

**Background**

- In 2017, the Centers for Disease Control and Prevention (CDC) estimated that 30% of all antibiotics prescribed in outpatient clinics are unnecessary.
- Azithromycin is one of the most commonly prescribed antibiotics, with children receiving more antibiotics than any other age group.

**Objectives**

- The purpose of this study was to analyze and report the percentage of azithromycin prescriptions associated with different diagnoses in age groups between 0-19 years.

**Methods**

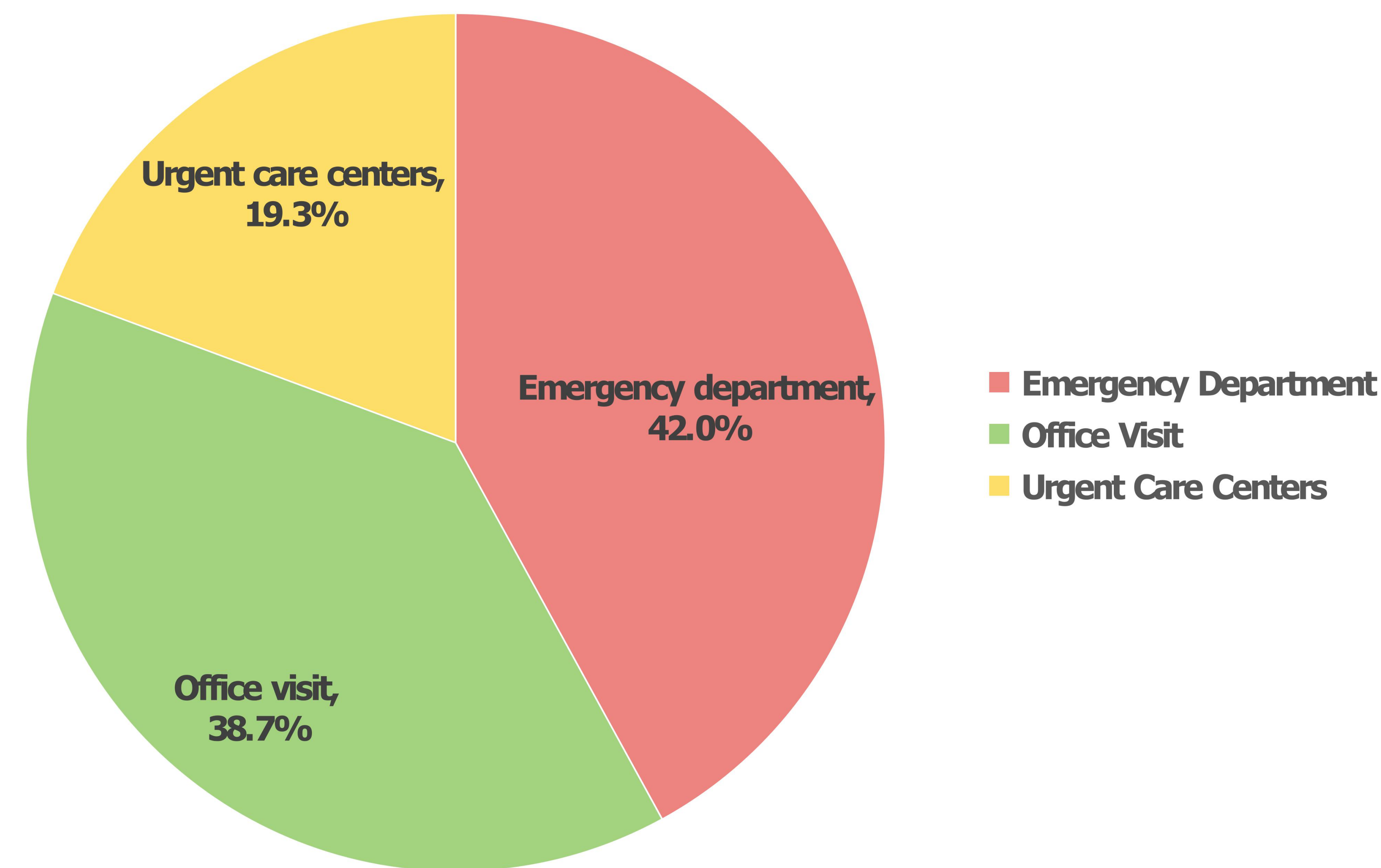
- We reviewed antimicrobial prescribing data of children 0 to 19 years of age who visited West Virginia University (WVU) Health system.
- Patients were included who were prescribed azithromycin between January 2016 - December 2018.
- Prescribing data from urgent care centers, outpatient clinics, and emergency departments were collected.
- The primary diagnosis associated with the visit was included.

