



## Cost of the inpatient care for individuals living with systemic lupus erythematosus in a high-complexity institution in Colombia

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### Introduction

Systemic lupus erythematosus (SLE) is a disease leading to high costs for healthcare systems, mainly at the expense of the direct medical costs of inpatient care related to the complexity of diagnosis and treatment of complications associated with the disease. We present a descriptive analysis of the direct medical costs derived from hospital care during the year 2019 in a high complexity hospital in Bogotá, Colombia.

### Material and methods

This is an observational, retrospective, partial economic study, in which we performed a descriptive analysis, followed by an analysis of the direct medical costs of the attention of patients with SLE. Data was obtained by reviewing the electronic medical records of patients diagnosed with SLE in the period comprised between January and December 2019. Data on healthcare-associated costs were taken from the values billed by the hospital. Costs were estimated initially in Colombian pesos, but are expressed in dollars at the average rate of 2019 (1 USD = 3,281.09 COP).

**Table 1. Patients characteristics**

Variable	n	(%)
<b>Patients</b>	68	(100%)
<b>Number of hospitalizations</b>		
1	51	(75%)
2	10	(15%)
3	4	(6%)
5	2	(3%)
7	1	(1.5%)
<b>Female</b>	53	(78%)
<b>Age (Years)</b>		
Mean (SD)	39.2	(12.4)
Range (min-max)	19-70	
<b>Mortality</b>	5	(7%)

**Table 2. Hospitalizations characteristics**

Variable	n	(%)
<b>Total hospitalizations</b>	100	(100%)
<b>Female</b>	71	(71%)
<b>Dialysis</b>	10	(10%)
Hemodialysis	9	(9%)
Peritoneal	1	(1%)
<b>Days of hospitalization</b>		
Mean (SD)	6.8	(6.1)
Median (IQR)	5.8	(2.2 – 9.7)
Range (min-max)	0.2 – 35.1	
<b>Days in ICU</b>		
Mean (SD)	4.6	(3.6)
Median (IQR)	3.3	(2.1 – 6.5)
Range (min-max)	0.9 - 13	

**Table 3. Direct medical costs of inpatient care.**

Variable	Total cost	Mean per hospitalizations n= 100	%
<b>Drugs</b>	\$ 67,494	\$ 675	25%
<b>Medical supplies</b>	\$ 24,936	\$ 249	9%
<b>Non-surgical procedures</b>	\$ 170,708	\$ 1,707	64%
<b>Surgical procedures</b>	\$ 4,842	\$ 48	2%
<b>Total</b>	<b>\$ 267,980</b>	<b>\$ 2,680</b>	<b>100%</b>

### Results

From a total of 68 patients studied, 53 (78%) were women. Inpatient care was required for 51 patients (75%) and 17 (25%) required two or more visits, for a total of 100 hospitalizations. The mean age was 39 years (SD 12); 5 patients (7%) died. The main comorbidities were systemic hypertension n=16 (24%), and hypothyroidism n=12 (18%). The mean hospital stay was 6.8 days (SD 6.1, range 0.2-35.1). 10 visits required renal replacement therapy. The main reasons for consultation were respiratory symptoms n=18, (18%), edematous syndrome n=16 (16%), and chest pain n= 12 (12%). SLE activity was calculated by SLEDAI 2K in 93 visits (93% of the hospitalizations), finding mild to moderate activity in 50 patients (54%), severe in 24 (26%), and no activity in 19 (20%). Total health care costs were calculated in \$267,980 (mean \$2,680), with a range of \$121 to \$27,561. The costs derived from non-surgical procedures were \$170,708 (64%) and the cost due to medication requirement was \$67,494 (25%). Medical supplies and procedures generated costs of \$24,936 (9%) and \$4,842 (2%), respectively.

### Conclusion

The main causes driving the high cost of the attention of patients with SLE are related to the complexity of the diagnosis and the appearance of complications. During inpatient care, non-surgical procedures and medications generated the greatest impact in terms of direct medical costs, while supplies and surgical procedures generated the lowest cost.