

Antiviral and Antibiotic Prescribing Among Patients at an Ambulatory Cancer Center with Laboratory-Confirmed Influenza

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Background

- Cancer patients are at high risk for serious complications due to influenza. Early treatment with neuraminidase inhibitors (NAIs) is recommended for high-risk patients with suspected or documented influenza.
- Limited data exist on timing of presentation to care and ambulatory management of cancer patients with influenza.

Objectives

- To determine the time from symptom onset to first clinical encounter among cancer outpatients with influenza
- To characterize antiviral and antibiotic prescribing and outcomes among cancer outpatients with influenza

Methods

- Study design:** Retrospective chart review
- Subjects:** 138 consecutive patients at the Seattle Cancer Care Alliance ambulatory care center with laboratory-confirmed influenza between January 1, 2016 and December 31, 2018.
- Exclusion:** Prior positive test at ED, inpatient setting, or outside clinic (133 eligible).
- Definitions:**
 - Day 0:** Date of first encounter for respiratory symptoms.
 - Lower respiratory tract infection (LRTI):** clinical signs or symptoms of respiratory infection with new abnormal exam findings or abnormal radiologic findings.
 - Upper respiratory infection (URI):** clinical signs or symptoms of respiratory infection without exam or radiographic findings suggestive of LRTI.
- Antimicrobial Prescribing:** Oseltamivir (NAI) and antibiotic prescriptions within 7 days of first clinical encounter were captured.
- Antibiotics were reviewed to assess whether they were prescribed for URI, LRTI, or other indication.

