RWD99

Characterization of Comorbidities and Economic Burden in US Medicare Beneficiaries with Systemic Lupus Erythematosus with and without Lupus Nephritis

AUTHORS

Aaksa Nair* aaksa.nair@alirahealth.com

Ben Wilson* ben.wilson@alirahealth.com

Hannah Buser* hannah.buser@alirahealth.com

Heather Gerstley* heather.gerstley@alirahealth.com

Jean-François Ricci** jf.ricci@alirahealth.com

Bob Delise* bob.delise@alirahealth.com

* Alira Health Boston ** Alira Health Basel

INTRODUCTION[1]

> Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that can cause symptoms like muscle/joint pain, fevers, rashes, and kidney problems.

> Prevalence in the US is estimated to be between 150,000 – 350,000 patients and can affect people of any age, with women between the ages of 15-44 years being at greatest risk for developing SLE. Over the lifetime course of SLE, up to 50% of adult patients develop kidney disease or lupus nephritis (LN) and between 10 to 30 percent of those develop kidney failure.[2]

> SLE can limit a person's physical, mental, and social functioning. These limitations experienced by people with SLE can impact their quality of life.

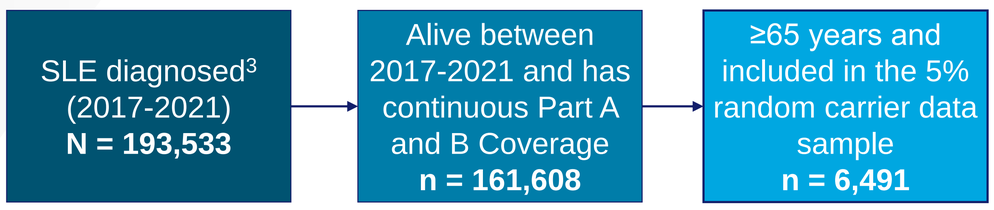
OBJECTIVES

> The objective of this study is to assess the burden of SLE with and without LN among elderly US Medicare beneficiaries through prevalence of disease, comorbidities, and cost of care.

METHODOLOGY

> A retrospective analysis was conducted using Medicare Limited Data Set (LDS) inpatient, outpatient, and carrier claims (2017-2021) for SLE diagnosed patients who were identified using ICD-10-CM codes (M32.XX).[3]

> Patients were aged ≥65 years in 2017, alive with continuous Part A/B coverage over the 5-year study period and included in the 5% random carrier data sample.



> Average Medicare cost of care[7] in US dollars from inpatient, outpatient and carrier datasets, patient admission rates, and the prevalence of common comorbidities in patients with LN (Cohort A) or without LN (Cohort B) were determined over the 5-year study period.

> LN patients were identified by ≥2 ICD-CM codes (N00.XX-N08.XX, N17.XX-N19.XX, M321.4) for kidney/glomerular diseases across the study period.[4]

RESULTS

Patient Demographics			
	All Patients	Cohort A (SLE + LN)	Cohort B (SLE – LN)
n	6,491	2,482	4,009
Median age (2021)	75 years	76 years	74 years
% Female	85%	82%	86%
Age Breakdown in 2021 (%)			
69-75	54%	47%	58%
76-85	38%	42%	35%
86+	8%	11%	6%
Age Range	69-98 years		
Race Breakdown (%)			
White	82%	80%	84%
Black	11%	14%	9%
Hispanic	2%	2%	2%
Other	5%	4%	5%

% Prevalence and Average Total Annual Cost of Care by Comorbidity Presence (USD)[5,7]

	Total: n=6,491 %, $	SLE + LN: n=2,482 %, $	SLE – LN: n=4,009 %, $
Cardiac Issues	88%, $12.6k	96%, $16.5k	83%, $9.9k
Diabetes	42%, $14.0k	51%, $18.1k	36%, $10.4k
Any Cancer	26%, $16.0k	29%, $20.7k	23%, $12.4k

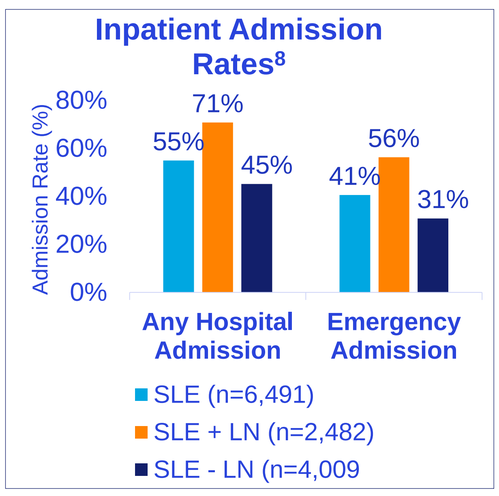
*differences in prevalence of comorbidities between subgroups are statistically significant (P<0.001 using a X^2 test), comorbidities are not mutually exclusive

