

Frequency and outcomes of patients prescribed antibiotics for extended durations on discharge from the hospital to nursing homes



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INTRODUCTION

- Nursing home (NH) residents are at increased risk of being prescribed antibiotics for extended durations
- Antibiotic prescribing for extended durations (>7 days) increases antibiotic selective pressure and the risk of adverse events
- A large proportion of antibiotic prescribing occurs on discharge from the hospital to NHs
- Little is known about the frequency, characteristics and outcomes of patients who receive an extended duration antibiotic prescription on discharge from hospital to a NH

OBJECTIVES

- Quantify the frequency and characteristics of patients receiving antibiotic treatment in the hospital and discharged to a NH with an antibiotic prescription for greater than 7 days
- Determine post-discharge outcomes for patients discharged with an extended duration antibiotic prescription.

METHODS

Design and Patient Setting

- Retrospective cohort study of adult patients with a prescription for an antibiotic on discharge from Oregon Health & Science University Hospital (OHSU) to a NH between January 1, 2016 and December 31, 2018

Inclusion Criteria

- Adults aged ≥18 years old
- Received a prescription for an antibiotic on discharge to NH for a prescribed duration greater than 7 days

Data Collection

- Study data were collected from an electronic repository of patients' electronic health record data.

METHODS CONTINUED

Outcomes of interest

- Emergency department (ED) visit within 30 days
- Inpatient hospital admission within 30 days
- Inpatient admission for *Clostridioides difficile* infection (CDI) within 30 days of discharge.

Statistical Analysis

- Descriptive statistics included means and standard deviations (SDs), median and interquartile ranges, frequencies and percentages

RESULTS

Patient Characteristics

- 9,546 patients discharged to a nursing home during study period
- 2,410 (25%) patients were prescribed at least one antibiotic
- 1,059 (44%) patients had a prescription for greater than 7 days

Table 1. Baseline characteristics of patients receiving an extended duration prescription for antibiotics upon discharge from the hospital to a NH

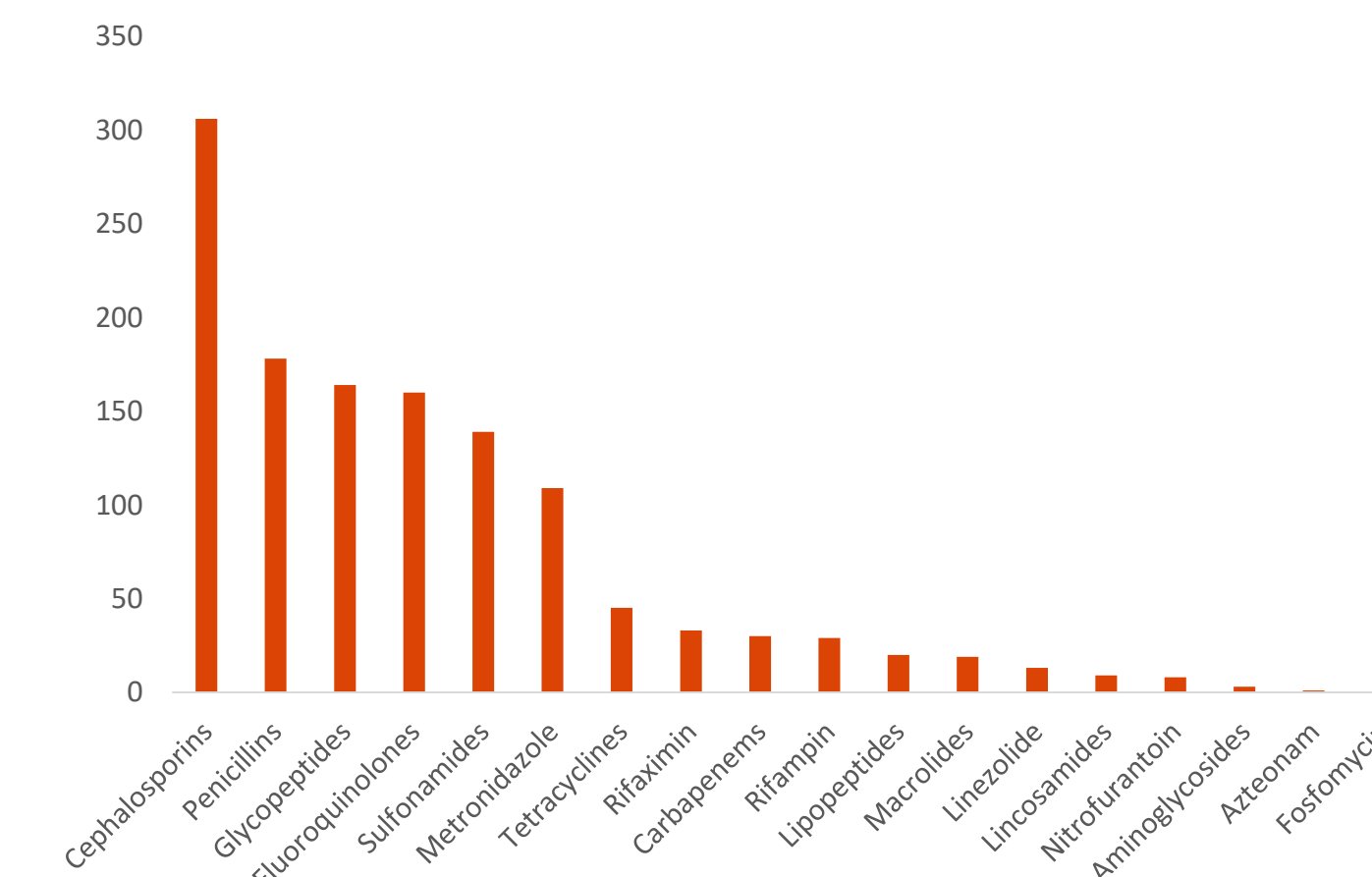
	n = 1059 n (%)
Age; Mean (SD) years	64.4 (14.6)
Female	470 (44.4)
Race-White	977 (92.3)
ID consult	229 (21.6)
Surgery during index admission	607 (57.3)
Charlson Co-morbidity index; Median (IQR)	2 (1-5)
Individual Co-morbidities	
Cancer	290 (27.4)
Heart failure	118 (11.1)
Cerebrovascular disease	209 (19.7)
Dementia	61 (5.8)
Chronic pulmonary disease	323 (30.5)
Liver disease	228 (21.5)
Renal disease	234 (22.1)

