



# A cost-of-illness study of psoriatic arthritis in Spain

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## Introduction

- Psoriatic arthritis is a chronic autoimmune disease characterized by inflammatory arthritis in association with skin psoriasis
- Psoriatic arthritis has a profound impact on patient wellbeing and on society in terms of medical costs and work disability (Ackermann 2008, Oliveri 2009, Salaffi 2009)
- Tumour necrosis factor (TNF) antagonists (biological therapies) have revolutionized the treatment of psoriatic arthritis. These drugs reduce signs and symptoms of inflammation, improve quality of life and functional status and inhibit the progression of structural damage in peripheral joints (Mease 2004, Mease 2005, Kavanaugh 2006, Woolacott 2006)
- Relatively little information is available in the literature concerning the cost of psoriatic arthritis in Spain

## Objective

- To estimate the annual direct and indirect costs of psoriatic arthritis patients in Spain, and to identify key cost drivers

## Methods

- Study design**
  - Cross-sectional, observational and retrospective study undertaken at 18 Spanish centres
  - Psoriatic arthritis-related resources measured directly from patient notebooks
- Cost estimation**
  - Cost evaluation (€, 2008 values) included direct medical costs, non medical costs and indirect costs
  - Unit cost data were collected from:
    - The Spanish Database of Health Costs SOIKOS (Gisbert 2005)
    - The Spanish Catalogue of Medicinal Products (Consejo General de Colegios de Farmacéuticos 2008)
- Data collection**
  - Demographical and clinical data
  - Direct medical resources: inpatient hospitalisation, surgeries, visits (specialists, emergency room, nursery, general care, alternative medicine), diagnostic procedures, laboratory tests, hospital and non-hospital prescription drugs, non-prescription drugs paid by the patients, hospital day-care facilities for the administration of biological therapies and phototherapy sessions
  - Direct non medical resources: out-of-pocket expenses paid directly by patients (disease-related investments), formal caregivers (paid by patients) and social assistance visits (paid by Public Health Authorities)
  - Indirect resources: productivity losses (hours / days missed through patient notebooks)

## Results

- Data available on 287 patients with psoriatic arthritis
  - Mean age: 52.40 years
  - Men: 55.7%
  - Mean disease duration: 10.85 years
  - Patients receiving biologic therapy during the study period: 24.7%
- Average annual cost per patient with moderate to severe psoriasis is € 6,914
- Direct medical costs accounted for € 5,653 (82% of total costs). The key drivers of direct medical costs are:
  - Hospital prescription medication: € 3,349 (48% of total costs)
  - Outpatient visits (specialist): € 465 (7% of total costs)

- Direct non-medical costs represent €140 (2% of total costs). The key driver of direct non-medical costs is:
  - Out-of-pocket expenses paid directly by patients (disease-related investments): € 79 (1% of total costs)
- Indirect costs accounted for €1,121 (16% of total cost)

