



Regional Differences in Hospitalizations for Chronic Obstructive Pulmonary Disease (COPD) Patients with Acute Lower Respiratory Infections

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INTRODUCTION

- COPD is currently the third leading cause of death in the United States
- Impairment of the innate immune system may lead to respiratory infections, which can cause acute exacerbations in patients with a higher severity of illness

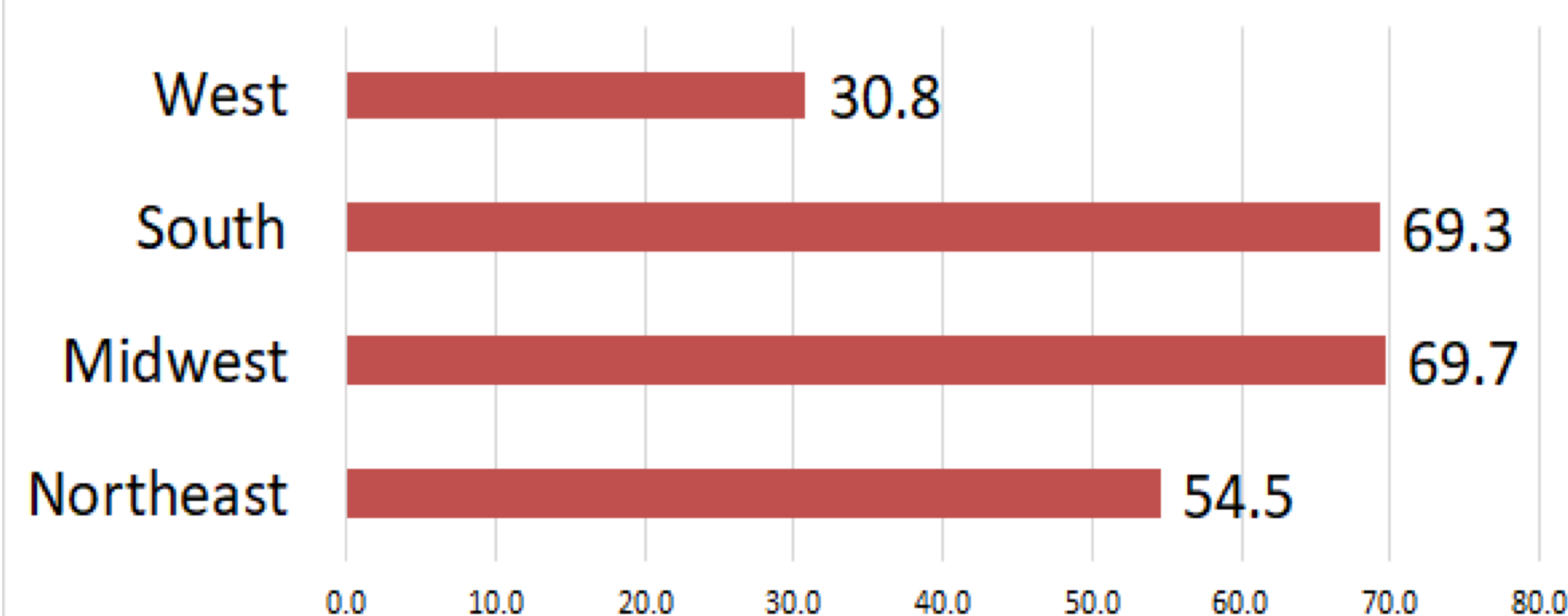
OBJECTIVES

- To examine the regional differences in hospitalizations amongst COPD patients with acute lower respiratory infection

METHODOLOGY

- Data from the Healthcare Cost and Utilization Project (HCUP) State Inpatient Database from 2017
- Only hospitalizations for the patients with a principal diagnosis of COPD with acute lower respiratory infection (ICD-10-CM codes, J44.0) and the highest severity of illness were included in the analyses
- Z-tests determined whether there were significant differences in rates of hospitalizations related to US regions and patients demographics

