

# Adherence to EULAR Recommendations and Sub-optimal Management of Systemic Lupus Erythematosus in a Network of Community-Based Rheumatology Practices in the United States



Jeffrey R. Curtis MD MS MPH<sup>1,3</sup>, Emily E. Holladay MPH<sup>1</sup>, Amy S. Mudano MPH<sup>3</sup>, Emily Smitherman MD MS<sup>1</sup>, Fenglong Xie PhD<sup>1,3</sup>, Shanette G. Daigle MPH<sup>2</sup>, Yujie Su MS<sup>3</sup>, Mawuena Binka PhD MPH<sup>4</sup>, Gelareh Atefi MD<sup>4</sup>, Rana Muhammad Qasim Khan MBBS<sup>4</sup>, Tope Olufade PhD MPH<sup>4</sup>

1. University of Alabama at Birmingham, Birmingham, AL, USA; 2. Foundation for Advancing Science, Technology, Education, and Research, Birmingham AL, USA; 3. Illumination Health, Hoover, AL, USA; 4. AstraZeneca, Wilmington, DE, USA

Poster #: 2409

## Why did we perform this research?

- Despite new developments in Systemic Lupus Erythematosus (SLE) treatment and treatment guidelines, the clinical management of SLE is often sub-optimal.
- Aim:** To describe the characteristics of patients with SLE with sub-optimal disease control who could potentially benefit from treatment optimization.

## How did we perform this research?

- Source:** Excellence Network in Rheumatology (ENRGY) practice-based research network data warehouse, 1/2016-4/2024 linked to Komodo Healthmap commercial & governmental claims data during overlapping time periods.
- Cohort:**
  - a) ≥18 years with ≥2 ICD10 for SLE (codes beginning with M32.\* (excluding M32.0) within 30-365 days),
  - b) ≥12 months of EHR data,
  - c) active in EHR within 6 months prior to 4/30/2024, AND
  - d) ≥12 months of continuous coverage in claims.
- Outcome = Sub-optimally controlled SLE, defined as:**
  - (i) mean daily oral corticosteroid (OCS) treatment (prednisone equivalent) >5 mg for ≥8 weeks<sup>1</sup>, OR
  - (ii) ≥2 inpatient admissions and/or ≥2 emergency room (ER) visits in the most recent 12 months covered by claims data.

## What did we find?

- The 5,564 patients with SLE were mostly female (92.6%), White (41.0%), commercially insured (75.1%), residents of the U.S. South (68.0%), with mean (SD) age of 51.6 years (±13.4) (Table).
- Overall, 34.0% (1,888/ 5,564) of patients had sub-optimally controlled disease:
  - Almost 60% met the criteria for sub-optimal control based on OCS dose only (>5mg/day for ≥8 weeks only), while 22.5% were identified based on ≥2 ER visits/ ≥2 inpatient admissions only, and 17.8% on both OCS dose and ≥2 ER visits/ ≥2 inpatient admissions (Figure 1).
  - African Americans with SLE were more likely to be sub-optimally managed (42.0%) compared to other race/ethnicities (e.g., White, 32.5%) (Figure 2a).
  - Patients with Medicaid coverage were more likely to be sub-optimally managed (46.4%) compared to patients with commercial insurance (31.7%) (Figure 2b).

## What did we find?

**Table. Characteristics of Patients with SLE with Sub-Optimally and Not Sub-Optimally Controlled Disease, using EHR and linked claims data**

Patient Characteristics	SLE Cohort N=5,564	Sub-Optimally Controlled SLE Patients N= 1,888	Not Sub- Optimally Controlled SLE Patients N=3,676	Not Sub-Optimally Controlled vs. Sub- Optimally Controlled SLE Patients SMD
Number of providers, n*	7,036	4,622	2,981	--
<b>Demographic Characteristics<sup>1</sup></b>				
Age group, years				
Mean, SD	51.6 (13.4)	50.8 (13.4)	52.0 (13.3)	<b>0.091</b>
Sex, female	5,153 (92.6)	1,723 (91.3)	3,430 (93.3)	0.077
Race/Ethnicity				
Black or African American	969 (17.4)	407 (21.6)	562 (15.3)	<b>0.162</b>
Hispanic or Latino	875 (15.7)	321 (17.0)	554 (15.1)	0.053
White	2,279 (41.0)	741 (39.3)	1,538 (41.8)	0.053
Asian or Pacific Islander	177 (3.2)	57 (3.0)	120 (3.3)	0.014
Other/Unknown	1,264 (22.7)	362 (19.2)	902 (24.5)	<b>0.130</b>
Geographic region				
South	3,786 (68.0)	1,318 (69.8)	2,468 (67.1)	0.058
Northeast	737 (13.3)	216 (11.4)	512 (14.2)	0.082
Midwest	612 (11.0)	213 (11.3)	399 (10.9)	0.014
West	429 (7.7)	141 (7.5)	288 (7.8)	0.014
Insurance type				
Commercial	4,177 (75.1)	1,323 (70.1)	2,854 (77.6)	<b>0.173</b>
Medicare	1,118 (20.1)	443 (23.5)	675 (18.4)	<b>0.126</b>
Medicaid	261 (4.7)	121 (6.4)	140 (3.8)	<b>0.118</b>
Unknown	8 (0.1)	1 (0.1)	7 (0.2)	0.039
OCS use, any <sup>1,2</sup>	3,209 (57.7)	1,728 (91.5)	1,481 (40.3)	<b>1.285</b>

