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Respiratory readmission rates differ in the year following hospitalisation with RSV and non-RSV bronchiolitis

Infections, Wheezing, Viruses

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Introduction Viral bronchiolitis in infancy is associated with recurrent wheeze and asthma throughout childhood. Respiratory syncytial virus (RSV) is the commonest cause but other viruses such as RV and HMPV are also implicated. Little is known about respiratory morbidity subsequent to non-RSV bronchiolitis.

Aim To compare respiratory readmission rates in the year following episodes of RSV and non-RSV bronchiolitis.

Method Using national Hospital Episode Statistics database (*copyright NHS Digital 2018*) we identified all hospital admissions with acute childhood bronchiolitis in England in 1 year. Respiratory readmission rates in the subsequent year were calculated based on bronchiolitis ICD10 codes.

Results In England between December 2015 and November 2016, 40,077 children with acute bronchiolitis (ICD10 code J21) were admitted to hospital for a mean length of stay of 2.1 days, with a total inpatient cost of £56,162,032. The viral cause of hospitalisation was unspecified (J219) in 78%; 18% of bronchiolitis admissions were caused by RSV (J210), 1% by HMPV (J211), 3% by other specified organisms (J218). Overall, 37% of all patients were readmitted within 1 year, 64% of these for respiratory causes. 50% returned within 30 days, 25% within 30-90 days and 25% within 3 - 12 months of the initial admission. Respiratory readmission occurred more frequently following episodes of non-RSV bronchiolitis (41%) than RSV bronchiolitis (22%) ($p < 0.0001$, OR 2.4).

Conclusion Readmission to hospital in the year following a bronchiolitis diagnosis is common, particularly in the first 30 days and following an episode of non-RSV bronchiolitis. A prospective cohort study is needed to explore further.