mean (standard deviation) or median (1st quartile, 3rd quartile) for continuous variables and as counts and percentages for categorical variables.

Results

Figure 1. Yearly prevalence of complicated UTI among 40,814,725 hospitalized patients between 2018-2024

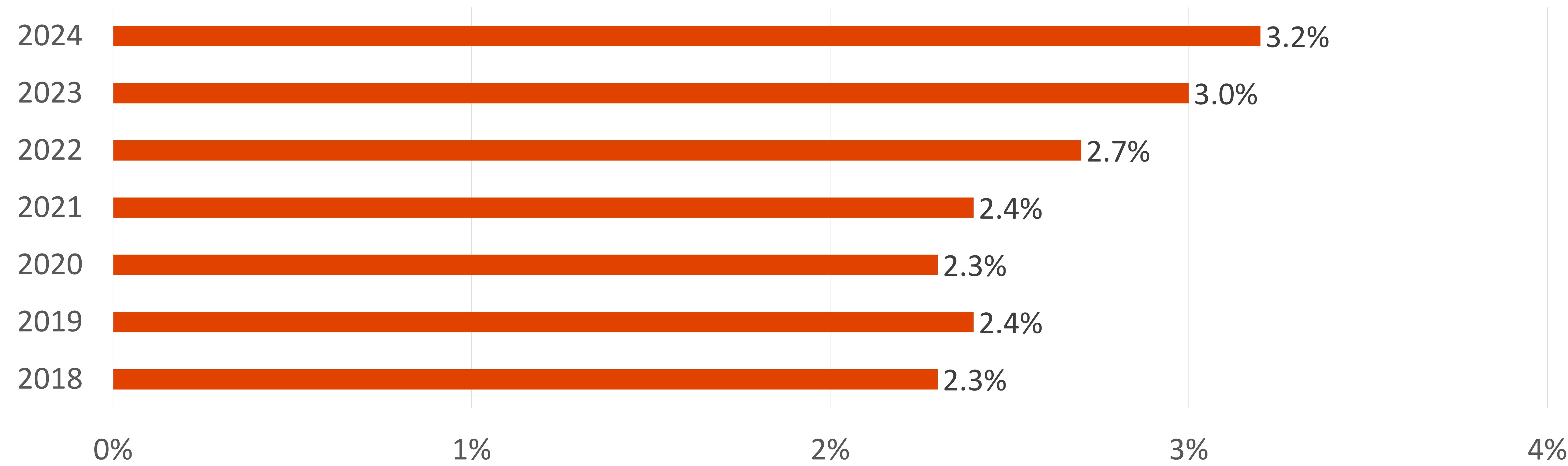


Figure 2. Characteristics of patients with complicated UTI (n=1,064,418)

