

Appropriate Legionella Urinary Antigen Testing: A Step Towards Diagnostic Stewardship.

Faran Ahmad MBBS, Moeed Ahmed, MBBS, Manasa Velagapudi MBBS, Marvin Bittner, MD

Creighton University, Omaha, NE

Background

Pneumonia is a leading cause of sepsis and hospitalization. Infectious Diseases Society of America and American Thoracic Society (IDSA/ATS) published 2019 practice guidelines for community-acquired pneumonia (CAP), recommending urinary antigen testing (UAT) for *Legionella pneumophila* (LP) only in patients with severe pneumonia or having epidemiological risk factors (*Legionella* outbreak or recent travel). In last 20 years, there is no Legionella outbreak in Nebraska. Currently, the urine antigen test is considered based on the individual clinical assessment. However, this usually results in excessive testing and resulting financial burden.

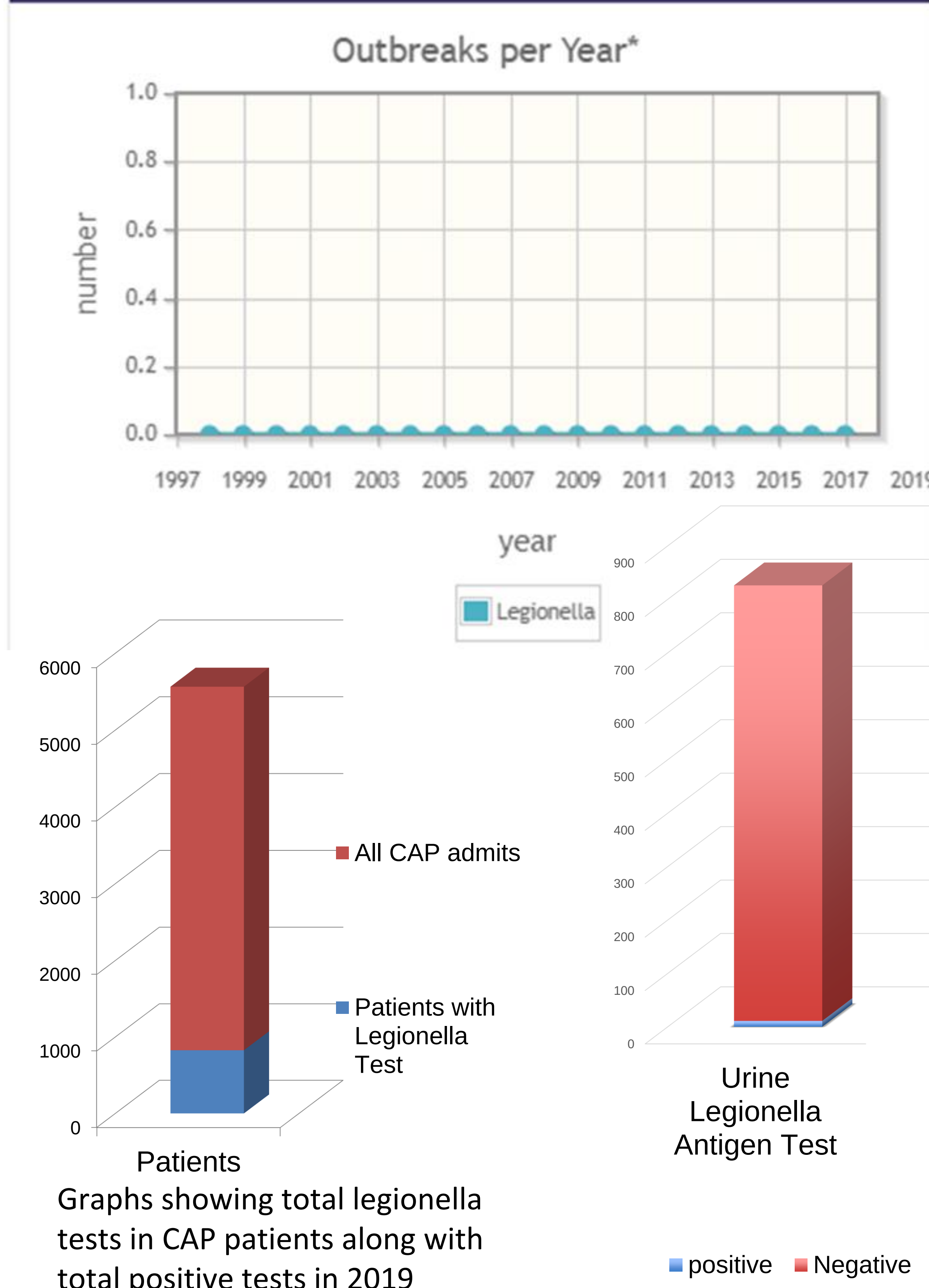
Objectives

To evaluate the extent of urine Legionella antigen testing in CAP patients and understand proper utilization of the test based on 2019 American Thoracic Society (ATS) / Infectious Diseases Society of America (IDSA) community acquired pneumonia guidelines .

Method

Retrospective chart review of patients admitted to Bergan Mercy Medical Center, Creighton University, Omaha with the admission diagnosis of CAP in the year 2019, by using electronic medical record.

Nebraska State- Legionella Outbreaks- CDC



The charts were reviewed for baseline characteristics, admission diagnoses and outcomes. The project was submitted to and reviewed by the institutional review board.

Results

From January to December 2019, 4738 patients were admitted to general medical floors with the diagnosis of CAP. 826 patients (17.43%) had urine Legionella antigen tests done, only 11 (0.23%) were tested positive. Moreover, 140 patients (2.95%) had urine Legionella antigen tests in the absence of a documented diagnosis of CAP. Patients admitted to intensive care units were not included in the study as guidelines do not restrict from ordering urine Legionella tests in patients with severe sepsis secondary to community acquired pneumonia.

Conclusion

- A diagnostic stewardship approach should be considered for urine Legionella antigen testing.
- This provides an opportunity for quality improvement initiative at Creighton University affiliated hospitals.