

# Assessment of Empiric Outpatient Therapy and Readmission Rates from the Emergency Department for Community Acquired Pneumonia



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## BACKGROUND

Community acquired pneumonia (CAP) is a common reason for emergency department visits<sup>1</sup> and is associated with high mortality and readmission rates.<sup>2</sup> One study investigated avoidable causes of CAP readmission and discovered that the highest percentage of avoidable causes of readmission was related to discharging patients with either missing or incorrect diagnosis or therapy (31.7%).<sup>3</sup> Emergency department (ED) physicians are in a unique position to impact these factors, as they are often responsible for initial diagnosis and empiric therapy initiation.

## OBJECTIVES

- Evaluate appropriateness of empiric antibiotic therapy for CAP prescribed to patients discharged from the ED, as according to the 2019 CAP guidelines
- Assess current readmission rates for patients treated outpatient from the ED for CAP
- Identify areas for quality improvement and targeted interventions according to the 2019 CAP guidelines

## ENDPOINTS

### Primary endpoint:

- Adherence to current (2019) community acquired pneumonia guideline recommendations for outpatient empiric therapy

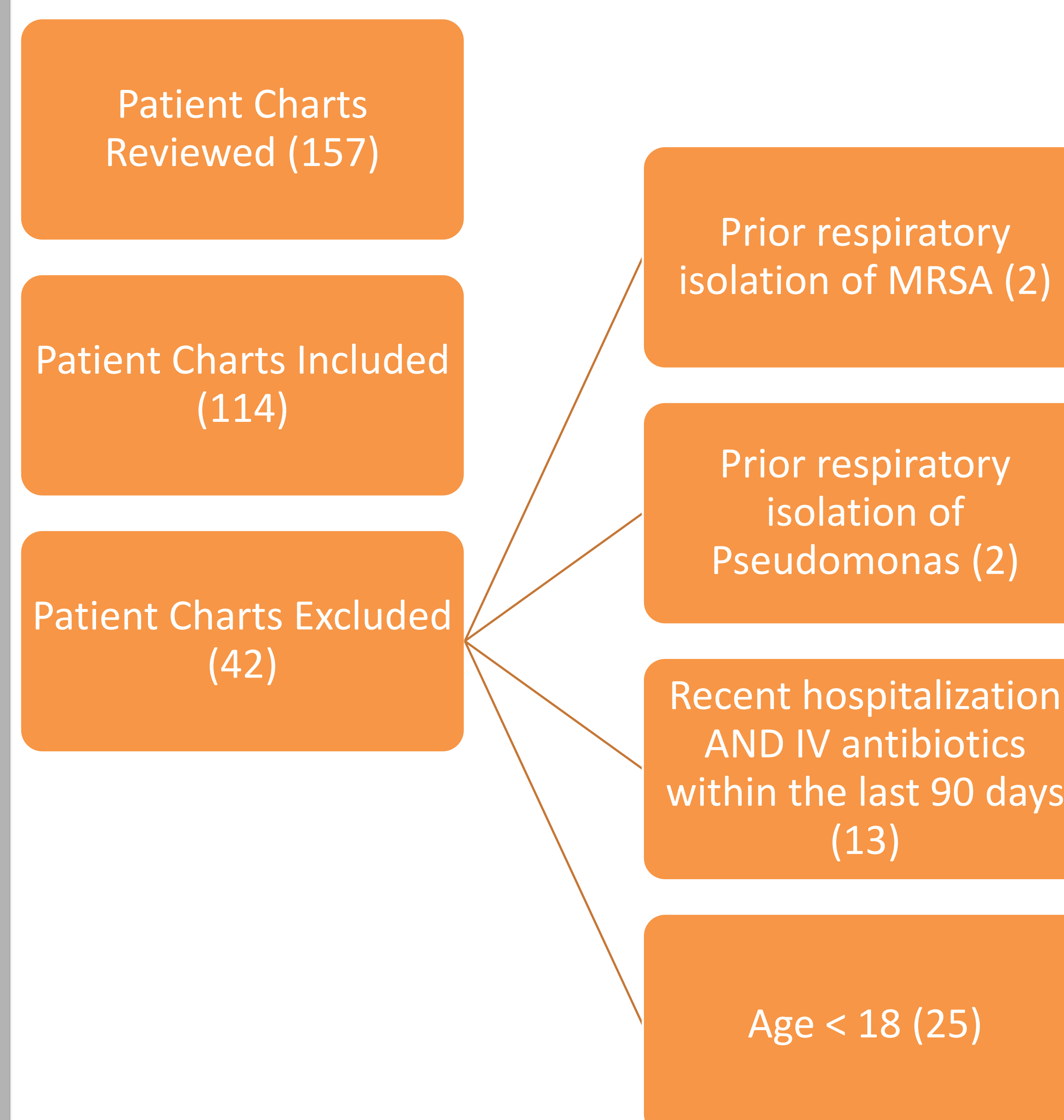
### Secondary endpoints:

- Readmission within 30 days for any cause
- Readmission within 30 days for worsening pneumonia