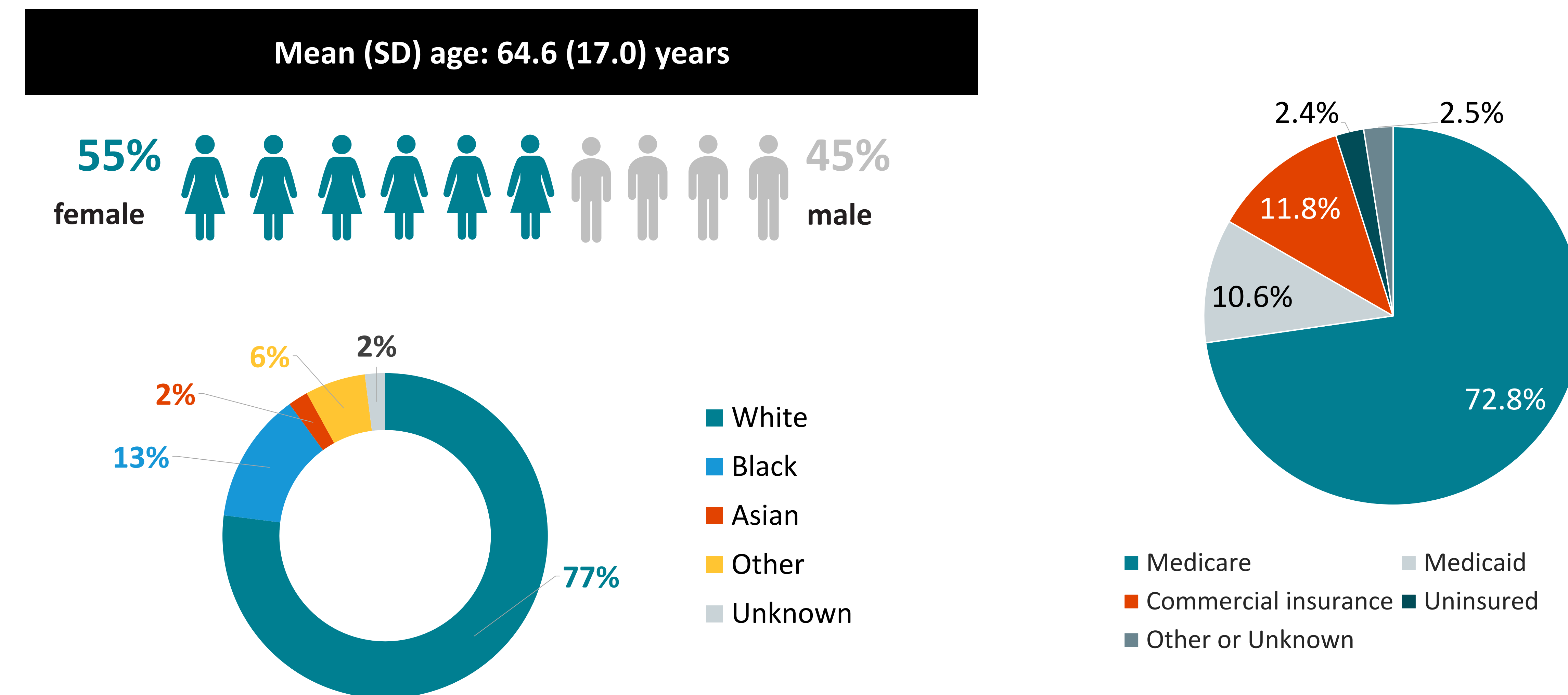


Figure 3. Types of complicated UTI

