EE722

Assessing healthcare resource use and economic burden among an older population of patients with respiratory syncytial virus in five European countries using real-world data

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INTRODUCTION & OBJECTIVE

Respiratory syncytial virus (RSV) is a common cause of acute respiratory illness, associated with a substantial epidemiologic burden in older adults (those ≥60 years of age), with recent evidence suggesting a historically underestimated rate of morbidity and mortality[1-4]. Approximately a quarter of older adults infected with RSV require hospitalisation, with 5.0% requiring admittance to an intensive care unit[3]. The objective of this study was to characterise the health/social care resource use, as well as the economic burden among older adults with RSV attending primary and secondary care in five European countries.

METHODS

Data were drawn from the Adelphi Real World RSV Disease Specific Programme™ [5-8], a cross-sectional survey, with retrospective data collection, of healthcare professionals (HCPs) and their RSV patients in France, Germany, Italy, Spain and the United Kingdom (UK) from December 2023 – May 2024. HCPs provided data on healthcare resource use and social care resource use for four consecutively consulting older adults with RSV, whose diagnosis had been confirmed via molecular testing (reverse transcriptase-polymerase chain reaction or rapid antigen testing).

HCPs (geriatricians, infectious disease specialists, pulmonologists and primary care practitioners) provided information, according to the setting patients were seen in and the time since first symptoms were reported, as follows: I-RSV: initial infection seen in primary care (with ongoing RSV symptoms for less than 12 weeks); P-RSV: post-acute RSV, primary care (symptoms ≥12 weeks); H-RSV: hospitalized, secondary care. Analyses were descriptive. Unit costs were derived from literature and applied to the resource use within the output of the descriptive analyses.

RESULTS

Participants

- A total of 1081 HCPs provided data for 2374 patients identified as I-RSV, P-RSV and H-RSV (**Table 1**).

Table 1: PATIENT DEMOGRAPHICS

	I-RSV (n=787)	P-RSV (n=751)	H-RSV (n=836)
Country distribution, n (%)			
France	151 (19.2)	115 (15.2)	159 (19.0)
Germany	180 (22.9)	178 (23.7)	197 (23.6)
Italy	227 (28.8)	229 (30.5)	184 (22.0)
Spain	166 (21.2)	165 (22.0)	182 (21.8)
UK	63 (8.0)	64 (8.5)	114 (13.6)
Age, mean (SD), years	72.0 (8.3)	73.0 (8.1)	74.2 (8.4)
Male, n (%)	394 (50.1)	382 (50.9)	459 (54.9)
BMI, mean (SD), kg/m²	26.1 (3.9)	26.1 (4.4)	26.3 (4.7)
Employment status, n (%)	**n=777**	**n=739**	**n=828**
Retired	542 (69.8)	528 (71.4)	673 (81.3)
Employed (full- or part-time)	120 (15.4)	99 (13.4)	86 (10.4)
Other*	115 (14.8)	112 (15.2)	69 (8.3)
Ethnicity, n (%)†	**n=636**	**n=636**	**n=677**
White	605 (95.1)	609 (95.8)	655 (96.8)
Black African or Caribbean	5 (0.8)	9 (1.4)	9 (1.3)
Other‡	27 (4.2)	20 (3.1)	14 (2.1)
Current/Ex-smoker, n (%)	446 (56.7)	392 (52.2)	351 (42.0)
Currently/ever resided in a long-term care facility, n (%)	80 (10.2)	103 (13.7)	152 (18.2)

BMI, body mass index; H-RSV, hospitalised due to RSV; I-RSV, initial RSV; P-RSV, long RSV; RSV, respiratory syncytial virus; SD, standard deviation
** Other includes long-term sick leave; homemaker; student; unemployed; don't know*
† Other includes East or Southeast Asian; South Asian (Indian subcontinent); Middle Eastern or North African; Other; ‡ Ethnicity not asked in France

Healthcare & Social Care Resource Use (Table 2)