## METHODS

- Observational, retrospective chart review at OSU Medical Center
- Inclusion Criteria:** age ≥ 18 years, ICD-10 diagnosis code for pneumonia, discharged from the ED between July 1, 2021 and June 30, 2022
- Exclusion Criteria:** age < 18 years, risk factors for multi-drug resistant organisms (prior respiratory isolation of MRSA or *P. aeruginosa*, or recent hospitalization AND receipt of parenteral antibiotics in the last 90 days), or admitted to the hospital from the ED
- Descriptive statistics will be utilized for data analysis

## PRELIMINARY DATA



## DEMOGRAPHICS

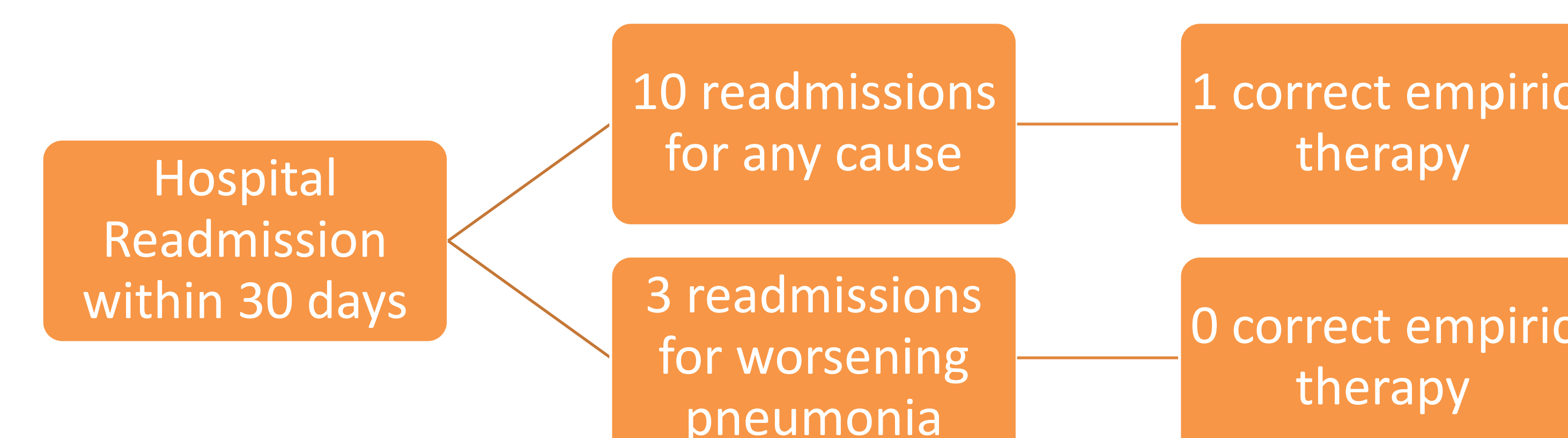
Male (n)	18
Female (n)	10
Weight (kg)	89.15 ± 27.81
Height (cm)	172.86 ± 10.22
<b>Comorbidities</b>	<b>n</b>
Chronic heart disease	9
Chronic lung disease	11
Chronic kidney disease	2
Diabetes	8
Malignancy	5
Other	10

## Primary Outcome (28 charts reviewed)

Appropriate Therapy % (n)	7.1 (2)
Inappropriate Therapy % (n)	92.9 (26)

<b>Reasons for Incorrect Therapy:</b>	<b>n</b>
Extended duration	8
Incorrect/incomplete drug regimen	7
Both extended duration and incorrect/incomplete regimen	12
Local antimicrobial resistance	1

## Secondary Outcomes (28 charts reviewed)



## CONCLUSION

Data collection and analysis for this study is still ongoing. Based on preliminary data, only 2 patients out of the 28 reviewed received guideline-recommended therapy. The most common reasons for incorrect therapy included a duration that is longer than recommended and incorrect drug choices based on comorbidities. 10 patients had repeat emergency department visits or hospital admissions. Only 3 of these patients were readmitted secondary to pneumonia. After preliminary review, it is possible targeted educational interventions on proper outpatient prescribing may improve ED physicians' adherence to the CAP 2019 guidelines.

## NEXT STEPS

Upon completion of data collection and analysis, results and findings will be presented to the ED physicians and residents. Education will also be provided on the current recommendations for outpatient treatment of CAP, and how they apply to our patient population.

## REFERENCES

- Cairns C, Kang K, Santo L. National Hospital Ambulatory Medical Care Survey: 2018 emergency department summary tables. Available from: <https://www.cdc.gov/nchs/fastats/emergency-department.htm>.
- National Center for Health Statistics. Health, United States, 2020-2021: Table LCOAge. Hyattsville, MD. 2021. Available from: <https://www.cdc.gov/nchs/hus/data-finder.htm>.
- Boussat B, Cazzorla F, Le Marechal M, et al. Incidence of Avoidable 30-Day Readmissions Following Hospitalization for Community-Acquired Pneumonia in France. JAMA Netw Open. 2022;5(4):e226574. Published 2022 Apr 1. doi:10.1001/jamanetworkopen.2022.6574