

## Using linked routinely collected health data to explore the burden of respiratory syncytial virus (RSV) in Scotland

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### Introduction

Respiratory syncytial virus (RSV) is the most frequent cause of lower respiratory tract infections (RTIs), particularly bronchiolitis, in young children worldwide. In order to inform policy-making and regulatory decisions regarding novel RSV vaccines and therapeutics, the health and economic burden of RSV needs to be quantified in further detail.

### Objectives and Approach

This project is part of the REspiratory Syncytial virus Consortium in Europe (RESCEU), a collaborative IMI funded EU project assembling routinely collected health data from at least seven European countries to produce detailed estimates of RSV health and economic burden. This study links national data on hospital admissions, deaths, RSV laboratory testing, prescriptions, and maternal/perinatal data. Using this linked data we calculate rates of hospital admissions, intensive care unit (ICU) admissions, and deaths (a) potentially due to RSV, (b) likely due to RSV, and (c) confirmed due to RSV. We also investigate maternal and perinatal characteristics associated with RSV-related episodes.

### Results

RSV is a major cause of hospital admission in Scotland, particularly in children <6 months old. Around 2,000 admissions with a primary diagnosis of bronchiolitis occur in children <12 months old per year, on average, with approximately 75% of these estimated to be due to RSV. Children with known clinical risk factors, such as prematurity or chronic conditions, are at increased risk of ICU admission and death due to RSV. Results will be presented on the age- and risk-group specific hospitalisation, ICU admission and mortality rates for RSV-associated RTI in children <5 years old. The maternal and perinatal characteristics (e.g. maternal smoking, type of delivery, breastfeeding status, birthweight, APGAR score (5 mins), mechanical ventilation, oxygen use) associated with RSV-related RTI hospital episodes will be presented.

### Conclusion/Implications

This is the first study to explore the national burden of RSV in Scotland. Our results demonstrate the benefits of using linked routinely collected data to explore the epidemiology and burden of infectious diseases and inform policymaking and regulatory decisions. Our methodology can be applied to other countries and pathogens.

