**BACKGROUND**

- Asthma controller medications (e.g., inhaled corticosteroids) have benefit in 2-5-year-old children with asthma or recurrent wheeze.
- Controller medications have not shown benefit after lower respiratory tract infections (LRTIs) (e.g., bronchiolitis).
- There is significant overlap between the clinical presentations of LRTIs and early-onset asthma.
- Deciding when to prescribe controller medications in children <2 years old is a challenging clinical judgment call.

**OBJECTIVE**

- To assess the association between time on controller medications and emergency department (ED) and inpatient (IP) visits for LRTI or asthma in children <2 years old after their first LRTI.
- To assess the association between time on controller medications and emergency department (ED) and inpatient (IP) visits for LRTI or asthma in children <2 years old after their first LRTI.

**METHODS**

- Inclusion: Children <2 years old with at least one prior LRTI (bronchiolitis and pneumonia).
- Exclusion: complex chronic conditions, a diagnosis of asthma prior to first LRTI, or controller use prior to first LRTI.
- Primary exposure variable: time-dependent indicator for presence of a prescription for controller medications.
- Primary outcome: count of ED/IP visits for LRTI or asthma in children <2 years old after their first LRTI.
- Time data dependent: miscarriage indicator for presence of a prescription for controller medications.
- To assess the association between time on controller medications and emergency department (ED) and inpatient (IP) visits for LRTI or asthma in children <2 years old after their first LRTI.

**RESULTS**

- **Table 1: Cohort Characteristics by Person-Months On Controller versus Off Controller**
  - **Variable**
    - **Time on Controller (column %)**
    - **Off Controller (column %)**
  - **Variable**
    - **Time on Controller (column %)**
    - **Off Controller (column %)**
  - **Variable**
    - **Time on Controller (column %)**
    - **Off Controller (column %)**
  - **Variable**
    - **Time on Controller (column %)**
    - **Off Controller (column %)**
  - **Variable**
    - **Time on Controller (column %)**
    - **Off Controller (column %)**

- **Table 2: Person-Time Model, Crude and Adjusted Associations with ED or IP visits for LRTI or Asthma**
  - **Variable (Level vs Reference)**
    - **Crude RR (95% CI)**
    - **Adjusted RR (95% CI)**
  - **Variable (Level vs Reference)**
    - **Crude RR (95% CI)**
    - **Adjusted RR (95% CI)**
  - **Variable (Level vs Reference)**
    - **Crude RR (95% CI)**
    - **Adjusted RR (95% CI)**
  - **Variable (Level vs Reference)**
    - **Crude RR (95% CI)**
    - **Adjusted RR (95% CI)**

**DISCUSSION**

- In children under 2 with LRTIs, controllers are more often prescribed in the following patients: older age, male gender, Medicaid insurance, family history of asthma claim, prior atopy claim, prior wheeze claim, more prior LRTI visits, and prior outpatient beta agonist prescription.
- This lack of an association could indicate a need for increased prescription stewardship.
- However, limitations include potential for incompletely controlled indication bias, limited indicator of time on controller, and claims data imperfections (missing data, reliance on ICD codes).

**CONCLUSIONS**

- Future prospective studies should consider focusing on controllers in children <2 years of age with recurrent LRTIs, as the benefits of controllers in this population remains unclear.
- Providers should consider increased prescription stewardship in prescribing controllers to children <2 years of age.