**Results**

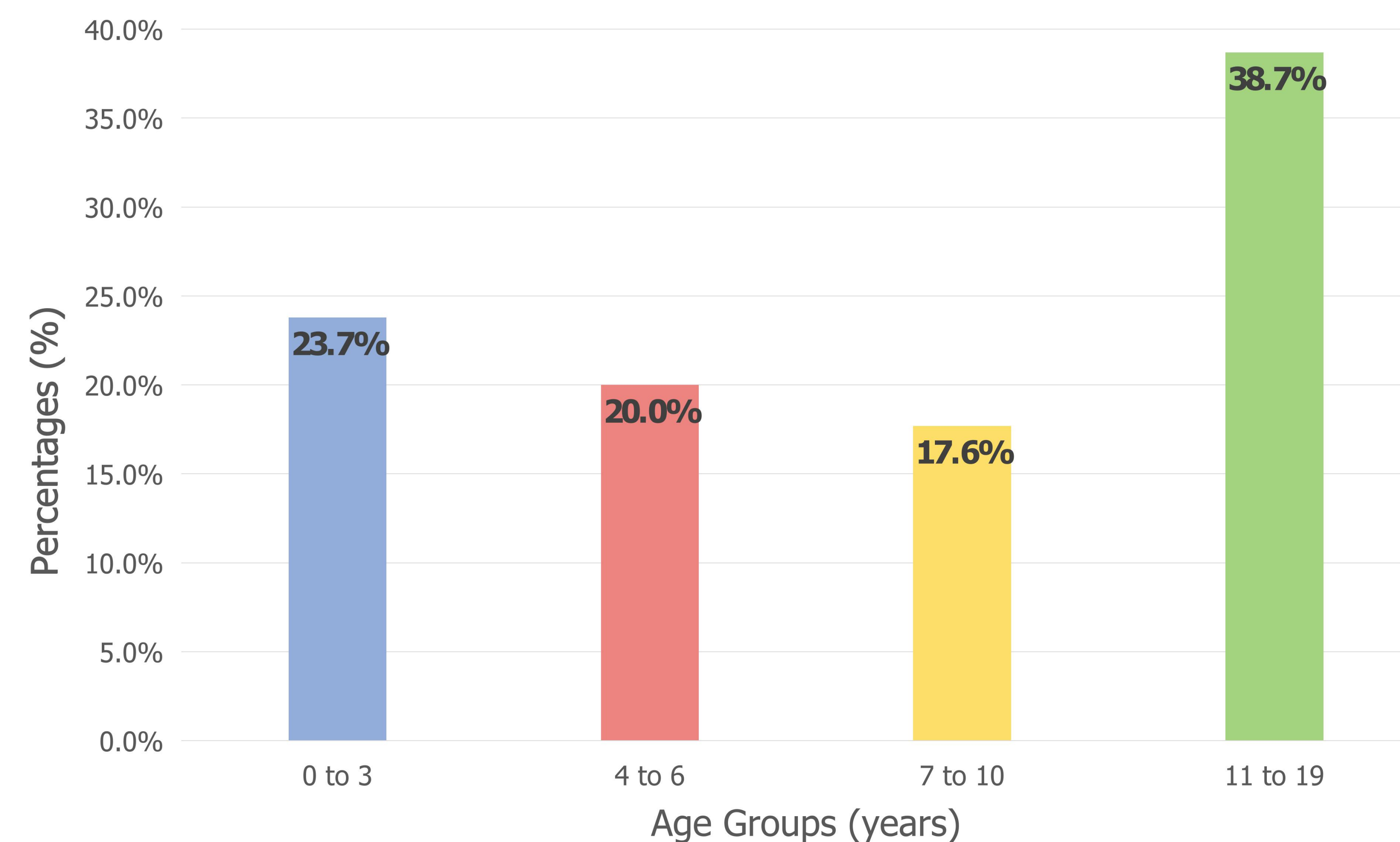
- During the study, 29,983 visits were identified in which antibiotics were prescribed.
- Azithromycin was prescribed in 40.6% of those visits.
- More than half (54.4%) of these visits occurred between the months of October through February, with December being the most frequent month.
- More than half (61.3%) of the visits occurred in the emergency departments and urgent care centers "Figure 1".
- There were 11,934 unique patients identified during our study period and age distribution is shown in "Figure 2".
  - The age group of 11-19 years had the highest azithromycin prescription rate (38.7%).
- Only 26.5% of patients were marked as allergic to penicillin (PCN) or amoxicillin.