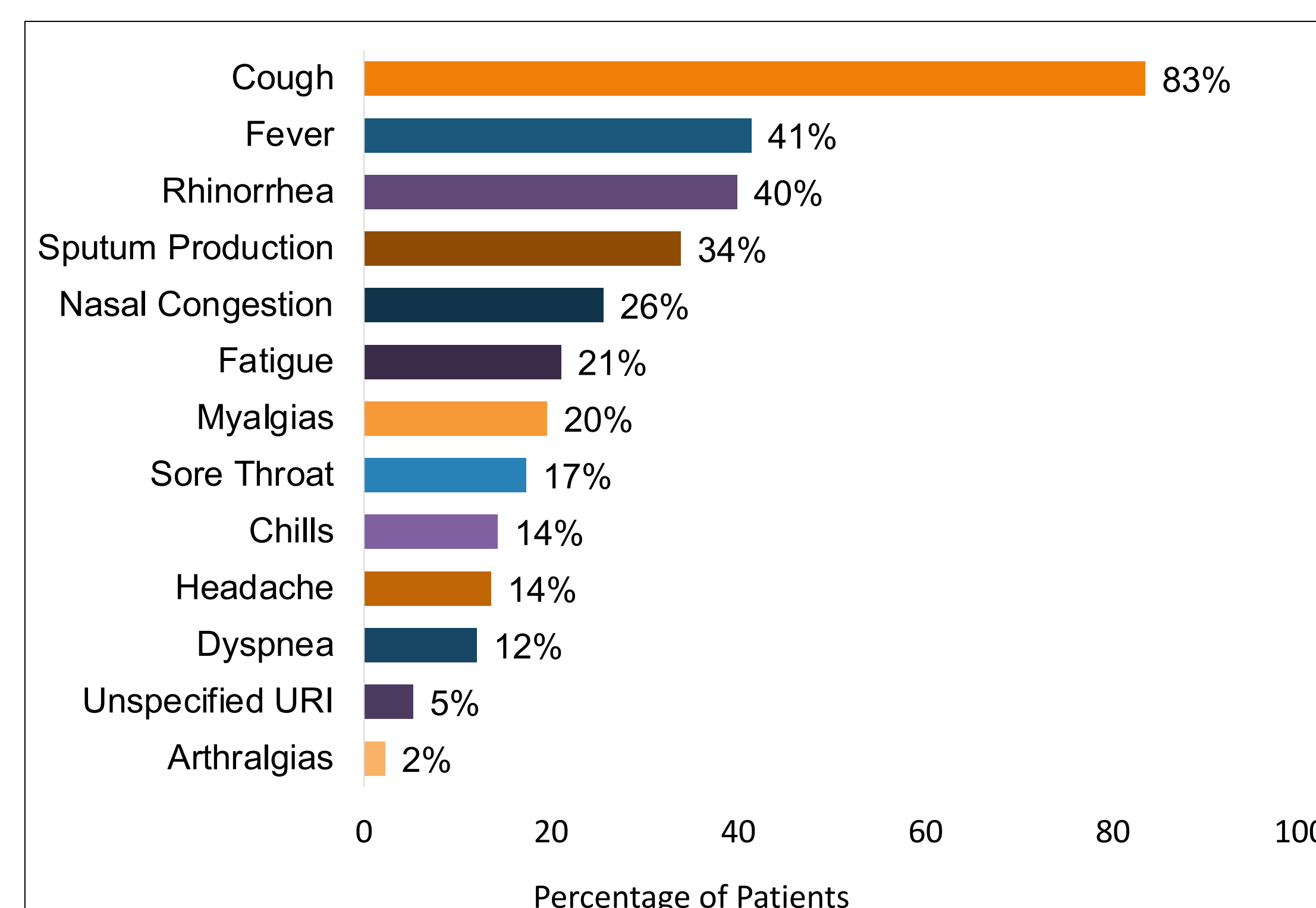
Results

Table 1. Patient Demographics and Characteristics¹

Baseline ¹ Characteristic	Antiviral Prescribed (n=110)	No Antiviral Prescribed (n=23)
Age (years), median (IQR)	57 (40 – 66)	47 (29 – 66)
Sex		
Male	65 (89)	8 (11)
Female	45 (75)	15 (25)
Diagnosis		
Heme Malignancy	93 (85)	16 (15)
Solid Tumor	11 (73)	4 (27)
Other	6 (67)	3 (33)
Clinical Service		
Heme	58 (83)	12 (17)
Solid Tumor	11 (65)	6 (35)
Transplant (BMT)	38 (88)	5 (11)
Other	3 (100)	0 (0)
Absolute Neutrophil Count ³ – median (IQR)	2.7 (1.6, 4.9)	2.9 (1.7, 5.2)