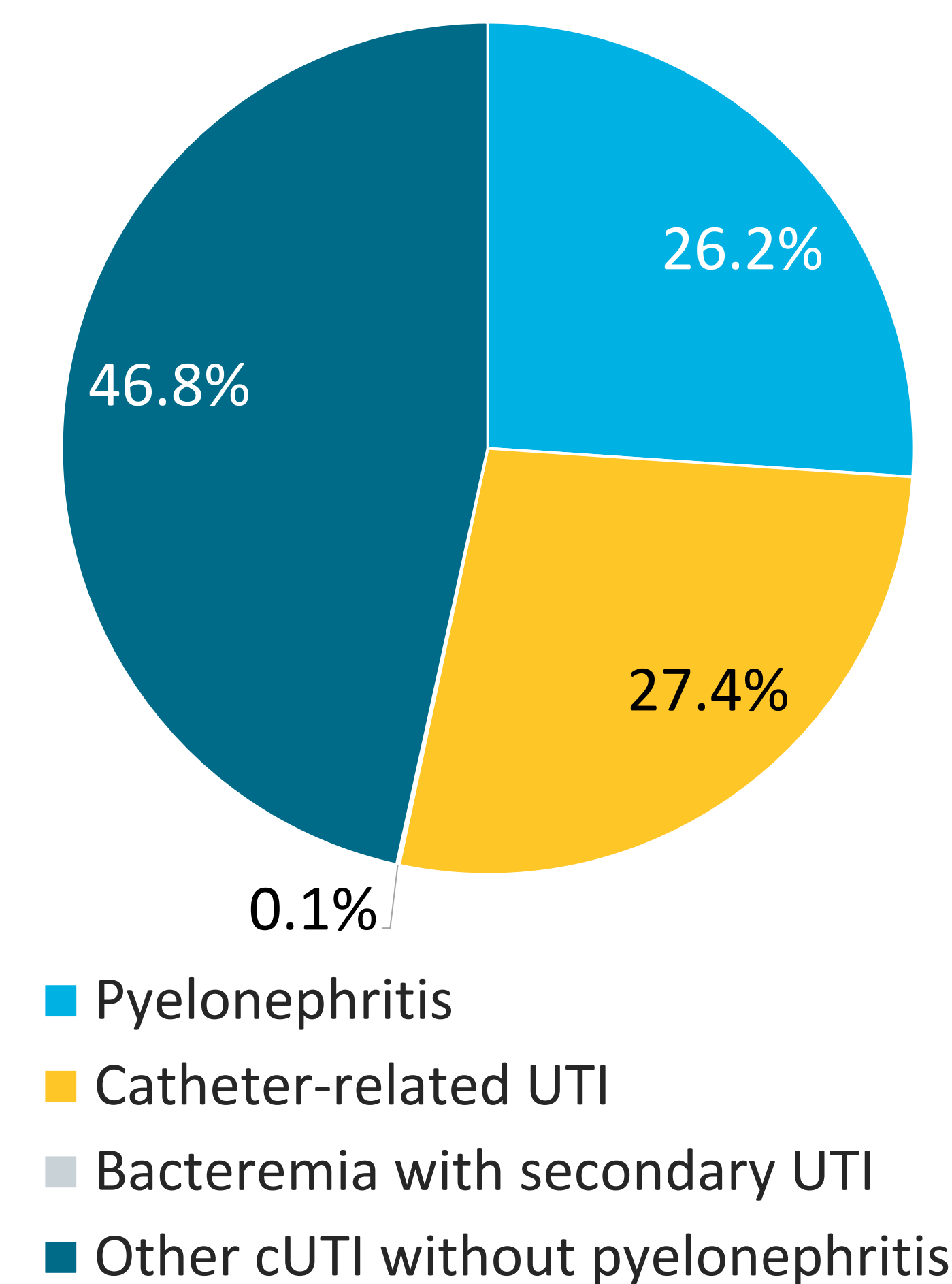
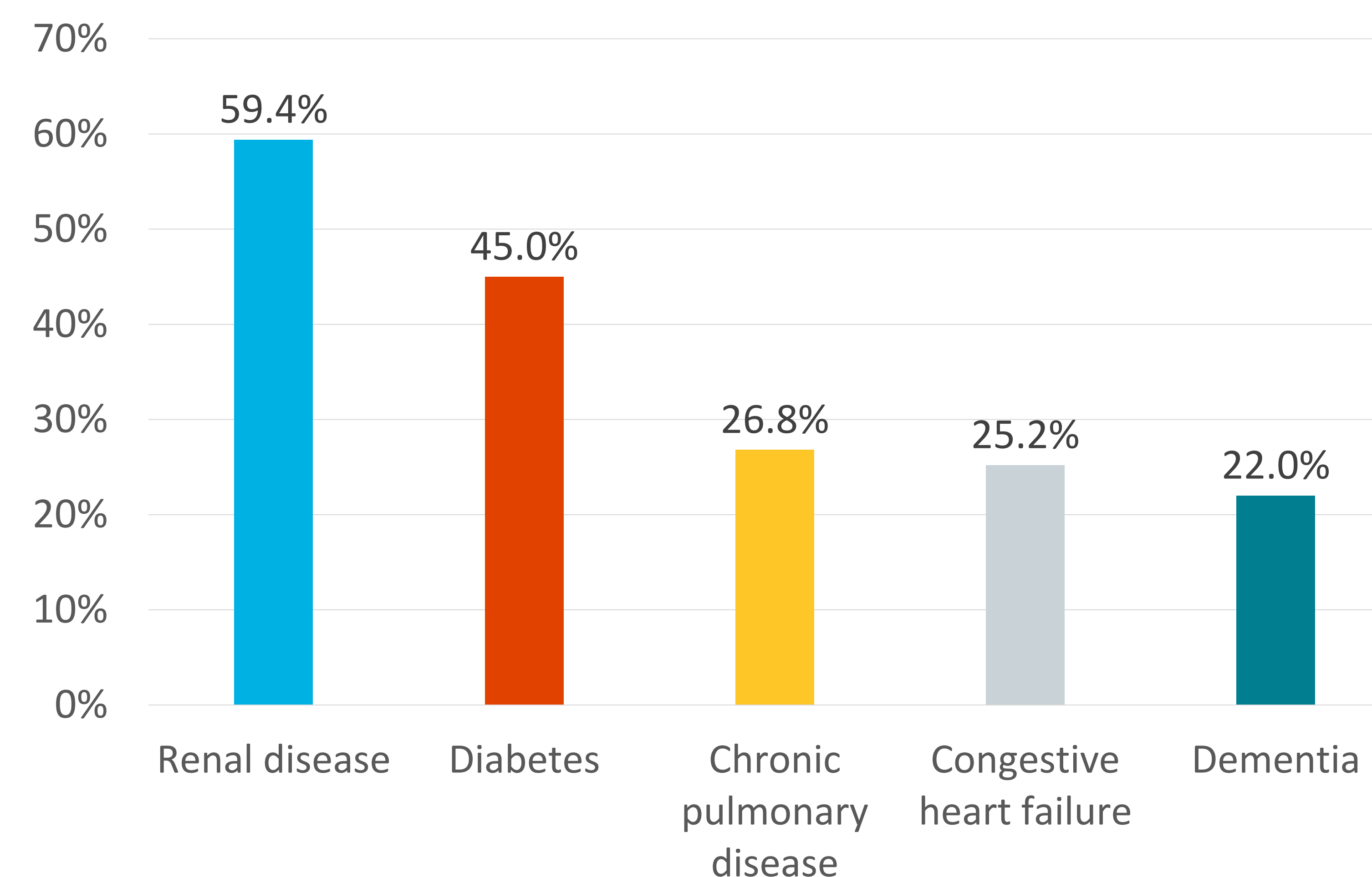


