The majority of RSV+ adults were admitted; most (81%) received at least 1 dose of antibiotic overutilization. Comorbidities (based on diagnosis codes) Whether Additional chart review conducted for all RSV+ patients, to determine: 1. In our population, nearly 1/3 of all RSV cases occurred in patients ≥65 years of age, Compared 2. Antibiotics (≥1 doses) received only before RSV result available 3. Antibiotics (≥1 doses) received – CXR and CT scan results N There appears to be opportunities to reduce antibiotic use among admitted RSV+ patients, grouped by antibiotic exposure. RSV-/Flu- RSV+/Flu- RSV+/Flu+ RSV-/Flu+** Data Analysis: • Descriptive statistics to describe all RSV+ patients & 3 sub-groups: • No antibiotics received during visit • Antibiotics (≤1 doses) received before RSV result available • Antibiotics (>1 doses) received after RSV result available • Antibiotics (≤1 doses) received after RSV result available group Antibiotic therapy in adults presenting for emergency care. Marci Drees, MD, MS*, Nicole S. Harrington, PharmD, BCPSC; Julianne D. Gardner, PharmD; Tom Laughery, BSc; Sarojini Misra, MS, SM/ASCP, SM/AAM; Brett J. Schuchardt, MS; Thomas C. Marconi II; Richard Caplan, PhD; and Ryan Arnold, MD, FACP. Departments of Medicine, Pharmacy, Microbiology & Emergency Medicine, Christiana Care Health System, Wilmington, DE; Christiana Care Value Institute, Newark, DE; Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, PA.

**Background**

- Respiratory syncytial virus (RSV) is an under-recognized cause of respiratory illness in adults.
- Available of confirmed RSV/PCR testing in our institution has increased as respiratory symptoms can potentially decrease antibiotic use in patients presenting with acute respiratory illness.

**HYPOTHESIS**

- Providing clinicians with information about viral etiology of illness (namely RSV) in near real-time, via an emergency care-based laboratory system, could decrease antibiotic use in patients presenting for emergency care resulting in acute respiratory illness.

**STUDY AIMS**

- To describe incidence of RSV in adults presenting with acute respiratory illness
- To assess the impact of RSV positivity on antibiotic utilization

**Methods**

- Retrospective cohort study in a level 1 adult ED of a tertiary care hospital
- Inclusion criteria: All adult patients (≥18y) tested for influenza/RSV from 10/1/15 to 4/30/16
- Data: Lab test orders for influenza & RSV
- Data Collection:
  - Obtained data for all adult ED and hospitalized patients [observation (OBS) and inpatient]
  - Patients presenting with clinical symptoms of respiratory illness
  - Antibiotic exposure

**Data Analysis**

- Descriptive statistics to describe all RSV+ patients & 3 sub-groups:
  - No antibiotics received during visit
  - Antibiotics (≤1 doses) received before RSV result available
  - Antibiotics (>1 doses) received after RSV result available

**Conclusions**

- Antibiotics overutilization
- Comorbidities (based on diagnosis codes)
- Whether Additional chart review conducted for all RSV+ patients, to determine:
  - In our population, nearly 1/3 of all RSV cases occurred in patients ≥65 years of age, Compared
  - Antibiotics (≥1 doses) received only before RSV result available
  - Antibiotics (≥1 doses) received – CXR and CT scan results

**Results**

- RSV+/Flu+ (excluded from further analysis)
- RSV+ patients were more likely to be admitted, and to receive Adx, than either RSV-/Flu- or flu+ patients (Figure 1)
- ED discharges that were flu+ or RSV+ had 4% Adx use in the ED
- If flu positivity decreased after age 50, while RSV positivity increased (Figure 2).
- Nearly as many RSV cases occurred among ≤65y.o. patients (51% of all RSV+ patients in ≤65y.o. age group; 56% of RSV+ patients)
- Only 9 patients had procalcitonin levels obtained (mean value 2.1; max 16.2)

**Table 1: Demographics, severity of illness, comorbidity and antibiotic exposure among admitted (inpatient or observation) and non-admitted patients**

**Figure 1 (left):** Admitted (inpatient/OBS)/RSV+ patients only, timing of antibiotic exposure relative to RSV test

**Figure 1 (right):** Admitted (inpatient/OBS)/RSV+ patients whose antibiotics were started after RSV result available, clinical reasons for continued antibiotic exposure.

**Table 2: Procalcitonin (PCT) levels in patients tested positive for RSV or influenza by age group**

**Figure 2: Comparison of RSV-/Flu-/RSV+/Flu+ patients who were admitted, compared to non-admitted patients**

**Figure 3 (top):** Distribution of antibiotic exposure among hospitalized patients

**Figure 3 (bottom):** Distribution of antibiotic exposure among patients tested positive for RSV or influenza by age group

**Figure 4:** Isolated respiratory pathogens identified on admission

**DISCUSSION**

- In our population, nearly 1/3 of all RSV cases occurred in patients ≥65 years of age, with nearly as many cases as were seen in children ≤5 years of age.
- Antibiotics overutilization
- Comorbidities (based on diagnosis codes)
- Whether Additional chart review conducted for all RSV+ patients, to determine:
  - In our population, nearly 1/3 of all RSV cases occurred in patients ≥65 years of age, Compared
  - Antibiotics (≥1 doses) received only before RSV result available
  - Antibiotics (≥1 doses) received – CXR and CT scan results

**REFERENCES**