Figure 1. COPD with Acute Lower Respiratory Infection: Discharges per 100,000 Persons By Region



Total Number of Discharges by Region

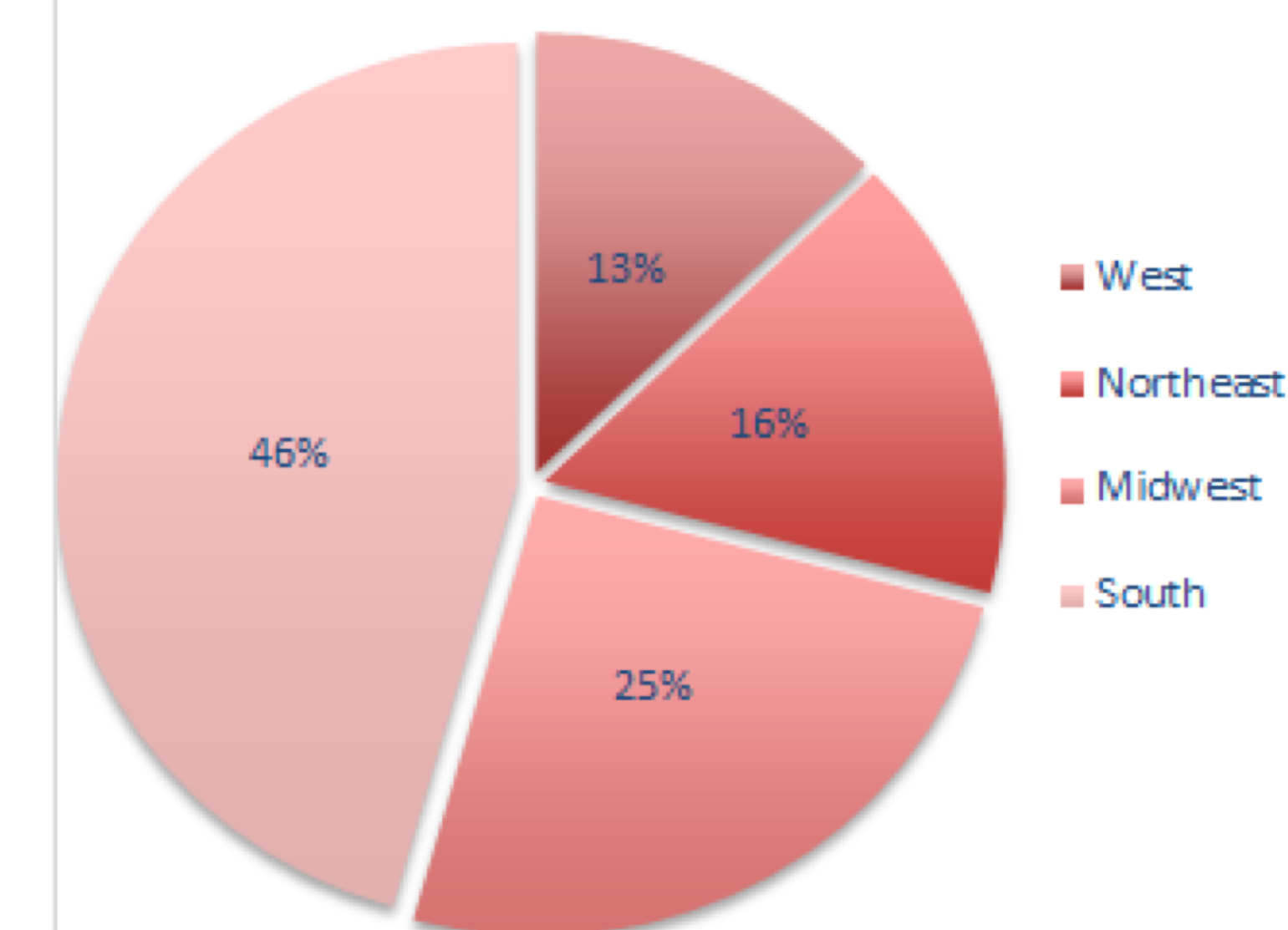
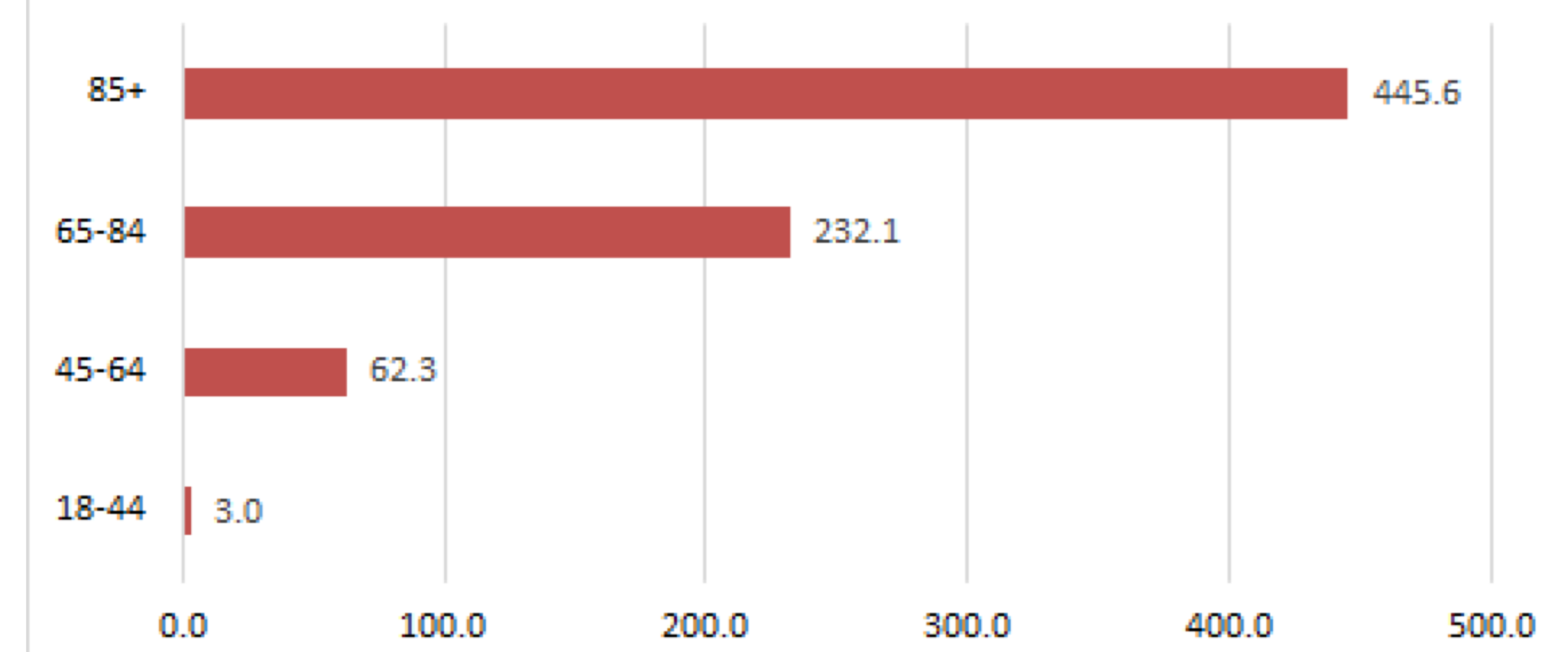