SLE: Systemic lupus erythematosus; SMD: Standard mean difference; OCS: Oral corticosteroid; SD: Standard deviation.  
<sup>1</sup> n (%) <sup>2</sup> In the 12 months ascertainment period \* Number of all providers including rheumatologists

## How might this impact current clinical practice?

- One-third of the patient population had sub-optimally controlled SLE, with utilization of high-dose OCS, underscoring the importance of treatment optimization (e.g., adoption of steroid sparing therapies) to improve disease control.
- Healthcare disparity in SLE patients remains a concern and should be addressed to ensure optimal management of SLE for individuals of all racial and ethnic backgrounds.

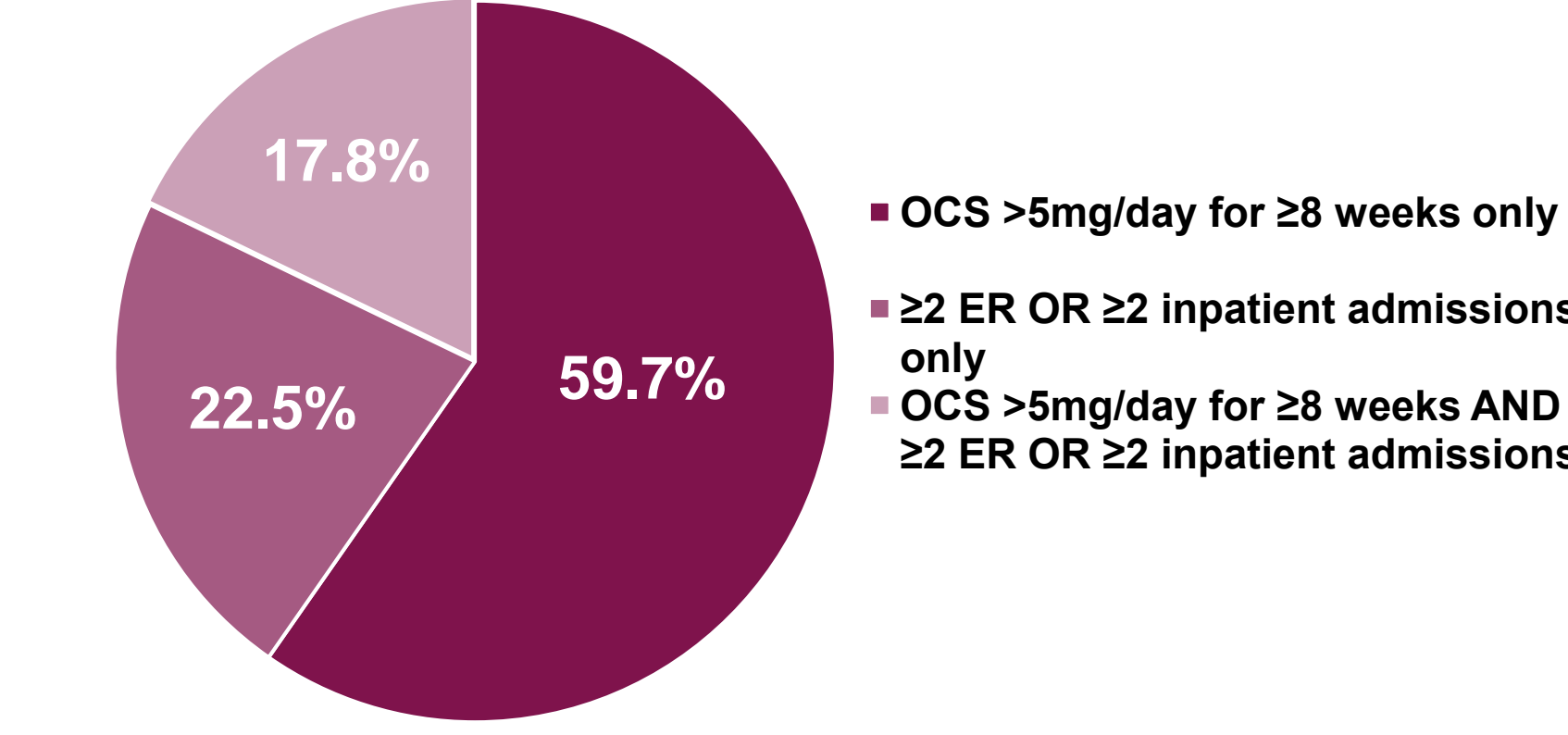
### Abbreviations

SLE: systemic lupus erythematosus; EHR: electronic health record; SMD: standard mean difference; SD: standard deviation; OCS: oral corticosteroid; ER: emergency room.

