

# Budget Impact Analysis - Alteplase for Stroke Treatment in Argentina

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## KEYPOINTS

First budget impact analysis of Alteplase for ischemic stroke in Argentina.

The use of Alteplase has proven to be a cost-saving strategy.

The economic benefit of Alteplase could potentially be higher if indirect costs and time horizon beyond first year were considered.

## INTRODUCTION

Stroke is the leading cause of disability and the fourth cause of death in Argentina, constituting a public health problem of global reference. The effectiveness of treatment with Alteplase is clinically proven with a high level of evidence (IA) within a 3-hour window according to the AHA guidelines. However, there is no local data about the cost-effectiveness of Alteplase in Argentina.

The objective of the present study is to evaluate the direct cost of management of ischemic stroke (IS), showing the budget impact analysis of increasing alteplase treatment.

## METHODS

The budget impact model compares a base scenario with a 1,2% thrombolysis rate with Alteplase in IS (Arenas registry) and two hypothetical scenarios (8% and 16% thrombolysis rate). The evolution of patients was estimated using validated models, including modified Rankin Scale to estimate resources of rehabilitation.

Given the complexity of Argentine Healthcare System and the lack of public cost data, the cost analysis only includes direct healthcare costs associated with IS (medical services, studies, medications and supplies).

Alteplase cost and rehabilitation for only the first twelve months values were estimated. Prices are expressed in US dollars (US\$) at official exchange rate (April 2023). Indirect costs (for example; work inactivity and expenses for third-party care) and rehabilitation costs beyond the first year were excluded.

The study population was determined based on IS Argentine incidence, considering public and private healthcare systems to determine differential costs.