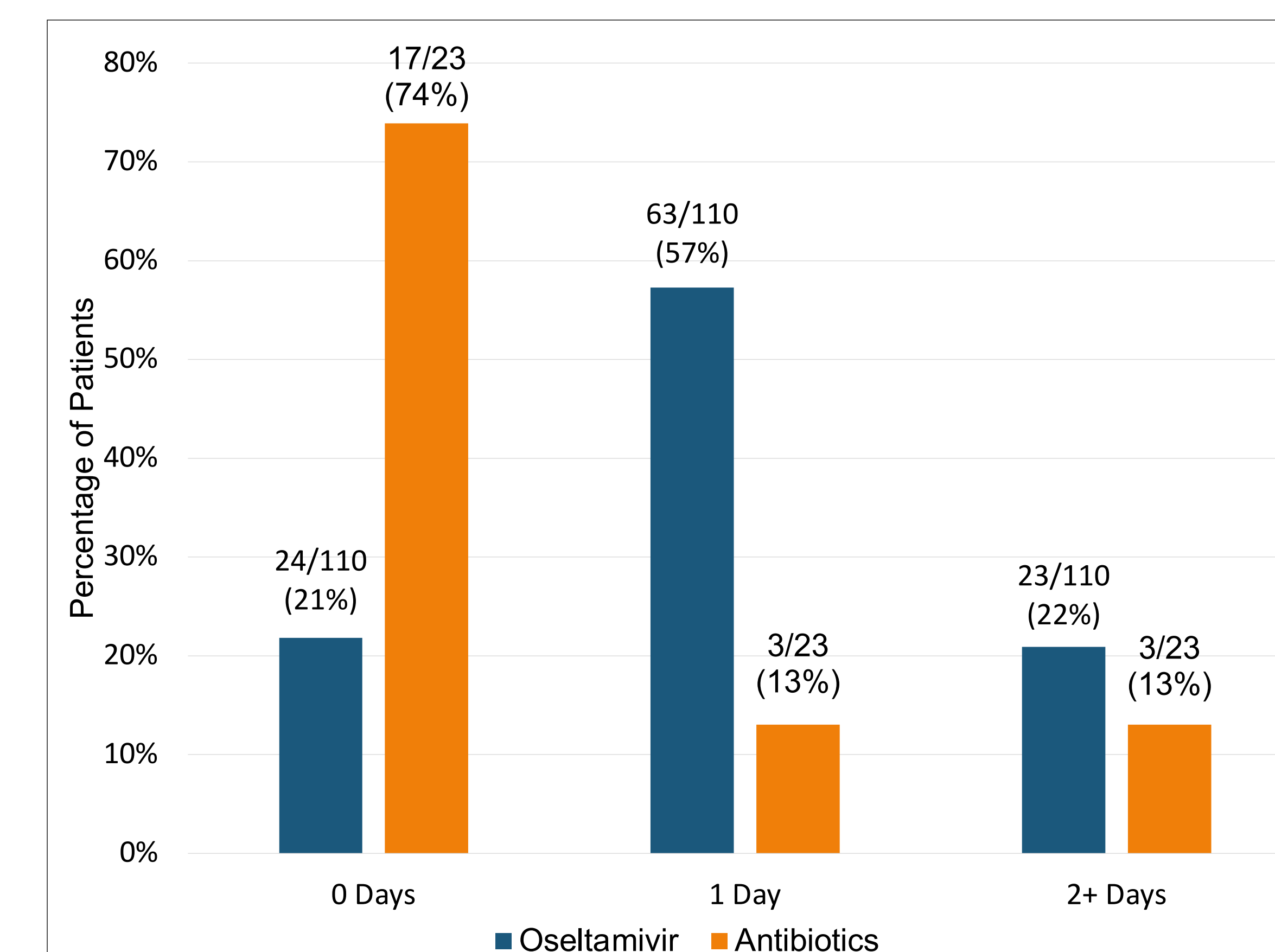
¹Values are in n (%) unless otherwise specified.
²Baseline defined as date of first clinical encounter.
³ANC in units of 10³ cells/ μ L

Figure 2. Symptoms Reported at First Clinical Encounter



- 23 (17.3%) received antibiotics for URI or LRTI within 7 days of first clinical encounter
- 17 (12.8%) received antibiotics for URI or LRTI on Day 0

Figure 4. Time from First Clinical Encounter to Oseltamivir and Antibiotic Prescription



- Of 109 patients with known symptom onset date, 34 (31%) were prescribed oseltamivir within 48 hours of symptom onset