- Over a third of patients were reported by their physicians to have received treatment for their RSV, with approximately two thirds of these receiving ribavirin.
- A total of 60 (7.6%) I-RSV and 109 (14.5%) P-RSV patients had previously been admitted to hospital for RSV.
- Mean (SD) number of nights spent in hospital was 7.7 (5.8) nights for the H-RSV group.
- Most H-RSV patients (82.8%, n=523) were admitted through the emergency room and 68.9% of H-RSV patients (n=576) received oxygen/intravenous fluids.
- Overall, 14.9% of H-RSV patients (n=94) were admitted to the intensive care unit (ICU), staying on average 3.3 (2.1) nights.
- HCPs reported that caregiver support was received by over 39.9% of patients. This was mostly from family/friends. I-RSV patients received on average 39.0 hours per week of caregiver support, with P-RSV and H-RSV patients receiving 41.3 and 46.5 hours, respectively.

Table 2: RSV-ASSOCIATED CARE, SUPPORT, TREATMENT & HEALTHCARE USE

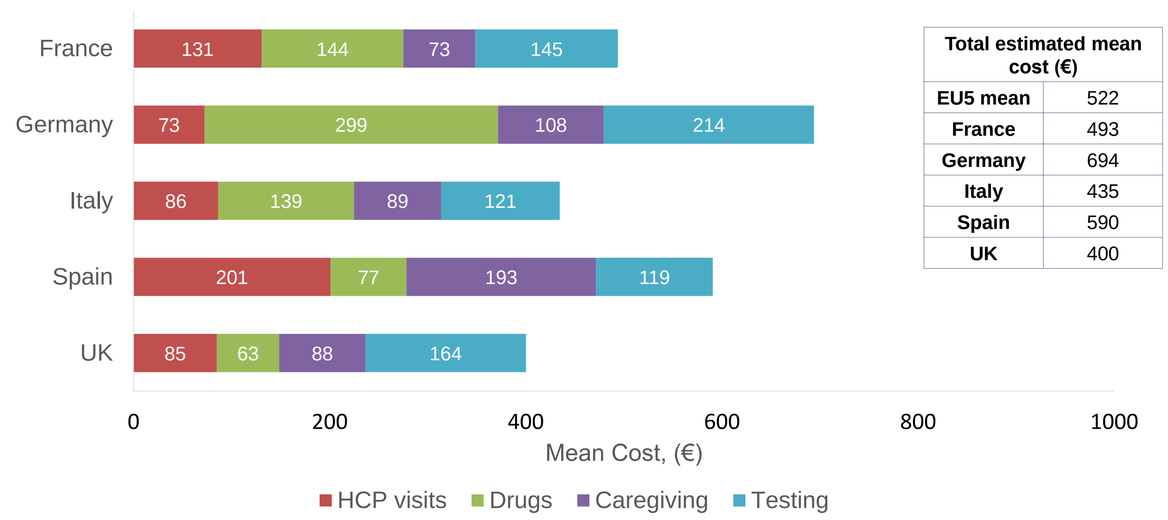
	I-RSV (n=787)	P-RSV (n=751)	H-RSV (n=836)
Caregivers providing support to patients with RSV, n (%)			
Partner/spouse	167 (21.2)	175 (23.3)	219 (26.2)
Professional caregiver(s)	58 (7.4)	81 (10.8)	115 (13.8)
Their child over 18 years	59 (7.5)	78 (10.4)	111 (13.3)
No additional support/care	473 (60.1)	414 (55.1)	417 (49.9)
Total average care per week, mean (SD), hours*	39.0 (53.1)	41.3 (46.1)	46.5 (50.7)
Total number of tests conducted in last 12 months relating to current/most recent RSV infection, mean (SD)	4.0 (4.7)	6.3 (7.3)	9.5 (13.1)
Received testing for suspected pneumococcal infection, n (%)	152 (19.3)	194 (25.8)	410 (49.0)
Currently/previously received pharmacological treatment for RSV, n (%)	276 (35.1)	298 (39.7)	395 (47.2)
Current/most recent pharmacological treatment for RSV received, n (%)	**n=276**	**n=298**	**n=395**
Ribavirin	183 (66.3)	189 (63.4)	269 (68.1)
Other	95 (34.4)	111 (37.2)	133 (33.7)
Received oxygen/IV fluids for current/most recent RSV, n (%)	101 (12.8)	160 (21.3)	576 (68.9)
Received mechanical ventilation for current/most recent RSV, n (%)	8 (1.0)	21 (2.8)	63 (7.5)
Confirmed hospitalized for RSV, n (%)	60 (7.6)	109 (14.5)	785 (93.9)
Type of most recent visit, n (%)	**n=52**	**n=98**	**n=632**
Day case	13 (25.0)	10 (10.2)	42 (6.6)
One or more nights	38 (73.1)	80 (81.6)	555 (87.8)
Don't Know	1 (1.9)	8 (8.2)	35 (5.5)
Admitted through the emergency room in the most recent visit, n (%)	49 (94.2)	83 (84.7)	523 (82.8)
Patient admitted to ICU during most recent hospitalization, n (%)	3 (5.8)	23 (23.5)	94 (14.9)
Total number of nights spent during most recent hospitalization (not ICU), mean (SD), nights	7.5 (7.6)	9.1 (7.7)	7.7 (5.8)
Total number of nights in ICU during most recent hospitalization, mean (SD)	3.7 (3.1)	6.1 (8.4)	3.3 (2.1)

