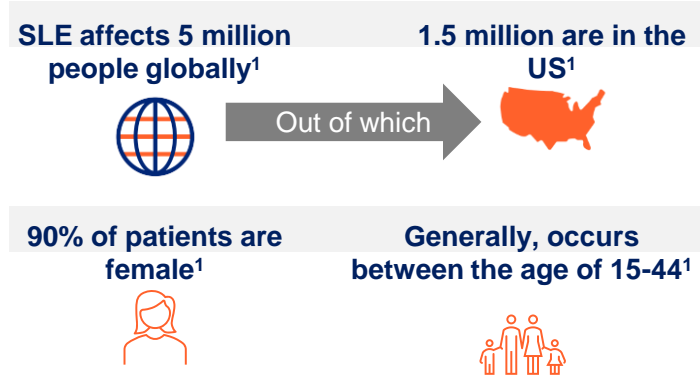


Epidemiological Disease Burden and Cost of Illness for Systemic Lupus Erythematosus (SLE) in the US

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Introduction

- SLE is an autoimmune disease that is inflammatory and can cause tissue damage in multiple organs.



- SLE has no cure, therefore, it is important to know the burden of disease and the cost of illness of disease to support other research and educational purposes.

Objective

The aim of the study is to measure the epidemiological disease burden and analyze the cost of illness for SLE in the US.

Method

- In this retrospective study, Optum’s de-identified administrative claims database was used to identify SLE patients from 2016 to 2020 in the US.
- For each year, unique patients with 2 or more claims for SLE (ICD-10-CM code: M 32.9) were identified.
- The total and average medical and pharmacy costs for each year were calculated. These costs were further adjusted for inflation.

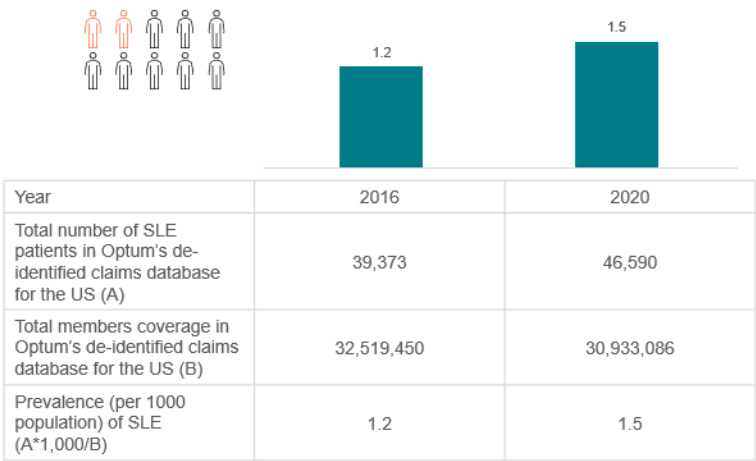


Reference: 1. SLE statistics (Link: <https://www.lupus.org/resources/lupus-facts-and-statistics>)

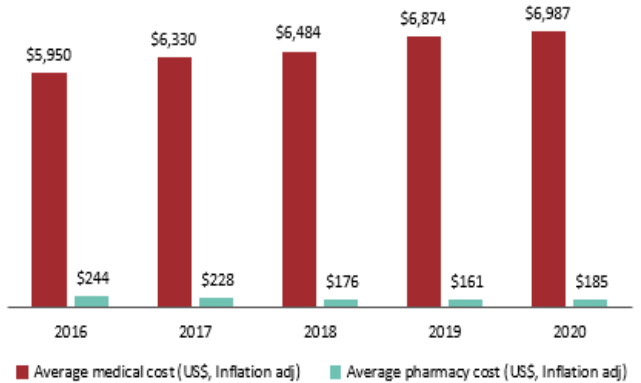
Results

- The total number of patients suffering from SLE increased from 39,373 in 2016 to 46,590 in 2020 at a compound annual growth rate (CAGR) of 4.3%. The prevalence of SLE (per 1000 population) increased from 1.2 in 2016 to 1.5 in 2020.
- Average medical cost per member per year increased from \$5,950 to \$6,987 and pharmacy cost per member per year decreased from \$244 to \$185 from 2016 to 2020. The total medical and pharmacy cost of SLE was \$327 million in 2020 for 46,590 patients, which increased since 2016. The cost was adjusted for inflation.

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



Graph 2: Average medical and pharmacy cost per patient per year for SLE in Optum’s claims database (US\$)



Conclusion & limitations

- The prevalence and average medical cost for SLE have increased over the years, whereas the pharmacy cost for SLE has decreased.
- Further analysis can be performed on the SLE disease burden for different socioeconomic groups and explore the impact of disparities associated with income, race, and health insurance status.
- 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 SLE patients was not studied.