Appendix S1

SUPPLEMENTARY METHODS

Among the patients with a diagnosis of psoriasis in SHCR and VEGA, the following patients (along with corresponding referents) and referents were excluded: individuals with re-used patient identification numbers (PINs); patients without a primary diagnosis of psoriasis; patients who were prescribed a traditional systemic or biologic by a non-dermatologist and had a registered diagnosis other than psoriasis for which the treatments are licensed (STable I); individuals without complete follow-up in 2010.

Hence, all patients and referents in the analysis of costs of in 2010 were alive and resided in the relevant regions from 1 January 2010 to 31 December 2010; the period during which patients and referents were followed for estimation of costs. The sequential sample selection of study patients is exhibited in Fig S1.

Patients were stratified according to the most potent treatment modality they were treated with during 2010, with treatment modalities classified as described in Table SII.

HCRU costs

All the costs from SHCR, VEGA, SPDR, and MiDAS were derived in Swedish Krona (SEK) and transformed to USD using a USD/SEK exchange rate of 7.38 (19 November 2014). In the discussion section, cost estimates presented in EUR were transformed to USD using an USD/EUR exchange rate of 0.82 (19 November 2014).

Outpatient care consisted of primary care and specialist outpatient care visits and were costed at USD 179 if the responsible personnel was a medical doctor and USD 68 otherwise, reflecting Västra Sjukvårdsregionens 2010 price list. Cost of inpatient care episodes were based on the diagnosis related groups (DRG) points and a cost per DRG point of USD 4,353.

Psoriasis medication was defined as dispensed prescriptions for medications used to treat psoriasis, whereas other medication was defined as all other dispensed prescriptions. For prescribed medications, the maximum co-payment per year is USD 298 and any expense above this amount is covered by the government. Hence, the costs for dispensed prescriptions were the sum of the costs to the patient and the government. Total costs were defined as the sum of the 4 individual cost categories.

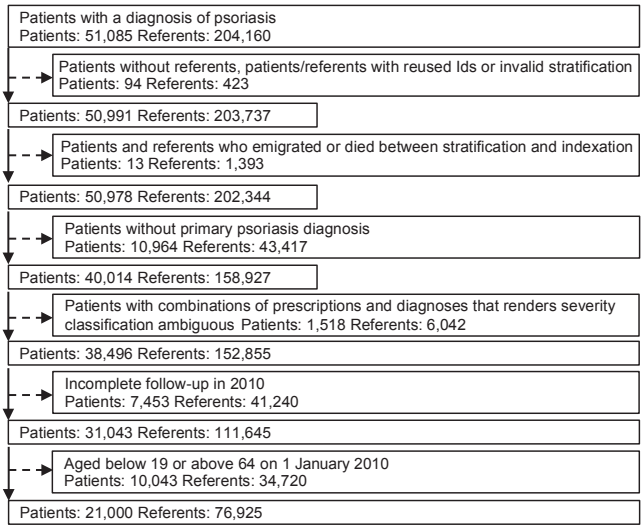
Costs of productivity losses

In Sweden, an individual who is employed, self-employed, registered unemployed, on parental leave, or on leave with pregnancy benefits, and cannot work due to an illness or symptoms of a temporary nature, is paid sickness benefit from the sickness insurance, which covers all Swedish residents who, prior to receiving this benefit, had a steady income for at least 6 months. Sickness benefit can be paid at the levels of 25%, 50%, 75% or 100% of full-time employment salary (up to a ceiling), depending on the extent of the sick leave. Employed individuals are paid sickness benefit after day 14 of the sick leave, whereas all other categories listed above receive sickness benefit from day 2 of the sick leave. Whilst MiDAS provide data on the entire sickness episode, including start date, the register only captures episodes for which sickness insurance payments are made, resulting in that episodes lasting less than 14 days are typically not registered. Activity compensation (for those under 30 years of age) and sickness compensation (for those over 30 years of age) are provided to individuals who cannot work full-time due to injury, sickness, or disability. Whilst both sickness and activity compensation are re-evaluated at least every 3 years, individuals who receive sickness compensation are typically expected to be unable to return to full-time employment[1].

The numbers of net days (full-time equivalent days) with sickness compensation and sickness or activity compensation

STable I. *Diagnosis codes used to identify diseases for which relevant systemic treatments are indicated*

Indication	ICD-10 codes
Psoriatic arthritis	L40.5, M07.0–M07.3, M09.0
Non-psoriatic arthritis rheumatoid disease	M05–M06, M08, M45
Gastrointestinal disease	K50.0, K50.1, K50.8, K50.9, K51.0, K51.2, K51.3, K51.4, K51.5, K51.8, K51.9



SFig. 1. Sequential sample selection of study subjects. *Reused PINs are a rare anomaly of the Swedish PIN-system. Reused PINs predominately stem from a discontinued practice of assigning immigrants with uncertain date of birth, January 1 or June 31 as date of birth.

STable II. *Treatments used to stratify patients into treatment class*

Treatment	ATC/Procedure code
Topicals	
Calcipotriol	D05AX02
Calcipotriol glucocorticoids fixed combination	D05AX52
Mometasone	D07AC13
Emollients	D02A
Traditional systemics	
Acitretin	D05BB02
Cyclosporine	L04AD01
Methotrexate	L04AX03
Biologics	
Efalizumab	L04AA21
Etanercept	L04AB01
Infliximab	L04AB02
Adalimumab	L04AB04
Ustekinumab	L04AC05
Phototherapy	
Phototherapy PUVA, oral	DQ010
Phototherapy PUVA, bath	DQ011
Phototherapy UVA	DQ012
Phototherapy UVB	DQ014
Genz rays	DQ009

ATC: Anatomical Therapeutic Chemical code.

were derived and assigned unit costs using the human capital approach (13). The unit cost for a day of lost work was set at USD 166, based on the mean monthly wage (including employer's contribution) in Sweden in 2010[2]. Total costs were defined as the sum of the 2 cost categories.

[1]Försäkringskassan. Förändringar inom socialförsäkrings- och bidragsområdena 1968-01-01–2011-07-01; 2011: 2-61 (in Swedish)

[2]Statistics Sweden Lönedatabasen. 2014 2014 [cited 2014 8/7/2014]; Available from: http://scb.se/lonedatabasen/