



Abstract #: 1483 UNDERSTANDING THE BURDEN OF RSV HOSPITALIZATIONS AMONG YOUNG CHILDREN: AN ADMINISTRATIVE DATABASE ANALYSIS FROM 2015-2018, SPAIN AND PORTUGAL

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INTRODUCTION

- Respiratory syncytial virus (RSV) is a leading cause of acute lower respiratory infection (ALRI) in young children.^[1,2] Evidence suggests that combining RSV-specific and ALRI ICD-9/10 codes can improve estimates for RSV hospitalizations.^[3]
- The goal of this study was to analyze the burden of hospitalizations with/duo to RSV in children, in Spain and Portugal.

METHODS

- Administrative data of hospitalizations in children under 5 years of age was extracted from National Health System (NHS) hospitals databases, for three seasons (2015/16-2017/2018; September to June), which contain all NHS discharges in mainland Portugal and ~60% of NHS discharges in Spain.
- Three case definitions were considered for potential RSV hospitalizations: (a): RSV-specific; (b): (a) plus unspecific acute bronchiolitis; (c): (b) plus other unspecific ALRI. Results are presented as means, in Spain and Portugal.

RESULTS

- Over three seasons, a total of 110,229 cases were identified in Spain and 19,311 in Portugal.
- Mean hospitalization rate per 1,000 population was 55.5 in Spain and 51.5 in Portugal in the first year of life, 16.0 and 12.5 in the second year and 5.4 and 3.5 above, respectively.
- Otherwise healthy children (i.e., children without any identified risk factor) accounted for 92.9% of cases in children <5 years of age in Spain and 93.1% in Portugal. In children <2 years of age, otherwise healthy children accounted for 93.4% of cases in Spain and 93.9% in Portugal.
- Mean length-of-stay was 5.1 days in Spain and 5.6 in Portugal, being higher in children with a risk factor.
- Invasive and non-invasive mechanical ventilation were used in 0.9% and 3.6% of cases in Spain and 1.4% and 6.2% in Portugal.

CONCLUSIONS

- In both countries, diseases potentially related to RSV led to substantial hospitalizations, length-of-stay, and resource consumption.
- Otherwise healthy children account for almost all potential RSV hospitalizations in children under 5 years, mostly in the first 2 years of life.
- Overall, results were similar across countries, except for the use of mechanical ventilation, which was higher in Portugal.

Table 1. Summary of results for potential RSV related hospitalizations, per RSV case definition (season 2015/16 to 2017/18)

Variable	Patients' characteristics	Spain, 2015/16 to 2017/18 ^(a)			Portugal, 2015/16 to 2017/18 ^(a)		
		RSV-specific ^(b)	RSV & acute bronchiolitis ^(c)	RSV & ALRI ^(d)	RSV-specific ^(b)	RSV & acute bronchiolitis ^(c)	RSV & ALRI ^(d)
Total cases (% of total within each case definition)	Total	43,247	65,443	110,229	7,748	14,565	19,311
	[0-24] months	40,914 (94.6%)	62,918 (96.1%)	88,603 (80.4%)	7,452 (96.2%)	14,001 (96.1%)	16,655 (86.2%)
	[24-60] months	2,333 (5.4%)	2,525 (3.9%)	21,626 (19.6%)	296 (3.8%)	564 (3.9%)	2,656 (13.8%)
	No risk factor	40,907 (94.6%)	61,690 (94.3%)	102,437 (92.9%)	7,338 (94.7%)	13,765 (94.5%)	17,977 (93.1%)
	With risk factor ^(e)	2,340 (5.4%)	3,753 (5.7%)	7,792 (7.1%)	410 (5.3%)	800 (5.5%)	1,334 (6.9%)
Mean hospitalization rate per 1,000 people ^(f)	[0-12] months	29.4	46.0	55.5	25.3	46.2	51.5
	[12-24] months	3.8	5.1	16.0	3.3	7.6	12.5
	[24-60] months	0.6	0.6	5.4	0.4	0.7	3.5
Mean length-of-stay per episode	Total	5.7	5.4	5.1	6.1	5.4	5.6
	[0-24] months	5.7	5.4	5.3	6.0	5.4	5.7
	[24-60] months	5.0	4.9	4.1	6.3	4.9	5.0
	No risk factor	5.3	5.0	4.6	5.6	5.1	5.1
	With risk factor ^(e)	12.3	11.2	11.4	14.6	11.4	12.9
Cases requiring mechanical ventilation (% of total cases)	Total: Invasive	474 (1.1%)	630 (1.0%)	1,017 (0.9%)	121 (1.6%)	167 (1.1%)	267 (1.4%)
	Total: Non-invasive	2,140 (4.9%)	2,968 (4.5%)	4,018 (3.6%)	640 (8.3%)	952 (6.5%)	1,197 (6.2%)

(a) Epidemic season includes cases from September to June; (b) Includes only RSV-specific diagnosis (ICD10 codes: J21.0, J21.1, J20.5 and B97.4; ICD9 codes: 079.6; 466.11; 480.1); (c) Includes RSV-specific and acute bronchiolitis without specific virus identification diagnosis (previous ICD10 codes, plus J21.8, J21.9; or previous ICD9 codes, plus 466.19); (d) Includes RSV-specific and other ALRI without specific virus identification diagnosis (previous ICD10 codes, plus J12.8, J12.9, J18.0, J18.8, J18.9, J21.8, J21.9, J20.8, J20.9, J22; or previous ICD9 codes, plus 466.0; 519.8; 480.3; 480.8; 480.9; 487.0; 485; 486); (e) The following risk factors were considered: heart disease, neuromuscular disorders, bronchopulmonary dysplasia, Down syndrome, immunodeficiency, congenital anomalies of respiratory system, congenital musculoskeletal anomalies, and cystic fibrosis. Prematurity, low birth weight and exposure to tobacco were separately assessed as they do not correspond to underlying medical condition; (f) Of the respective age cohort; ALRI - Acute lower respiratory infection; RSV - Respiratory syncytial virus.

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