

Supplementary material

Supplementary Table 1. ICD-9-CM Codes for selected comorbidities

Description	ICD-9 Code
arterial hypertension	401
diabetes mellitus	250
dyslipidemia	272
obesity	278.0
ischemic heart disease	410 - 414
cerebrovascular accident	430 - 434
COPD	415.0, 416.8, 416.9, 490 – 496, 500 – 505, 506.4
heart failure	402.11, 402.91, 402.01, 404.01, 404.03, 404.11, 404.93, 425, 428
kidney failure	584, 585
depression	311
general anxiety	300
malignant neoplasm	140 - 209
asthma	493
allergic rhinitis	477.9
nasal polyps	471
psoriasis	696.1
rheumatoid arthritis	714.0
other autoimmune pathologies	279.4

Supplementary Table 2. ATC Codes for treatments

Description	ATC Code
<i>Systemic Treatments</i>	
Oral corticosteroids	H02A
Immunosuppressants	cyclosporine (L04AD01), azathioprine (L04AX01), methotrexate (L04AX03), mycophenolate mofetil (L04AA06), biological drugs: dupilumab (D11AH05), omalizumab (R03DX05), rituximab (L01XC02)
Other systemic drugs	immunoglobulins (J06B*), interferon gamma (L03AB*) and hydroxychloroquine (P01BA02)
<i>Non-systemic and concomitant treatments</i>	
Topical corticosteroids	D07AB, D07AC, D07AD
Topical immunomodulators	tacrolimus (D11AH01); pimecrolimus (D11AH02)
Antihistamines	R06
Antibiotics	J01
Antidepressants	N06A

Supplementary Table 3. Unit costs (2019)

Healthcare and non-healthcare resources	Unit costs (€)
<i>Medical visits</i>	
Primary Care Medical Visit	23.2
Hospital A&E Medical Visit	117.5
Hospitalization (one day)	480.9
Specialized Care Medical Visit*	92.5
Pain Clinic Visit	185.0
<i>Complementary tests</i>	
Laboratory Tests	32.3
Conventional radiology	28.5
Computerized axial tomography	96.0
Nuclear magnetic resonance	177.0
Other diagnostic tests	47.1
<i>Pharmaceutical prescription</i>	PVPiva
<i>Work productivity losses - Indirect costs</i>	
Cost per non-worked day	101.21

2019 Unit Costs

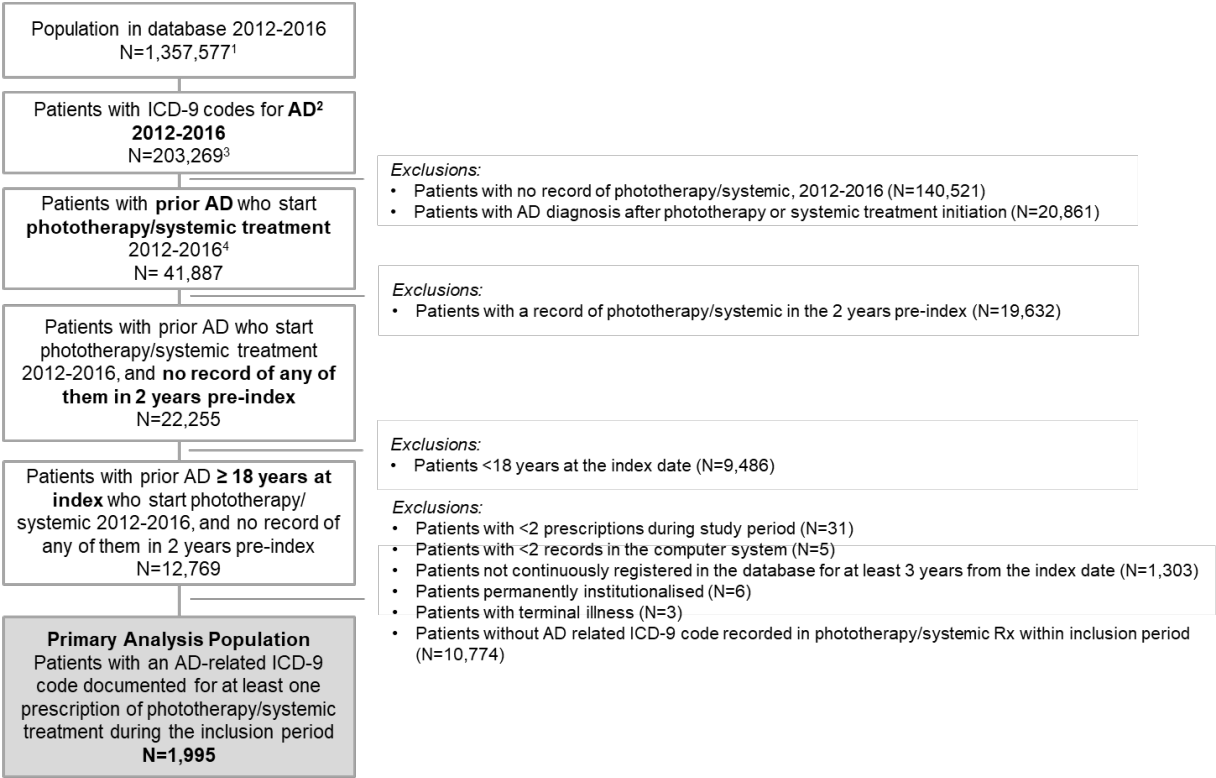
Source of healthcare resources: own analytical accounting and INE.

Values expressed in Euros.

RRP: Recommended Retail Price.

**: Only in dermatology, internal medicine and allergy departments.*

Supplementary Figure 1: Flowchart of patient disposition



¹ 202,753 <18 years and 1,154,824 ≥ 18 years

² AD-related ICD-9 Codes: 691.8 ('Other atopic dermatitis and related conditions') and 692.9 ('Contact dermatitis and other eczema, unspecified cause' with 'allergic' or 'atopic' in the 'description' field of diagnosis in the database)

³ 68,987 <18 years and 130,282 ≥ 18 years

⁴ the date of first systemic treatment initiation or phototherapy between 01/01/2012 and 31/12/2016 is defined as the index date