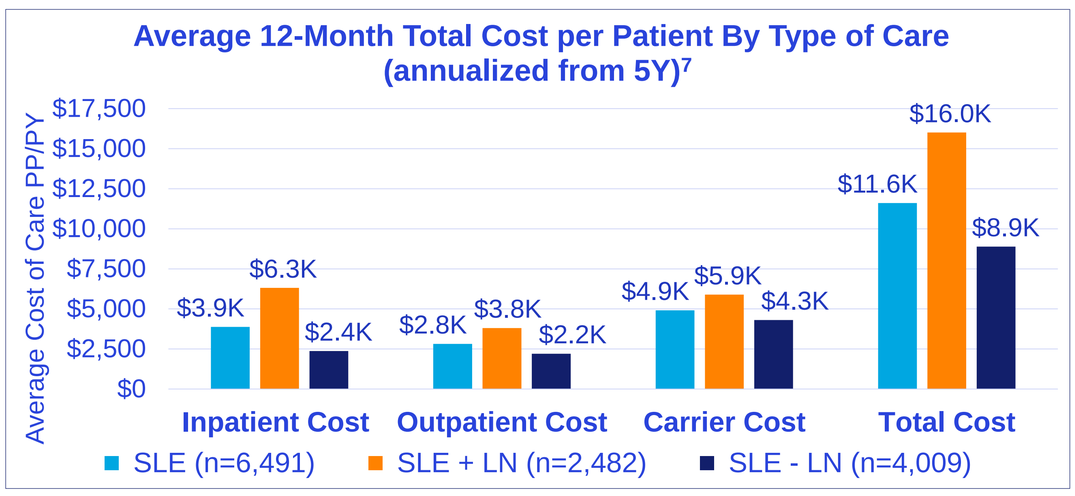
> Of the 6,491 eligible SLE patients, 38% had SLE with LN (Cohort A) and 62% had SLE without LN (Cohort B).

> Patients in Cohort A were significantly more likely to be admitted for inpatient care throughout the study period than those in Cohort B (71% vs. 45%, p<0.001) and had an 80% higher average Medicare annual cost of care (~$16,000 vs. ~$9,000 per patient, p<0.001).

> Top 3 reasons for all inpatient admission claims across the study period were sepsis (6%), kidney disease with heart failure (4%) and acute kidney failure (3%) in Cohort A and osteoarthritis (10%), sepsis (8%) and pneumonia (4%) in Cohort B.

> The mean cumulative inpatient admissions across the 5-year study period were 3.4 vs. 2.1 for the SLE+LN and SLE-LN cohorts, respectively.





> 8% of patients in the SLE+LN cohort and 2% of patients in the SLE-LN cohort had at least one claim for dialysis[6].

> Average annual total Medicare cost of care[5, 7] (USD) annualized from the 5-year study period was evaluated for SLE patients with LN (~$16k), cancer (~$16K), diabetes (~$14K), and cardiovascular issues (~$12K), highlighting the difference in cost for patients with comorbidities versus the general SLE population (~$11.6K).

CONCLUSION

> In this analysis of US Medicare Part A/B claims, patients included in the 5% random carrier data sample with SLE and LN suffered higher disease burden, presented a larger number of comorbidities, more kidney related admissions, and exacted greater cost of care than patients with only SLE.

> Additional research is warranted to further characterize differences in burden of disease, financial disparities, and impact in outcomes within this population.

REFERENCES/FOOTNOTES

1. Centers for Disease Control and Prevention (2022) - Systemic Lupus Erythematosus (SLE). cdc.gov/lupus/facts/detailed.html
2. Maroz N, Segal MS. Lupus nephritis and end-stage kidney disease. Am J Med Sci. 2013 Oct;346(4):319-23. doi: 10.1097/MAJ.0b013e31827f4ee3. PMID: 23370533.
3. SLE patients were defined as those with ≥1 inpatient OR ≥1 outpatient OR ≥2 carrier claims with an ICD-10-CM diagnosis code (M32) between January 2017 - September 2021
4. LN ICD10 codes: N00.XX-N08.XX, N17.XX-N19.XX, M321.4
5. Comorbidities were identified by the presence of ICD-10-CM diagnosis codes across inpatient, outpatient, and carrier files in the 5-year study period.
6. Dialysis was identified by the presence of ICD-10-PCS codes in the inpatient or outpatient settings across the study period.
7. Total costs calculated are the sum of inpatient, outpatient, and carrier costs to Medicare Part A and B, annualized from the 5-year period. Other costs associated with the disease are not accounted for in this analysis.
8. A hospital claim is any inpatient claim with facility type coded as hospital. An emergency claim is a hospital claim where the type/priority of admission is coded as emergency.

AliraHealth

DOWNLOAD THE DIGITAL VERSION

Scan this QR code to download a copy of the poster.

Please note that reproducing copies of this poster and additional content via the Quick Response (QR) code is prohibited without permission from the authors.