Figure 2. COPD with Acute Lower Respiratory Infection: Discharges per 100,000 Persons By Age



Total Number of Discharges by Age

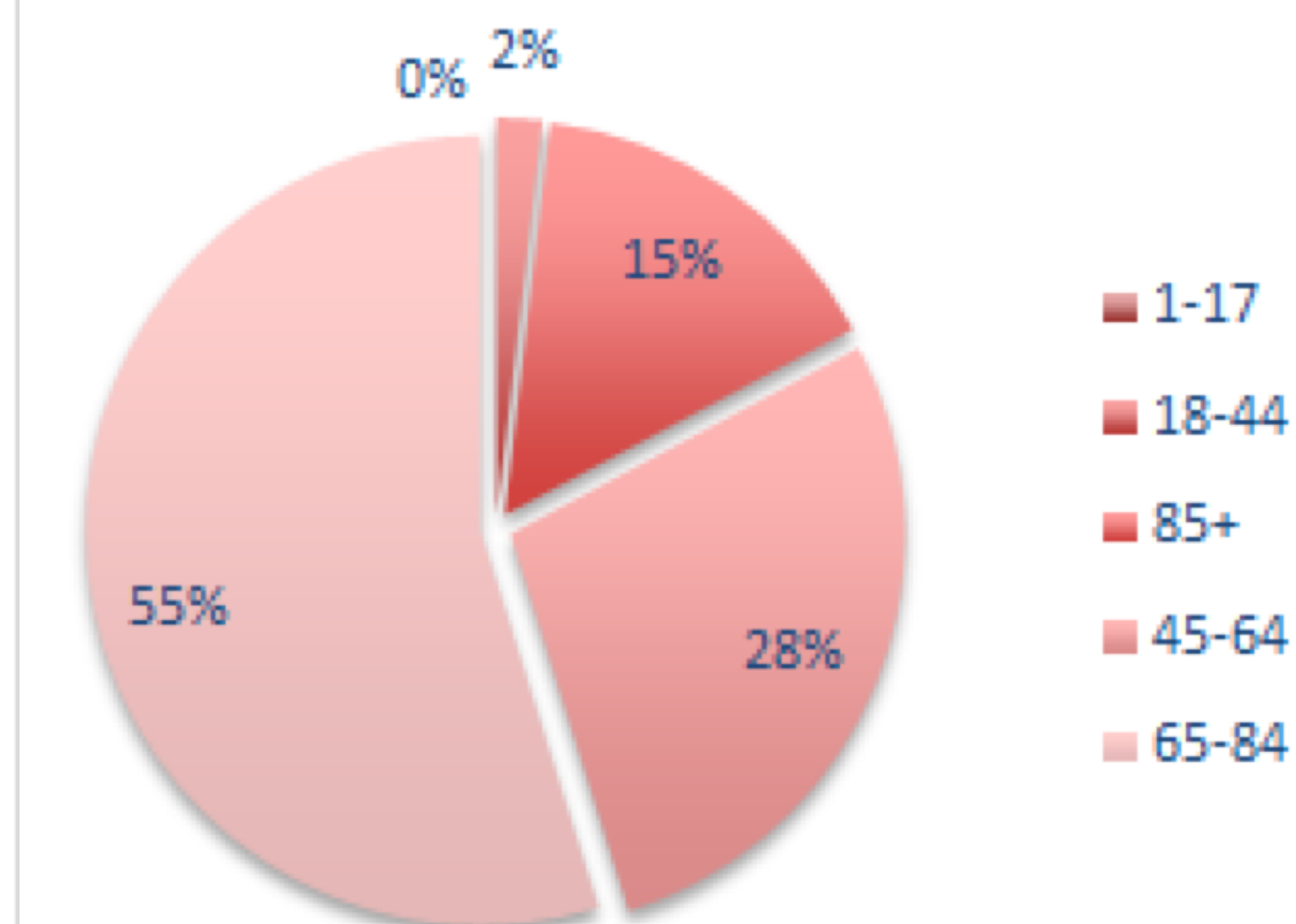
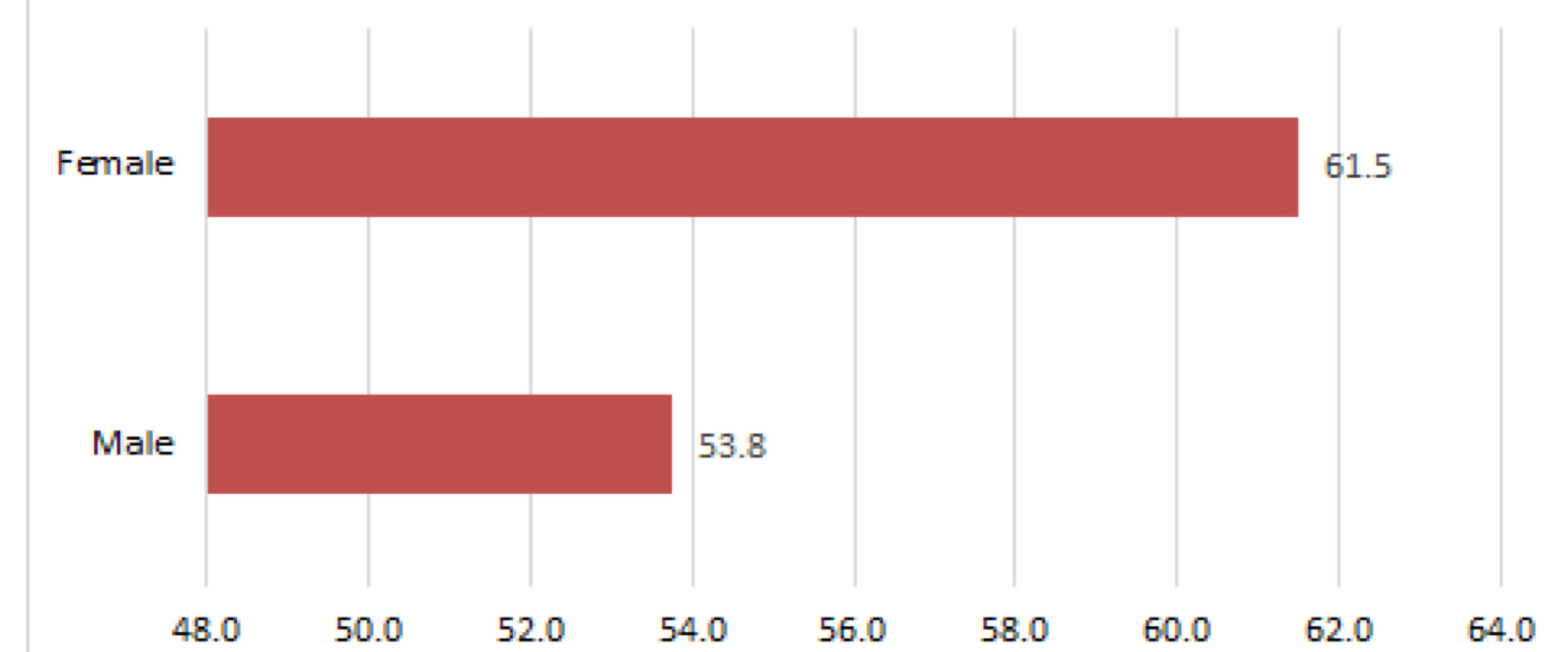
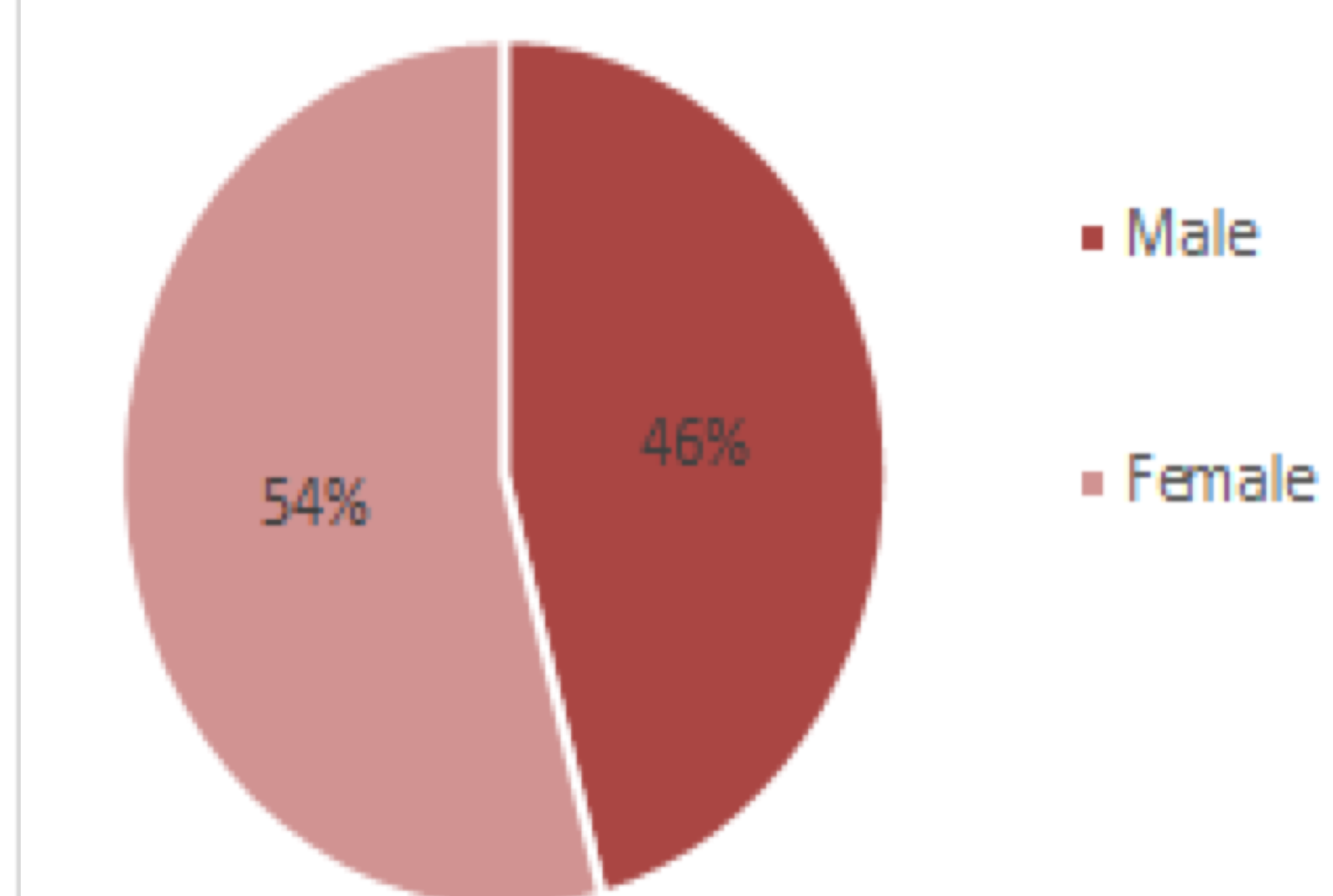


Figure 3. COPD with Acute Lower Respiratory Infection: Discharges per 100,000 Persons By Sex



Total Number of Discharges by Sex



RESULTS

- Regions with the highest rates per 100,000 persons of hospitalizations for patients with COPD with acute lower respiratory infection and the highest severity of illness were the Midwest at 69.7 and South at 69.3
- These rates were significantly lower in the Northeast at 54.5 ($p < 0.001$) and less than half as high in the West at 30.8 ($p < 0.001$)
- Female patients and patients between the ages of 65 and-84 years old also experienced higher rates than other gender and age groups

CONCLUSION

- Further research is needed to determine which types of acute lower respiratory infections are more prevalent in patients with this chronic disease
- Areas to improve may include hospitalization prevention, better medication adherence and ambulatory care, patient education, or improved understanding of triggers or commonalities amongst each region