RESULTS CONTINUED

Treatment Characteristics

- The most frequently prescribed antibiotics were cephalosporins (24.2%), penicillins (14.1%), glycopeptides (12.9%), and fluoroquinolones (12.6%)
- Over 50% of the antibiotics prescribed were from one of those top four groups
- A diagnosis of a bacterial infection was present for 902 (85.2%) patients
- The most frequent bacterial diagnosis codes were for bloodstream infections or endocarditis (21.8%), osteomyelitis (11.6%), and skin and soft tissue infections (10.6%)

Figure 1. Extended duration prescriptions by antibiotic type, total prescriptions n = 1267

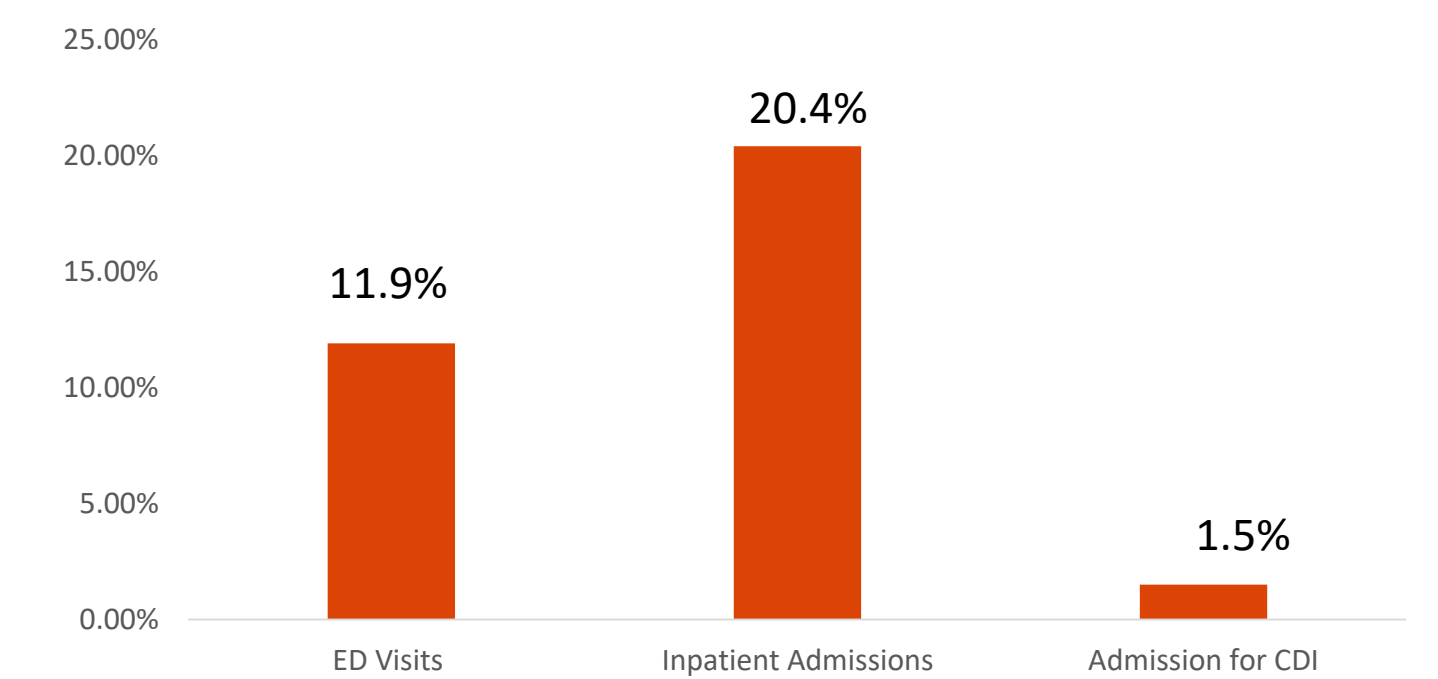


Outcomes

- 33.8% had an ED visit, Inpatient admission or admission with CDI within 30 days of discharge
- 126 (11.9%) had an ED visit
- 216 (20.4%) had an inpatient admission
- 16 (1.5%) had an admission for CDI within 30 days of discharge

RESULTS CONTINUED

Figure 2. Outcomes (n = 1059)



CONCLUSIONS

- More than 40% of antibiotic prescriptions on discharge to a NH were for greater than 7 days
- The most frequently prescribed antibiotics were cephalosporins, penicillins, glycopeptides, and fluoroquinolones
- Patients who received a prescription for extended duration antibiotics had frequent healthcare utilization in the 30 days post discharge from the hospital to a nursing home.
- The high frequency of extended duration antibiotic and the associated poor outcomes suggest they are a high-value target to improve antibiotic prescribing on discharge to NHs

DISCLOSURES

Nothing Relevant to disclose

ACKNOWLEDGEMENTS

This work was supported by the Agency for Healthcare Research & Quality Grant R01HS026747 and National Institutes of Health Grant UL1TR000128.

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