*H-RSV, hospitalised due to RSV; ICU, intensive care unit; I-RSV, initial RSV (symptoms for <12 weeks); IV, intravenous; P-RSV, Post-acute RSV (symptoms for ≥12 weeks); RSV, respiratory syncytial virus; SD, standard deviation; *Among those receiving any care n (%), I-RSV 314 (39.9), P-RSV 337 (44.9), H-RSV 368 (49.3)*

Economic burden

- The expected overall cost for I-RSV patients across all countries was 522€, including 119-214€ for testing and 63-299€ for drug costs (mostly ribavirin).
- HCP visits, caregiving and testing accounted for 22%, 21% and 29% of the mean cost for I-RSV patients, respectively. Pharmacological treatment contributed to 28% of the total mean cost across all countries, ranging from 13% in Spain to 43% in Germany.

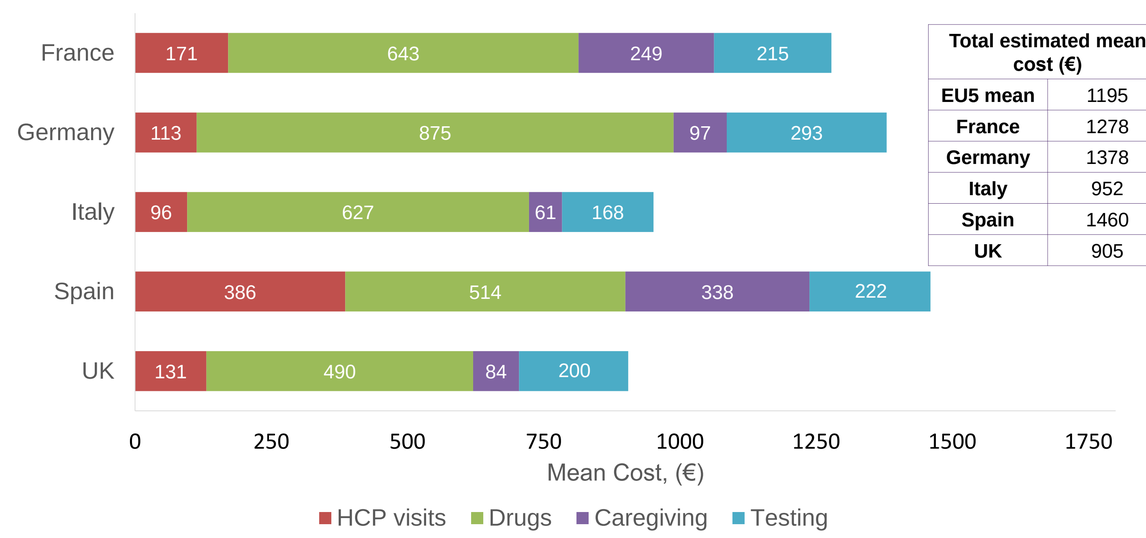
Figure 1: ESTIMATED MEAN COST (€) FOR I-RSV PATIENTS



Total estimated mean cost (€)	
EU5 mean	522
France	493
Germany	694
Italy	435
Spain	590
UK	400

- P-RSV patients, included in this study, had an estimated mean (SD) 7.4 (9.0) months of follow up since onset of RSV symptoms.
- The estimated cost in the 12-months post-initial infection was 1195€ across all European countries, which included 490-875€ for drugs (mostly ribavirin), and similar costs for testing (168-293€).

