BACKGROUND
- Symptoms associated with viral respiratory illness often prompt evaluation for bacterial illnesses
- Rapid, point of care testing for RSV and influenza has been associated with reductions in resource utilization in the pediatric emergency department
- Less is known of the impact of a diagnosis of other viral respiratory pathogens on clinical care
- Many prior studies have assessed the effects of having the test performed, rather than the impact of the result itself

OBJECTIVES
- Describe use of multiplex PCR testing for respiratory viral pathogens (RVP) excluding RSV and influenza in Ped ED setting
- Describe distribution of respiratory viral pathogens, other than RSV and influenza
- Assess impact of a positive test result on resource utilization (blood, urine, CSF cultures; chest x-ray, antibiotic administration

METHODS
- Subjects: all children < 18 years of age seen in Ped ED from 12/11 to 4/12 who had RVP performed. Subjects + for RSV and/or flu excluded
- RVP: multiplex PCR (Film Array, BioFire Diagnostics) detects influenza A and B viruses, RSV, parainfluenza viruses 1-4, coronaviruses HKU1, NL63, human metapneumovirus, rhinovirus/enterovirus, and adenovirus with < 2 hour turn around time
- Cases = subjects < 2 years of age with positive RVP results
- Controls = subjects < 2 years of age with negative RVP results
- Outcomes: blood, urine, CSF cx, chest x-ray, antibiotic (IV or PO in hospital) obtained from clinical data warehouse and associated with ED visit by PATCOM number

RESULTS
- Distribution of viral pathogens by age group
- Percent of children < 2 years with test or antibiotics
- Percent of infants ≤ 2 years with test or antibiotics
- Odds of having the test or treatment in cases vs. controls

CONCLUSIONS
- Rapid molecular testing for respiratory viral pathogens has the potential to reduce resource utilization in young children seen in a pediatric ED setting.

FUTURE DIRECTIONS
- Evaluate resource usage in additional seasons
- Evaluate resource utilization by pathogen
- Examine cost effectiveness of rapid RVP diagnosis

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OUTCOMES: blood, urine, CSF cx, chest x-ray, antibiotic (IV or PO in hospital) obtained from clinical data warehouse and associated with ED visit by PATCOM number

Controls = subjects < 2 years of age with negative RVP results

Cases = subjects < 2 years of age with positive RVP results

ODDS RATIO 95% CI
Blood culture 0.47 0.22 - 1.00
Urine culture 0.33 0.15 - 0.74
CSF culture 0.52 0.16 - 1.68
CXR 1.21 0.58 - 2.54
Antibiotics 0.41 0.18 - 0.99