

# Epidemiological Disease Burden and Cost of Illness of Psoriasis in the US

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## Introduction

- Psoriasis is a very common chronic inflammatory disease that affects

2-3% of the world's population<sup>1</sup>



8 million people in the US<sup>1</sup>



- The cost of illness is an important metric for psoriasis because it can explain the economic burden of the disease. Also, psoriasis patients can have comorbidities like psoriatic arthritis, cardiovascular conditions, mental health conditions like depression, and malignancies, which may further increase the cost.

## Objective

The aim of this study is to determine and comprehend the disease burden of psoriasis, as well as the cost of psoriasis illness in the US.

## Method

- In this retrospective study, Optum's de-identified administrative claims database was used to identify psoriasis patients from 2016 to 2020 in the US.
- For each year, unique patients with 2 or more claims for psoriasis (ICD-10-CM codes: L40.0, L40.1, L40.2, L40.3, L40.4, L40.8, and L40.9) were identified.
- The total and average medical and pharmacy costs for each year were calculated. These costs were further adjusted for inflation.
- Identified and compared the number of the psoriatic patients who were on non-biologics and biologics\*.

## Results

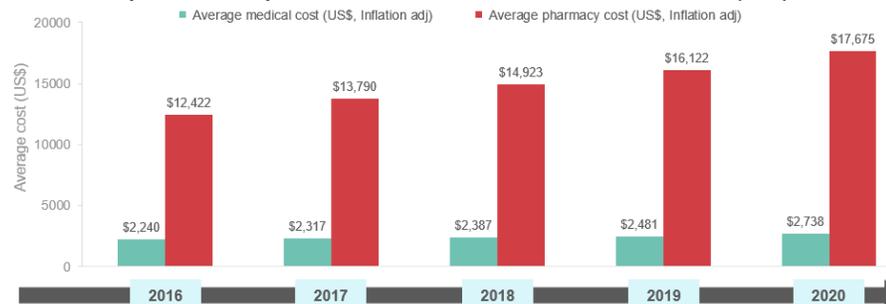
- The total number of patients suffering from psoriasis increased from 136,907 in 2016 to 168,714 in 2020 at a compound annual growth rate (CAGR) of 5.4%. The prevalence of psoriasis (per 1000 population) increased from 4.2 in 2016 to 5.5 in 2020.
- In 2016, 15.6% of the total psoriatic patients were taking biologics and this percentage increased to 18.2% in 2020.
- Average medical cost per member per year increased from \$2,240 to \$2,738 and pharmacy cost per member per year increased from \$12,422 to \$17,675 from 2016 to 2020. The total medical and pharmacy cost of psoriasis was \$1.35 billion in 2020 for 168,714 patients, which increased since 2016. The cost was adjusted for inflation.

Graph 1: Prevalence (per 1,000 population) of Psoriasis in Optum's de-identified claims database for the US

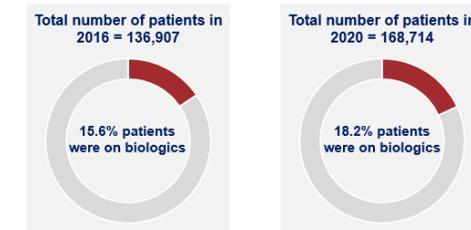


Year	2016	2020
Total number of psoriasis patients in Optum's de-identified claims database for the US (A)	136,907	168,714
Total member coverage in Optum's de-identified claims database for the US (B)	32,519,450	30,933,086
Prevalence (per 1000 population) of Psoriasis (A*1,000/B)	4.2	5.5

Graph 3: Average medical and pharmacy cost per patient per year for psoriasis in Optum's de-identified claims database for the US (US\$)



Graph 2: Percentage of patients taking biologics in Optum's de-identified claims database for the US



## Conclusion & limitations

- The prevalence and average medical and pharmacy costs for psoriasis have increased over the years. Our study demonstrated that psoriasis has a substantial economic burden on the health care system.
- By measuring and forecasting the economic burden, health care decision-makers can benefit in setting-up and prioritizing health care policies and interventions for early diagnosis and better treatment management.
- It is also important to understand the cost per claim and patient journey in order to understand the use of biologics and management of cost.
- Limitations:
  - The current data used in this research is limited to patients who had commercial and Medicare part D Insurance.
  - The impact of COVID-19 on psoriasis patients was not studied.



Reference: 1. Psoriasis statistics (Link: <https://www.psoriasis.org/psoriasis-statistics/>)

\*Biologics(37 drugs)- Taltz, Humira, Cosentyx, Skyrizi, Stelara, Siliq, Ilumya, Cimzia. Remicade, Tremfya, Enbrel etc. Non-biologics(139 drugs)- Azathioprine, Azulfidine, Cellcept, Droxia, Gengraf, Hydrea, Methotrexate, Talwin, Tazorac, Xeljanz, Ala-cort, Amcinonide, Azasan, Betamethasone, Calcipotriene, Calcitriol, Capex shampoo, Clobex, Clodan, Olux, Pandel, Neoral, Sernivo etc.