**Results**

**Figure 1- Distribution of prescribers by location**



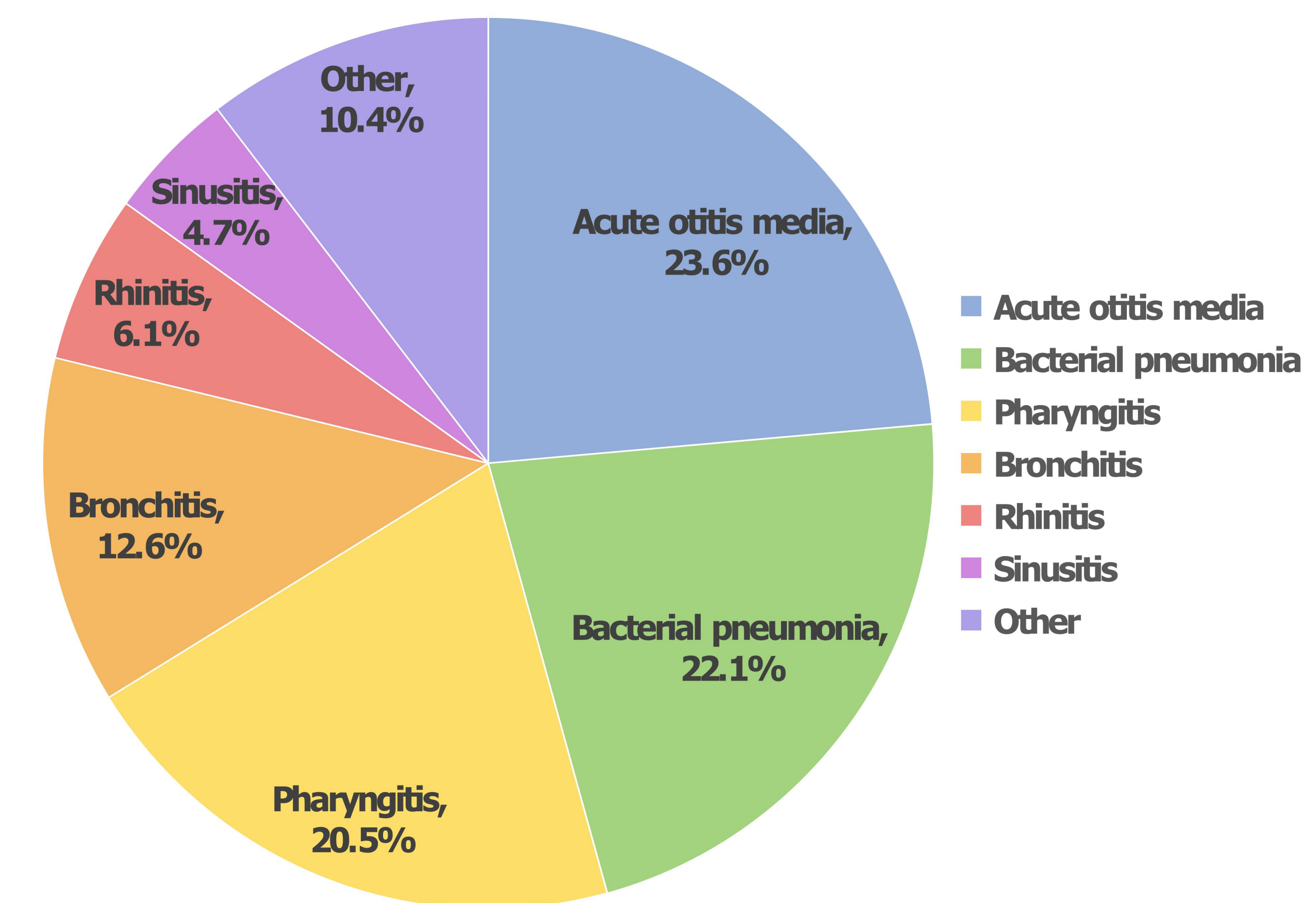
**Figure 2- Age distribution of children who received azithromycin prescriptions**



**Results**

- Acute otitis media (AOM) was the most common diagnosis (23.6%) "Figure 3".
- The most common diagnosis for the 11-19 years age group was pharyngitis.

**Figure 3- Common diagnoses linked to the azithromycin prescriptions**



**Conclusion**

- Acute otitis media and pharyngitis accounted for almost half of the diagnoses associated with azithromycin prescriptions.
- Treatment guidelines for both conditions recommend PCN-based therapy as first-line treatment unless there is a history of PCN allergy.
- Only a quarter of the patients in our study had an allergy documented to PCN or amoxicillin.
  - Azithromycin would be considered a suboptimal antimicrobial choice for these patients.
- The results allow for a stewardship opportunity to nudge providers to select an appropriate antimicrobial based on the diagnosis and history of PCN allergy.