Economic Burden of Adults Hospitalized with Respiratory Syncytial Virus Infection in Spain, 2016–2019

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INTRODUCTION

- Among older adults, an estimated 787,000 Respiratory Syncytial Virus (RSV)-related hospitalizations are projected to be occurring annually in high-income countries[1]. In Spain, hospitalization rates have been reported to be approximately 1.7/100,000 in adults aged ≥60 years (2012-2020)[2] but this rate is underestimated due to infrequent testing[3]
- There is currently no adult cost data of RSV hospitalization in Spain

OBJECTIVES

- To estimate and compare the costs of hospitalized episodes of RSV and influenza by age and risk group
- To quantify the annual hospitalization cost burden of RSV and influenza to the Spanish National Healthcare System

METHODS

Study design

- Retrospective observational study

Data source

- Minimum Basic Data Set (MBDS), hospital discharge database covering >90% of admissions in Spain[4]

Study population

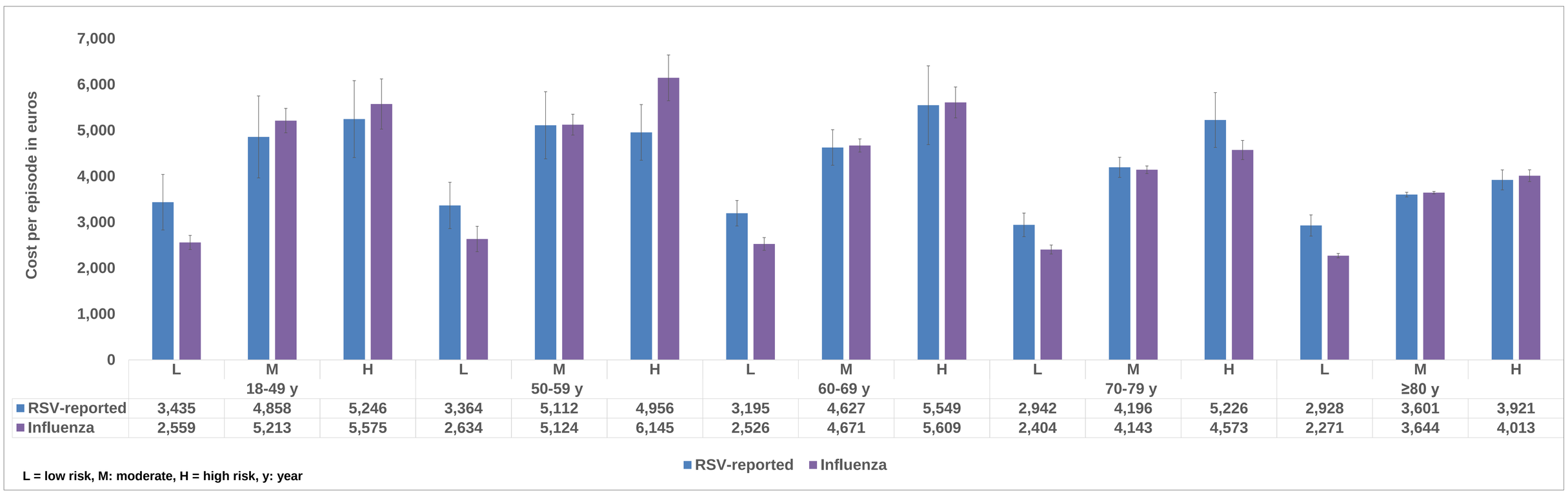
- Adults aged ≥18 years hospitalized for RSV-specific ICD-10 codes (B97.4, J21.0, J12.1, J20.5) and influenza-specific codes (J9, J10, J11) between January 1, 2016 to December 31, 2019

Study outcomes

- Mean cost per hospitalization episode (€, 2022) stratified by age group and risk profile: Low (L): immunocompetent without chronic medical condition, Moderate (M): immunocompetent with chronic medical condition and High (H): immunocompromised
- Total annual hospitalization costs were estimated by combining mean costs per hospitalization episode from this study with hospital incidence data:
  - For RSV, two incidences were considered:
    - 'RSV-reported' based on RSV-specific ICD-codes
    - 'RSV-attributed' based on modelled RSV incidence data (previously reported in the same population) that accounts for the under-ascertainment of RSV[4]
  - Influenza incidence was based on current study