Figure 4. Common comorbidities among hospitalized patients with complicated UTI



- The prevalence of complicated UTI among hospitalized patients increased 39% between 2018 and 2024, from 2.3% in 2018 to 3.2% in 2024 (Figure 1).
- Patients with complicated UTI had a mean age of 65 years, and the majority had Medicare (73%) (Figure 2).
- The most common type of complicated UTI was other without pyelonephritis (47%), followed by catheter-associated UTI (27%), and pyelonephritis (26%) (Figure 3).
- Common comorbidities among patients with complicated UTI were renal disease (59%), diabetes (45%) and chronic pulmonary disease (27%) (Figure 4).
- For patients hospitalized with complicated UTI, in-hospital mortality was 1.3% and mean (SD) hospitalization cost was \$12,759 (\$18,045).

Conclusion

- Prevalence of complicated UTI among hospitalized adult patients increased substantially between 2018 and 2024.
- Mean hospitalization cost was high at ~\$13k for patients with complicated UTI, indicating a significant healthcare burden should the yearly prevalence continues to climb.
- Further research is needed to understand its association with antibiotic resistance.

References

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2. Premier Applied Sciences, Premier Inc. Premier Healthcare Database: Data that informs and performs (White Paper). March 2026. <https://offers.premierinc.com/Premier-Healthcare-Database-Download.html>

Disclosure

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