

# Predictors of Admission Status in Emergency Department Patients with COPD



Alliance of Independent  
Academic Medical Centers

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## Goal

- Identify COPD patient utilizing ED resources
- Examine/identify predictors for hospital admission
- Identify role of socioeconomic determinants of health

## Background

COPD affects approximately 5% of the world's population and is a leading cause of mortality. Unnecessary ED visits result in an undue burden on limited, critical resources.

## Vision

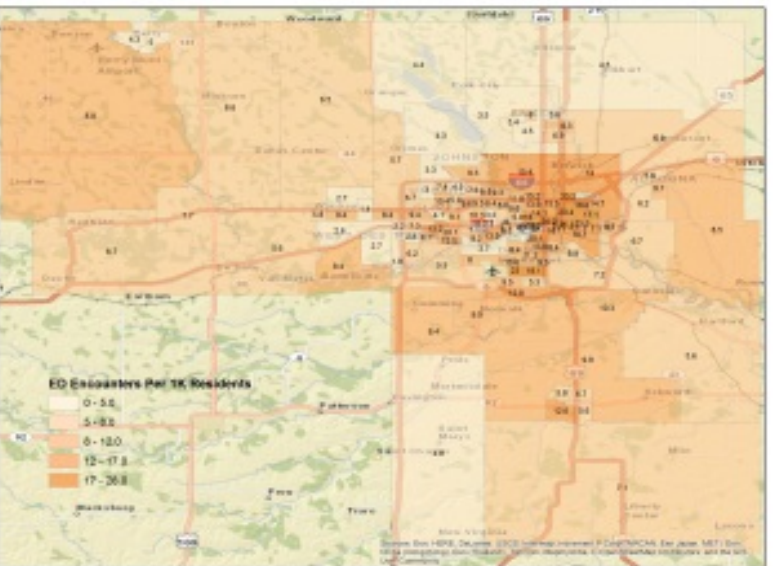
Creation of a multidisciplinary team of healthcare providers and care coordinators to better serve our patients with COPD and reduce the use of ED and hospital resources.

## Methods

- Retrospective study
- Study period: 4th quarter 2011 - 3rd quarter of 2014
- Location: 3 Midwestern hospitals
- Inclusion criteria:
  - ED encounter with a primary or secondary diagnosis of COPD
- Exclusion criteria
  - Missing vitals data

## Results

- 10,899 eligible ED encounters
  - 10,569 encounters w/ complete vitals
- Mean age of encounter = 68 years
- Sex: 58% of encounters females
- 62% of encounters admitted

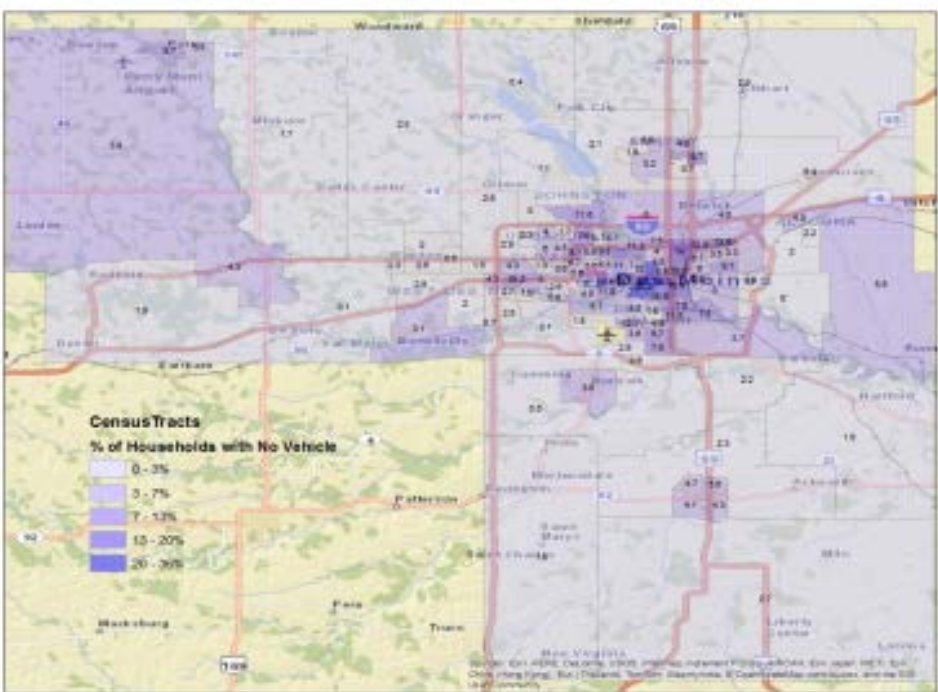


### Predictors of admission

Variable	AOR	p-value
<b>Physical exam findings</b>		
Heart rate > 100 bpm	1.84	< 0.0001
Respiratory rate > 20 bpm	1.39	< 0.0001
SpO2 < 92%	2.35	< 0.0001
<b>Co-morbid conditions</b>		
Anxiety	4.78	< 0.0001
Depression	5.43	< 0.0001

### Additional Significant Variables

- Male sex
- Older age (68+)
- Married
- Private vs federal insurance
- Private insurance vs self-pay
- PCP vs no PCP
- Patient residence not in primary service area



## Discussion

- Successes
  - Large data pool
  - Identified initial predictors for hospital admission
  - Both co-morbid states and physical exam findings
- Improvements
  - Primary vs secondary data
  - No data on current tobacco use
  - No drug regimen or compliance data
  - No health literacy or overall education data

## Conclusion

- Successful initial assessment/analysis of COPD patients
- Further studies needed to further evaluate and characterize patients
- Possible creation of care teams/managers to better assist patients at home
- More aggressive tobacco cessation programs

## References

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