

# EFFECTIVENESS OF MEDIUM CUT-OFF DIALYZER IN HEMODIALYSIS PATIENTS: AN ECONOMIC ANALYSIS

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## Background

Expanded hemodialysis enabled by **Theranova** dialyzer, has been shown to increase the efficacy of clearance of large middle molecules, compared to hemodialysis using high-flux dialyzers (HF HD). Additional evidence for the effectiveness of **HDx** therapy has emerged, as this intervention reduces the rate of hospitalization and the incidence of non-fatal cardiovascular events compared to HF HD.

## Objective

To conduct an economic analysis that estimates the economic impact of the improvements provided by **HDx** therapy over HF HD in the context of the Colombian healthcare system.

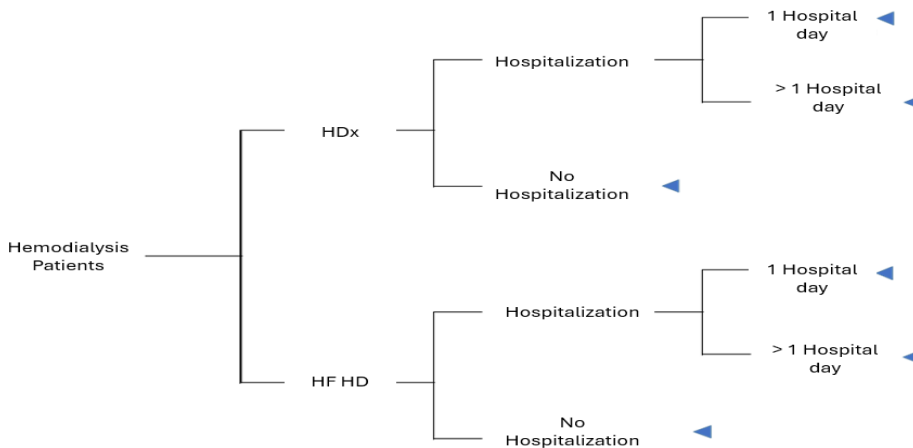
## Methods

This study estimated the budgetary impact of using a medium-cut membrane compared to HF membrane in the Colombian health system using data from the sufficiency database of the Capitation Payment Unit (UPC) 2019 (Colombian ministry of health). A difference-in-differences analysis was used to estimate the magnitude of the effect attributable to the use of this dialyzer. In addition, we conducted an analysis of hospitalization costs and estimated the prevalence of hospitalizations among hemodialysis patients within the Colombian health system, utilizing publicly available population data. The analysis perspective was the **third payor**, and we used an approach of **dialysis bundle** assuming the same price per patient per month for HF HD and **HDx** therapy, in a **10% proportion of use scenario for Theranova** dialyzer; we used a decision tree model (Figure 1).

## Results

Data of COREXH study showed that patients with HF HD, registered an average of 1.3 hospitalizations per year, while those treated with **HDx** therapy enabled by Theranova showed a reduction of 0.3 hospitalizations per patient-year. In the total Colombian HD population, the hospitalization rate was 3.7 events per patient-year. Extrapolating the difference in hospitalization rates between HF HD and **HDx** therapy this would be of 0.9 episodes per patient-year. The average cost of hospitalization for a patient requiring hemodialysis was \$3,132,115 Colombian pesos in 2023. Of these hospitalizations, 24% had a duration of one day, 19% lasted between 2 and 5 days, 22% lasted between 6 and 10 days, and the remaining had a stay exceeding 10 days. Then **HDx** therapy has the potential of cost savings ranging from 992,353.00 Colombian pesos to 3,758,041.00 per patient per year.

Figure 1. Decision tree model



## Conclusion

The use of HDx therapy enabled by Theranova dialyzer in 10% of Colombian HD population, can generate substantial savings resulting from the reduction in the number of hospitalizations. The observation is relevant and applicable for other healthcare systems