RESULTS

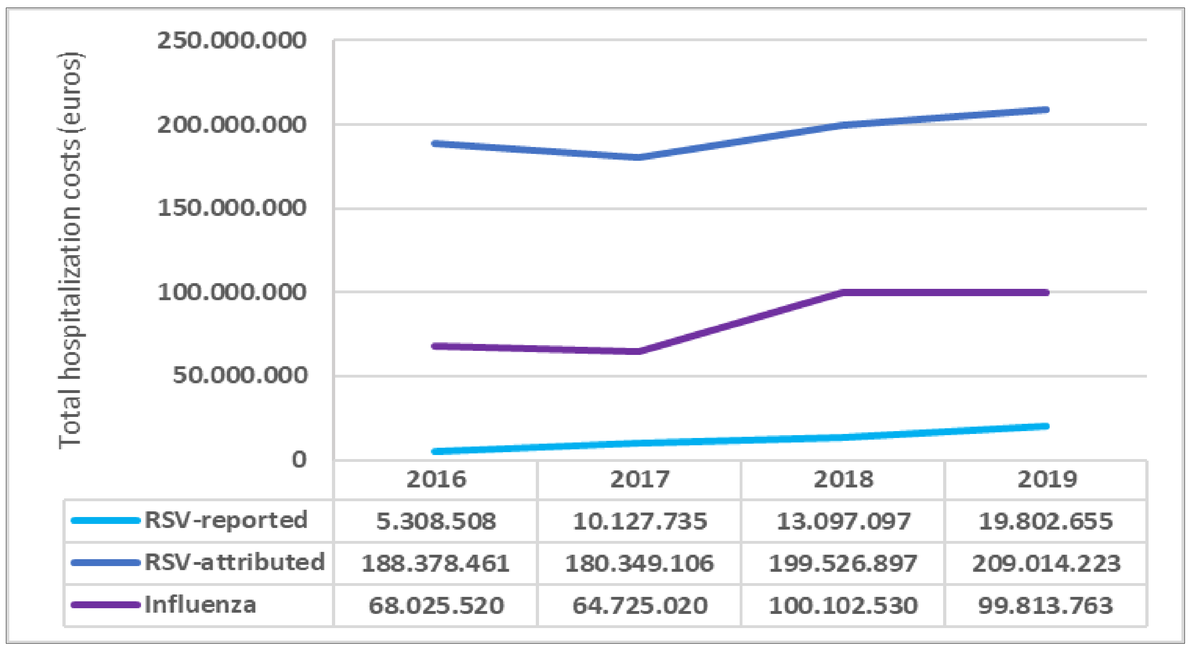
Figure 1. Mean RSV and influenza hospitalization costs per episode (euros) by age and risk group in Spain, 2016−2019



	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
	18-49 y			50-59 y			60-69 y			70-79 y			≥80 y		
RSV-reported	3,435	4,858	5,246	3,364	5,112	4,956	3,195	4,627	5,549	2,942	4,196	5,226	2,928	3,601	3,921
Influenza	2,559	5,213	5,575	2,634	5,124	6,145	2,526	4,671	5,609	2,404	4,143	4,573	2,271	3,644	4,013

- A total of 11,662 adults were hospitalized with RSV-specific codes between 2016–2019 and 79,319 with influenza
- Mean length of stay: 5–12 days for RSV and 5-11 days for influenza, with a higher length of stay in high-risk groups
- Intensive care unit admission: among adults with risk factors (moderate/high-risk) 2–15% for RSV and 2–16% for influenza
- Mean costs per hospitalization episode ranged from €2,928–5,549 for RSV and €2,271–6,145 for influenza (Figure 1)
- RSV mean costs per episode appear higher than influenza costs in low-risk patients of all ages (22% to 34%) and in high-risk patients aged 70-79 years (14%). But seem to be lower in high-risk patients aged 50–59 years (21%) and generally comparable in the rest (<10%) (Figure 1)
- Total mean annual hospitalization costs for RSV in adults were estimated at M(million) €12.1 for RSV-reported incidence and M€194.3 for RSV-attributed incidence vs M€83.2 for influenza (Figure 2)

Figure 2. Total RSV and influenza hospitalization costs in Spain, 2016–2019



	2016	2017	2018	2019
RSV-reported	5.308.508	10.127.735	13.097.097	19.802.655
RSV-attributed	188.378.461	180.349.106	199.526.897	209.014.223
Influenza	68.025.520	64.725.020	100.102.530	99.813.763

CONCLUSIONS

- **In adults, RSV has a substantial economic burden to the Spanish National Healthcare System**
- **The large difference in total hospitalization costs between the RSV-reported and RSV-attributed definitions highlights how total economic burden can be vastly underestimated if RSV hospitalizations are not appropriately corrected for under-ascertainment**
- **If corrected for under-ascertainment, RSV likely has an economic burden greater than influenza**

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DISCLOSURES

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