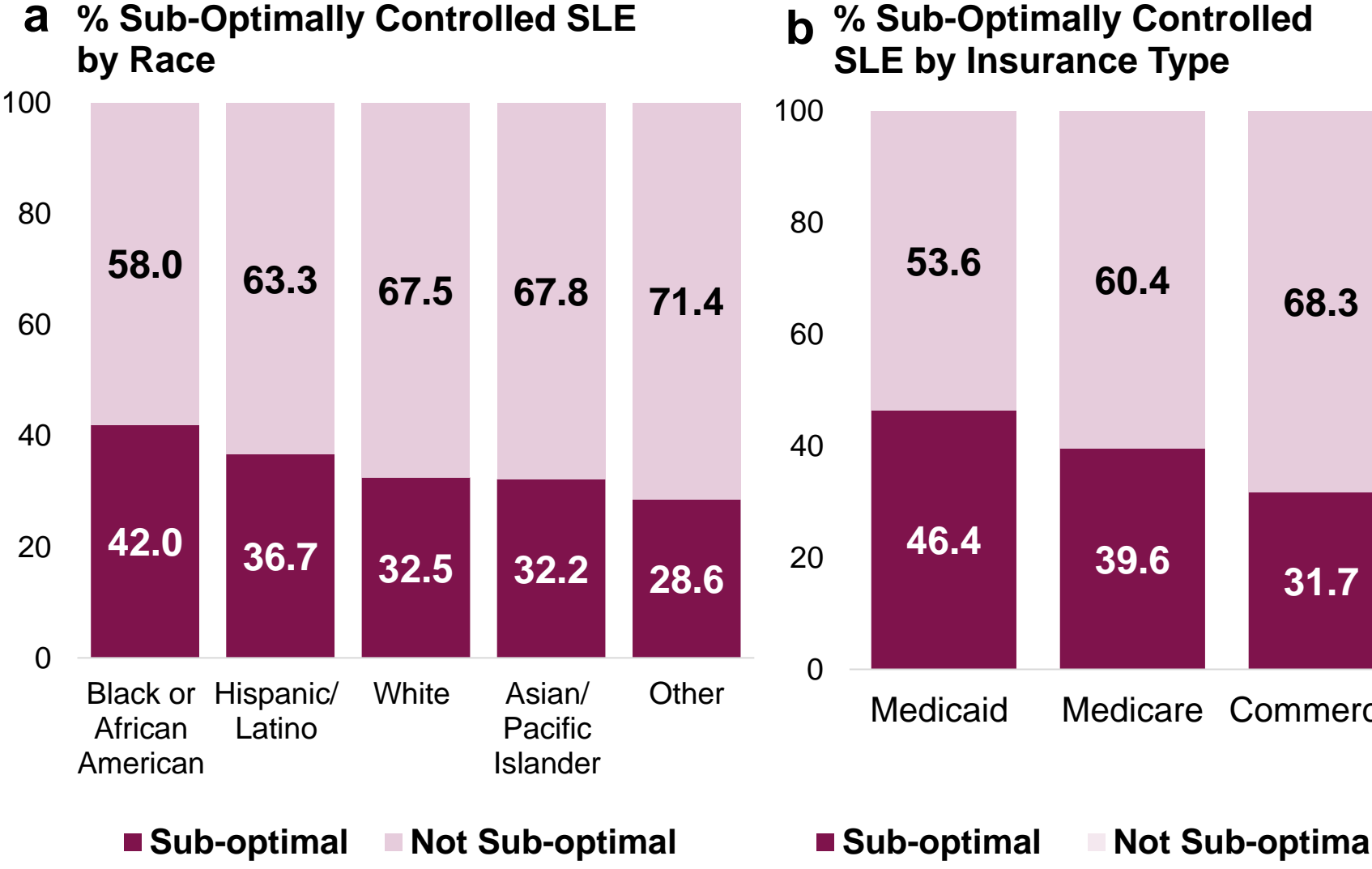
### References

1. Antonis F, Myrto K, Jeanette A, et al. EULAR recommendations for the management of systemic lupus erythematosus: 2023 update. *Ann Rheum Dis.* 2024;83(1):15.

**Figure 1. Classification of Sub-Optimally Controlled Disease among Patients with SLE (N=1,888)**



**Figure 2. Proportion of Sub-Optimally and Not Sub-Optimally Controlled Patients with SLE by Key Characteristics**



**Acknowledgments** This study was sponsored by AstraZeneca.

**Disclosures** EEH, ASM, ES, FX, SGD, and YS have nothing to disclose. JRC has received support from AbbVie, Amgen, Actual, Bendcare, BMS, CorEvitas, GSK, Janssen, Lilly, Moderna, Novartis, Pfizer, Sanofi, Scipher, UCB, Setpoint, FASTER, and Tnacity Blue Ocean. MB, TO, RMQK, and GA are employees of AstraZeneca. MB and TO are AstraZeneca stockholders.