Figure 1: Percentage of total annual cost of a patient with psoriatic arthritis

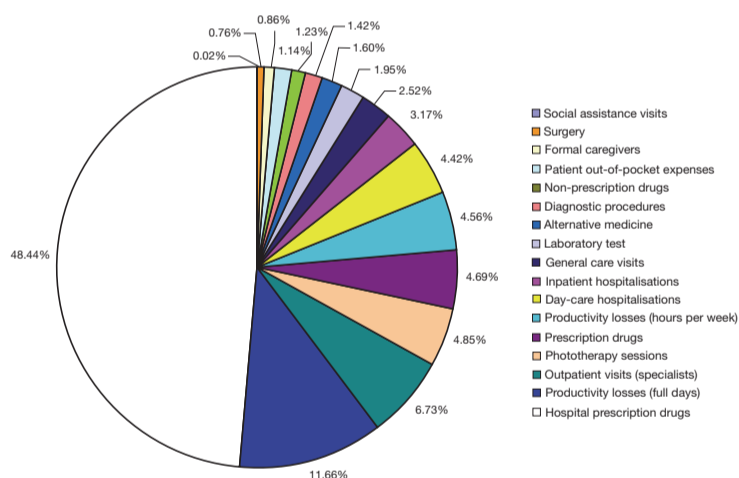


Table 1. Demographical and clinical data

Parameter	Value
Age, years	
Mean (SD)	52.40 (12.53)
Range	20-84
Disease duration, years	
Mean (SD)	10.85 (9.62)
Range	0-47
Males, %	55.7
Number of swollen joints	
Mean (SD)	2.62 (4.05)
Range	0-32
Number of tender joints	
Mean (SD)	4.97 (6.85)
Range	0-49
Psoriasis area and severity index (PASI)	
Mean (SD)	3.73 (5.83)
Range	0-51
Patients receiving biologic therapy, %	24.7
Work situation, %	
Employed	55.1
Unemployed	1.4
Housewife	15.7
Disability retirement	15.7
Retirement	12.2

Table 2: Annual consumption of resources per patient with psoriatic arthritis. Units, mean values and 95% confidence interval lower limit (CI 95% LL) and upper limit (CI 95% UL)

Resource Category	Unit	Mean	CI 95% LL	CI 95% UL
<b>Direct medical costs</b>				
Hospital prescription drugs	€ 2008	3,348.91	3,168.72	3,545.62
Outpatient visits (specialists)	visits	113.168	8.2832	14,4292
Phototherapy sessions	sessions	1.7980	0.0000	3.9212
Prescription drugs	days	612.8760	347.2044	931.0680
Day-care hospitalisations	days	7.2122	6.8241	7.6358
Inpatient hospitalisations	days	0.7003	0.1784	1.2223
General care visits	visits	10.7876	8.5316	13.0432
Laboratory tests	number	8.5856	7.6044	9.5664
Alternative medicine	visits	4.1256	1.5180	5.5700
Diagnostic procedures	number	2.0175	1.4051	3.1149
Non-prescription drugs	€ 2008	84.72	16.90	179.81
Surgery	surgeries	0.0593	0.0000	0.0223
<b>Direct non-medical costs</b>				
Patient out-of-pocket expenses	€ 2008	78.75	0.00	157.53
Formal caregivers	hours	8.5124	4.3056	19.0372
Social assistance visits	visits	0.0556	0.0000	0.1424
<b>Indirect costs</b>				
Productivity losses (full days)	days	12.7524	6.1956	19.3104
Productivity losses (hours)	hours	39.8268	20.1188	59.5296

Table 3: Total estimated annual cost per patient with psoriatic arthritis (€, 2008). Mean values, 95% confidence interval lower limit (CI 95% LL) and upper limit (CI 95% UL)

Resource Category	Mean	CI 95% LL	CI 95% UL
Hospital prescription drugs	3,348.91	3,168.72	3,545.62
Productivity losses (full days)	806.46	391.81	1,221.19
Outpatient visits (specialists)	465.34	334.91	600.09
Phototherapy sessions	335.21	0.00	731.05
Prescription drugs	324.30	152.22	515.78
Productivity losses (hours per week)	315.03	159.14	470.88
Day-care hospitalisations	305.91	289.45	323.88
Inpatient hospitalisations	219.23	55.85	382.65
General care visits	173.96	138.28	209.63
Laboratory tests	134.52	120.73	148.30
Alternative medicine	110.42	33.57	133.95
Diagnostic procedures	98.14	56.80	180.18
Non-prescription drugs	84.72	16.90	179.81
Patient out-of-pocket expenses	78.75	0.00	157.53
Formal caregivers	59.59	30.14	133.26
Surgery	52.33	0.00	92.19
Social assistance visits	1.43	0.00	3.67
<b>Total</b>	<b>6,914.24</b>	<b>4,948.52</b>	<b>9,028.65</b>

## Conclusions

- Psoriatic arthritis is associated with a remarkable burden of illness in Spain, resulting in significant direct and indirect costs
- The mean annual cost per patient with psoriatic arthritis is € 6,914
- Direct costs and indirect cost (loss of productivity) represent 84% and 16% of total costs, respectively

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