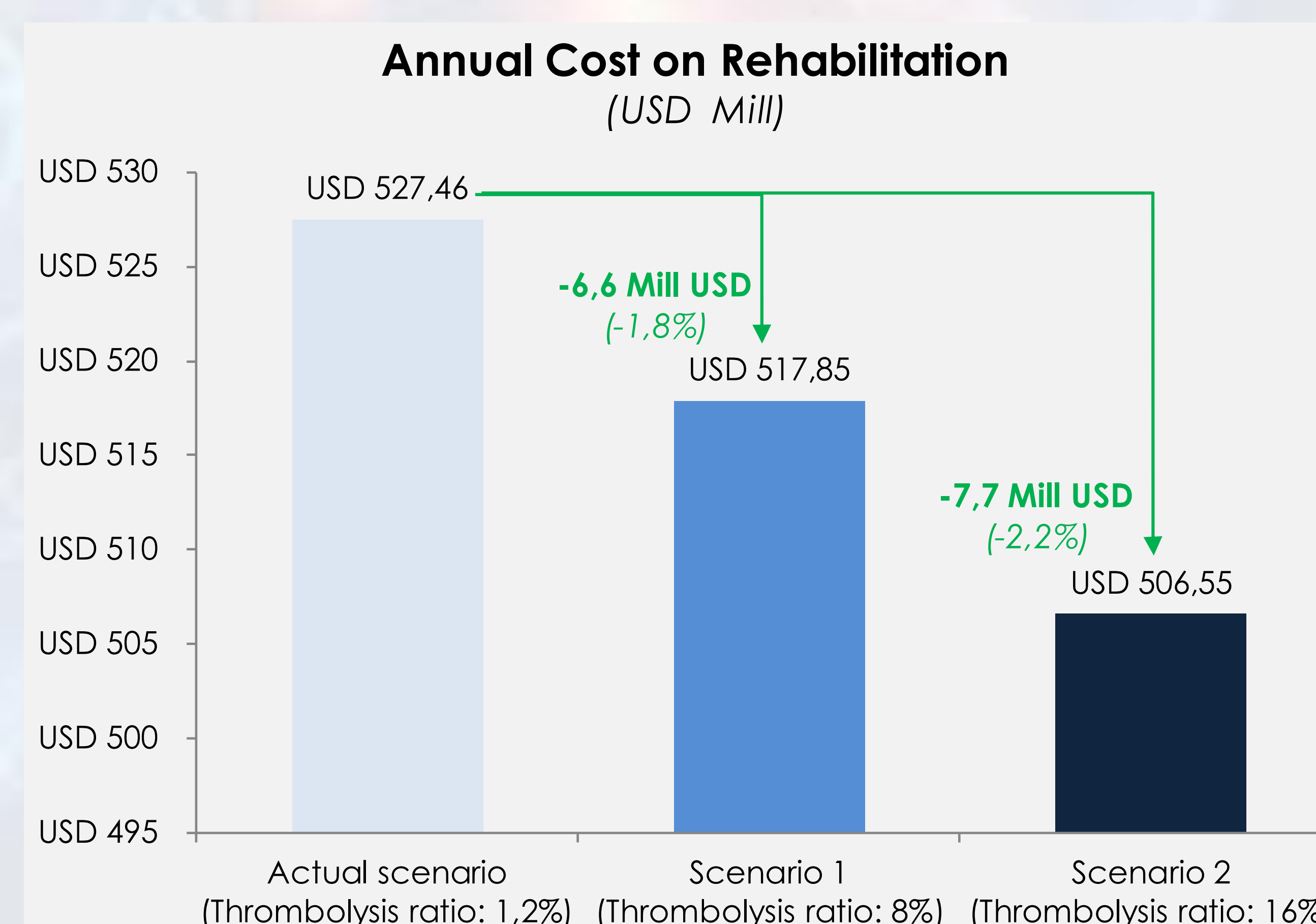
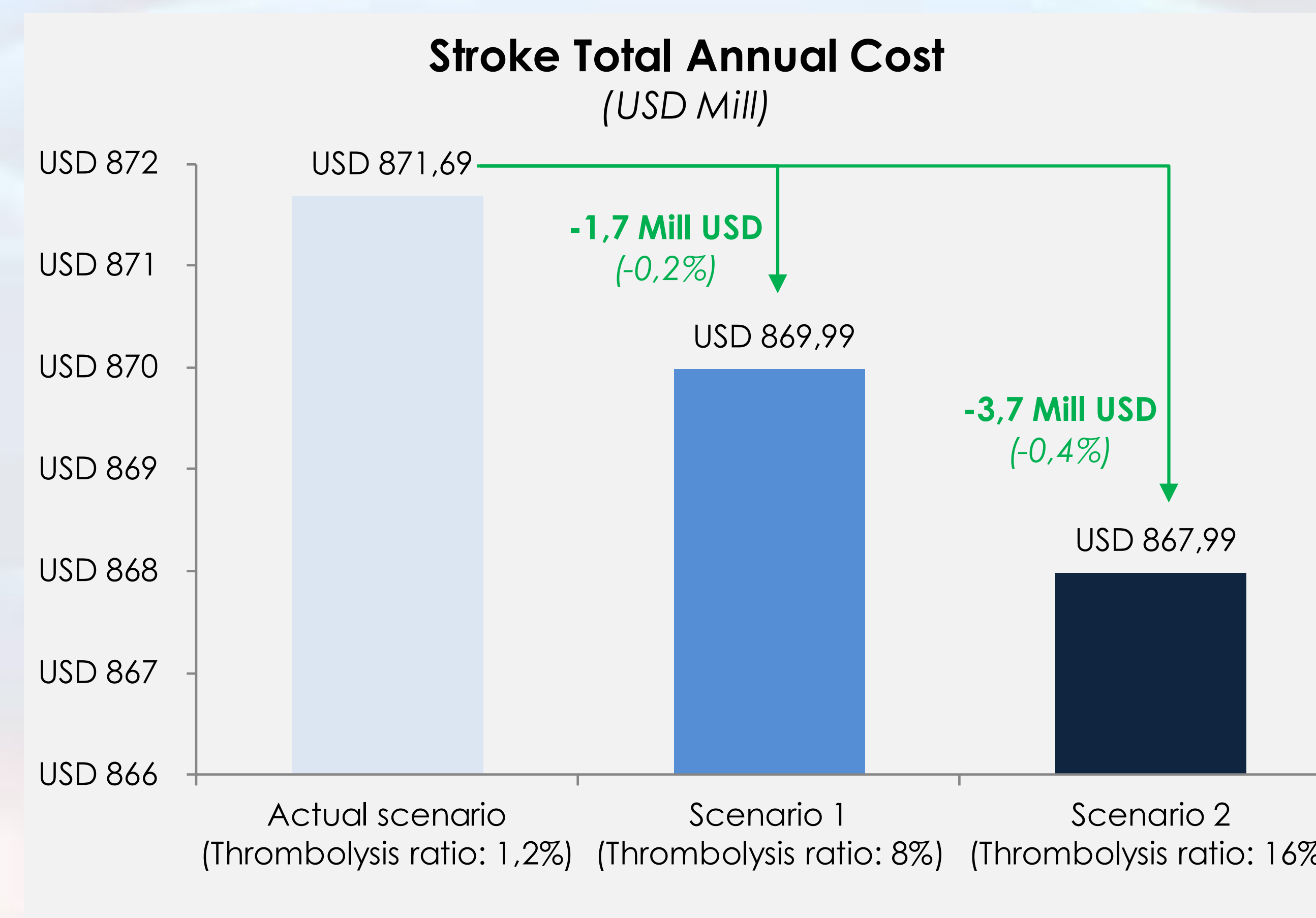
## RESULTS

An estimation of 39.190 IS patients was used according to incidence rate 84/100.000 for IS adjusted to Argentine population (Estepa Registry). Of these, 62,1% have health insurance, while the remaining has exclusive public coverage.

The base scenario of 1,2% had a total expenditure of US\$ 871.688.065 during the first year. With 8% scenario was US\$ 869.989.798 (US\$ -1.689.267), and with 16% it descends to US\$ 867.991.838 (US\$ -3.696.227). The savings were mainly due to the decrease in rehabilitation resources used among the population receiving Alteplase.

## CONCLUSION

In conclusion, the IS treatment in Argentina with Alteplase is a cost saving strategy. The management of IS in Argentina has great opportunities of improvement. The involvement of multiple stakeholders is needed to achieve better patient outcomes and improve the healthcare resource utilization.



### Cost Table

#### Included

- Hospitalization Costs
- Average medical studies for a stroke patient
- Alteplase
- Others medicines
- Rehabilitation up to 12 months

#### Excluded

- Work inactivity (loss of productivity by patient)
- Expenses for third-party care (Ex: caregiver)
- Loss of productivity by the family member responsible for caregiving
- Rehabilitation beyond one year

#### DISCLOSURES

Financial support for this study was provided by Boehringer Ingelheim and participated in the interpretation of data, review, and approval of the publication. All authors contributed to the development of the publication and maintained control over the final content.