Figure 1. Time from Symptom Onset to Date of First Clinical Encounter

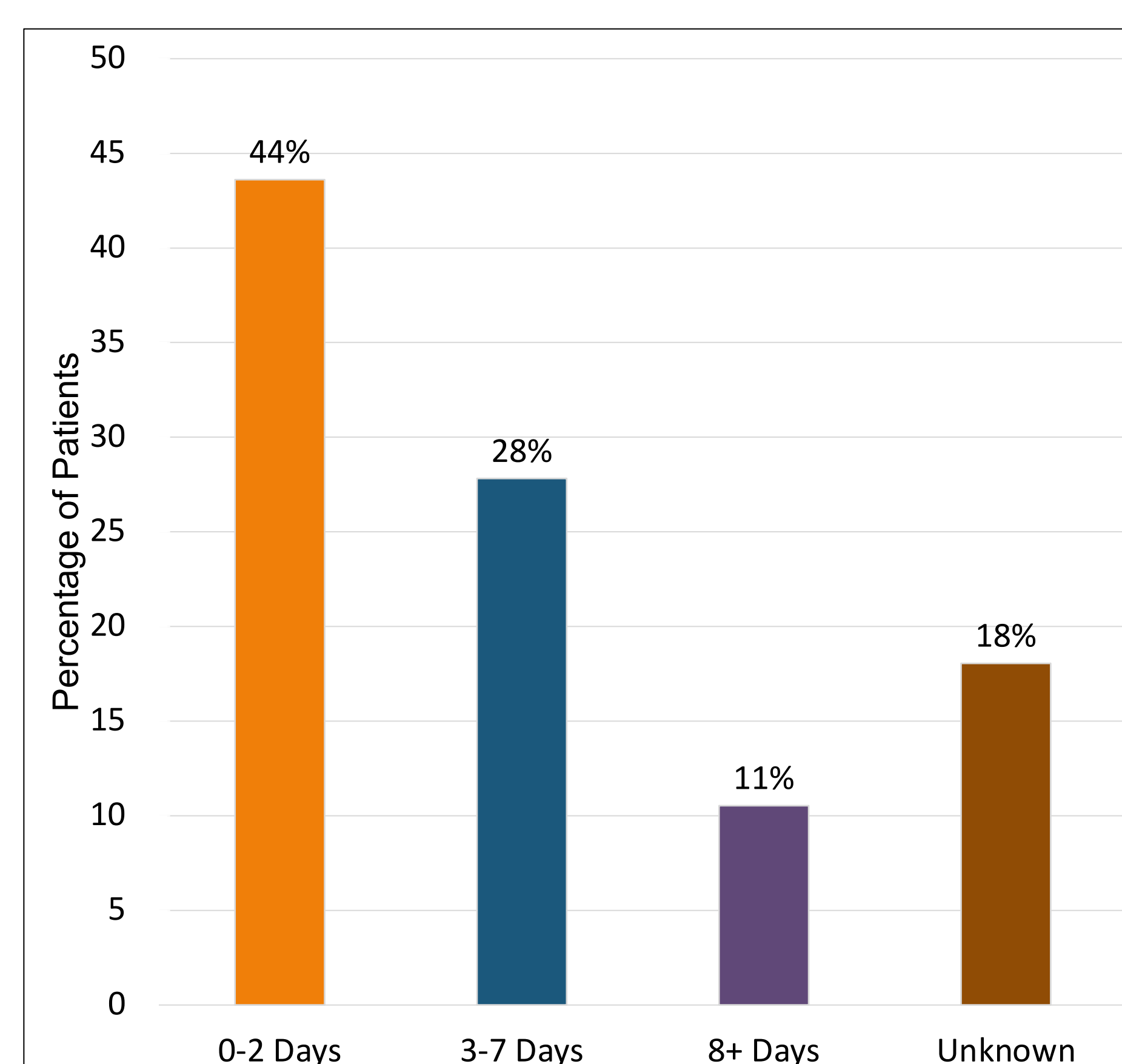


Figure 3. Antibiotics Prescribed for Respiratory Illness on Day 0

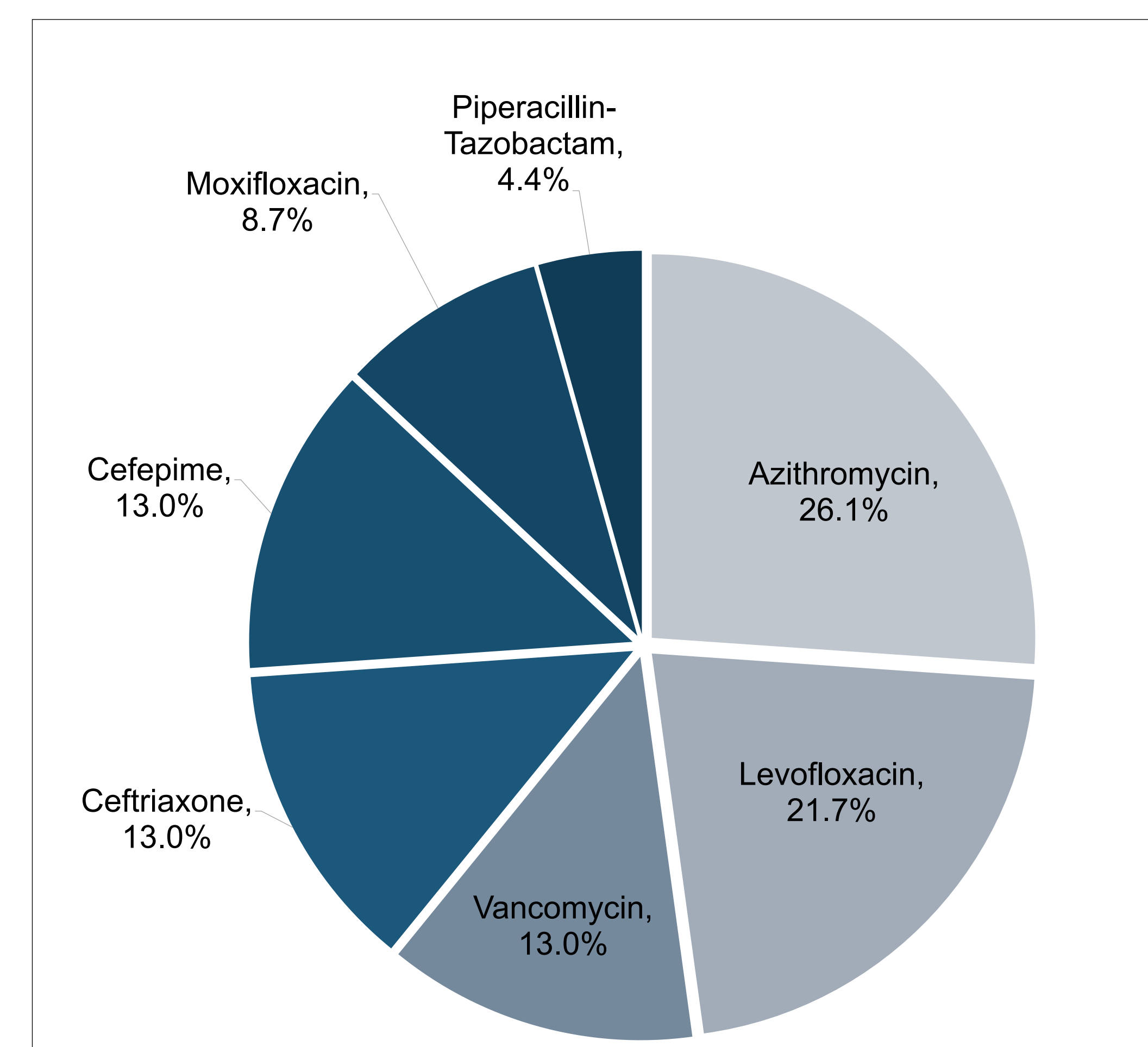


Table 2. Clinical Outcomes¹

Outcome	Number of Patients (%)
LRTI ²	10 (7.5)
Influenza-Related ED Visit	7 (5.3)
Influenza-Related Hospitalization	11 (8.3)
Influenza-Related ICU Admission	1 (0.8)
Intubation / Mechanical Ventilation	0

¹Outcomes captured from day 0 to day 14
²One microbiologically documented bacterial pneumonia (sputum culture: MSSA)

Conclusions

- NAIs were frequently prescribed among cancer patients, but less than a third received treatment within 48 hours of symptom onset.
- Most were prescribed NAIs only after test results were available, while antibiotics were prescribed empirically.
- Delayed presentation to care is an obstacle to early NAI use; patient and provider education along with rapid diagnostics are needed to improve early NAI use among cancer patients with influenza.