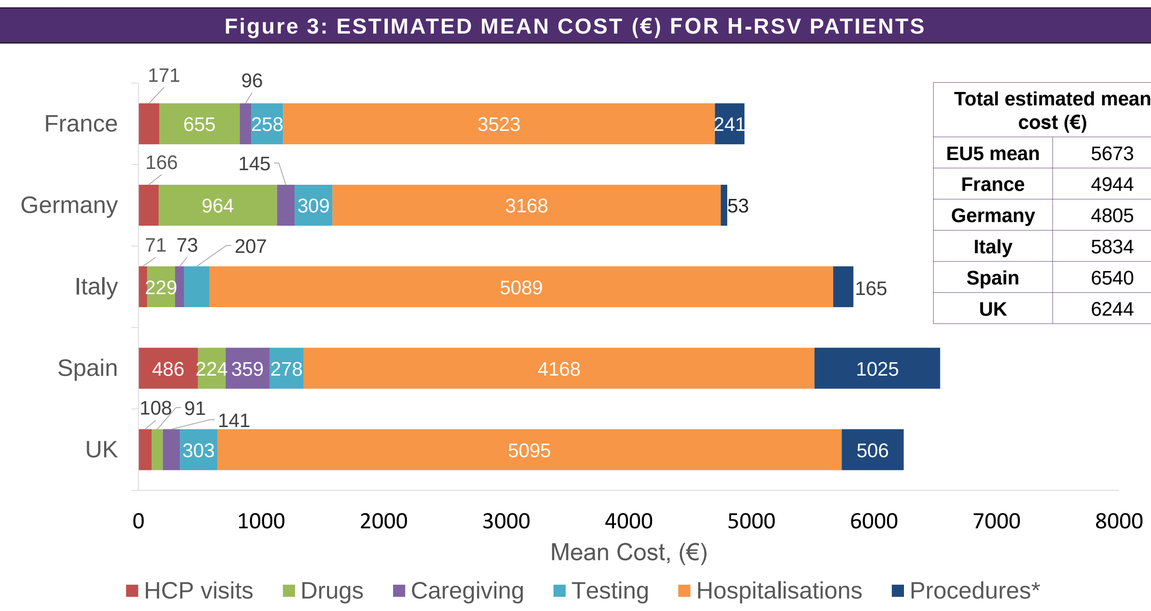
Figure 2: ESTIMATED MEAN COST (€) FOR P-RSV PATIENTS



Total estimated mean cost (€)	
EU5 mean	1195
France	1278
Germany	1378
Italy	952
Spain	1460
UK	905

- For H-RSV patients, the expected cost per patient was 5673€, ranging from 4805€ in Germany to 6540€ in Spain.
- Expected costs for testing and drugs (mostly ribavirin) ranged from 207-309€ and 91-964€, respectively.

Figure 3: ESTIMATED MEAN COST (€) FOR H-RSV PATIENTS



Total estimated mean cost (€)	
EU5 mean	5673
France	4944
Germany	4805
Italy	5834
Spain	6540
UK	6244

**Procedures included mechanical ventilation, receiving oxygen/IV fluids, intubation, receiving feeding tubes, nasal bulb suctioning, lobectomy*

CONCLUSION

There is considerable healthcare, social care and economic burden among patients aged ≥60 with RSV infection in Europe. This burden affects not only patients and their families but also the healthcare system, particularly for patients who are hospitalized or have long-term symptoms of RSV.

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DISCLOSURES

DM, SF, CL, RDV, AL, RB, RS are Pfizer employees and may hold stocks. MH, KL, EQ, TH, are employed by Adelphi Real World which received funding from Pfizer Inc for this study. The Disease Specific Programme is a wholly owned Adelphi Real World product, of which Pfizer is one of multiple subscribers.

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