

# Direct Medical Costs of Diabetes Mellitus in Colombia

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## OBJECTIVES

Type 2 diabetes mellitus (DM2) is a public health issue worldwide. In this study we estimated the health care resource utilization and the annual direct medical costs of diabetes mellitus in Colombia, 2018-2021.

## METHODS

Cross-sectional study of patients with DM2 of Mutual SER EPS, a poor population insurance company with 2.5 million insured. We analyzed the annually health care resource utilization (HCRU) of patients who consumed health services and their direct medical costs. Absolute and relative frequencies were estimated to describe HCRU, and costs were expressed in averages with 95% confidence intervals (95%CI). This study was conducted from the health system perspective. Costs were reported in American dollars using an exchange rate of 1 USD = 3,981.16 COP.

## CONCLUSIONS

DM2 represents a high economic burden for this insurance company, as a prevalent disease in Colombia. Drugs, consults by specialists, labs and images were the most used services for these patients.

## RESULTS

**Table 1.** Cohort characteristics

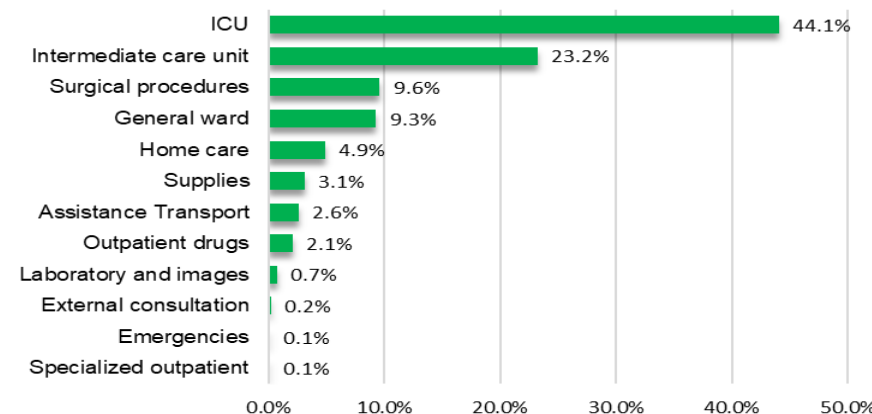
Characteristic	N = 2,788 <sup>1</sup>
<b>Sex</b>	
Female	1,917 (68.8%)
Male	871 (31.2%)
<b>Age in years</b>	60.7 (±13.6)
<b>Department</b>	
Atlántico	220 (7.9%)
Bolívar	975 (35.0%)
Cesar	1 (0.0%)
Córdoba	388 (13.9%)
Magdalena	454 (16.3%)
Sucre	750 (26.9%)
<b>Affiliation regime</b>	
Contributory	100 (3.6%)
Subsidized	2,688 (96.4%)
<b>BMI</b>	26.4 (±5.3)

<sup>1</sup>n (%); Mean (±SD)

**Table 2.** Direct medical costs by component

Component	n	Mean	CI95%-Lower	CI95%-Upper	Median	IQR 25%	IQR 75%
External consultation	1,109	\$20.6	\$19.4	\$21.8	\$15.3	\$7.6	\$22.9
Specialized outpatient	1,304	\$15.8	\$14.5	\$17.0	\$10.9	\$2.6	\$18.2
Home care	24	\$515.5	\$313.8	\$717.2	\$354.9	\$26.9	\$709.8
Laboratory and images	472	\$69.2	\$56.7	\$81.7	\$24.6	\$15.7	\$67.8
Outpatient drugs	2,506	\$224.4	\$210.2	\$238.6	\$50.4	\$15.0	\$253.5
Supplies	3	\$328.4	\$328.4	\$328.4	\$328.4	\$328.4	\$328.4
Surgical procedures	6	\$1,019.3	-\$49.3	\$2,087.9	\$311.3	\$260.4	\$660.9
Assistance transport	42	\$275.4	\$162.3	\$388.4	\$178.3	\$89.1	\$267.4
Emergencies	99	\$14.3	\$13.0	\$15.6	\$10.9	\$10.9	\$10.9
General ward	88	\$979.6	\$916.8	\$1,042.5	\$972.9	\$972.9	\$972.9
Intermediate care unit	11	\$2,458.0	\$2,121.0	\$2,794.9	\$2,253.1	\$2,253.1	\$2,253.1
ICU	3	\$4,666.7	\$2,747.7	\$6,585.8	\$3,500.1	\$3,500.1	\$5,250.1
Others	295	\$1.1	\$0.9	\$1.2	\$0.0	\$0.0	\$2.9
<b>Total cost</b>	<b>2,788</b>	<b>\$134.3</b>	<b>\$122.9</b>	<b>\$145.6</b>	<b>\$20.4</b>	<b>\$7.6</b>	<b>\$67.6</b>

**Figure 1.** Average cost distributed by cost component (%)



We analyzed 2,788 DM2 patients, 68.8% male. The average of age and body mass index was 60.7 years old (SD. 13.6) and 26.4 (SD. 5.3).

The annual average direct medical cost of a DM2 patient that used health services was US\$134.3 (95%CI 122.9-145.6); 44.1% due to intensive care unit (ICU), 23.2% to intermediate ICU, 9.6% surgical procedures, 9.3% general hospitalization, 4.9% home care, 9.9% others. 2,506 patients (89.8%) used drugs, with annual average costs of US\$224.4 (95%CI 220.2-238.6); 1,304 (46.7%) used specialist consultation, with average direct costs of US\$15.8 (95%CI 14.5-18), 472 (16.9%) used labs and images, with average costs of US\$69.2 (95%CI 56.7-81.7), among other services.