Budget Impact Analysis of Fitusiran for the Treatment of Hemophilia A and B in Pediatric and Adult Patients in Saudi Arabia

Alabdulkarim H.A.[1], Alshehry A.[2], BinDos A.[3], Owaidah T.[4], Albarkah Y.[5], Alharbi I.H.[6], Alsaagi I.A.[7], Nugali A.[8], Alnemari W.[9]
[1] Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia; [2] King Fahad Medical City Hospital Pharmacy, Riyadh, Saudi Arabia; [3] King Fahad Medical City, Riyadh, Saudi Arabia; [4] King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia; [5] Ministry of Defense Health Services, Riyadh, Saudi Arabia; [6] Ministry of Defense Health Services, Jeddah, Saudi Arabia; [7] King Saud Medical City, Riyadh, Saudi Arabia; [8] HEPA Solutions, Jeddah, Saudi Arabia; [9] Sanofi, Riyadh, Saudi Arabia

Abstract #ID EE737

To download the poster, please scan the QR code.

Copies of this poster obtained through the Quick Response (QR) code are for personal use only and may not be reproduced without permission from the author of this poster.
For further information, please send your question(s) to: HEPA team Info@digitalhepa.com

KEY LEARNINGS

Introducing fitusiran for eligible people aged ≥12 years with hemophilia A or B in Saudi Arabia is projected to save SAR 134.7 million (USD 35.9 million) over five years.

BACKGROUND

- Hemophilia is an inherited X-linked bleeding disorder characterized by deficient blood clotting; hemophilia A results from factor VIII deficiency and hemophilia B from factor IX deficiency. Recurrent spontaneous joint and soft-tissue bleeds can lead to chronic arthropathy and substantial healthcare use.[1]
- Current care relies largely on intravenous replacement clotting factors, including standardand extended-half-life factor products, and bypassing agents for patients with inhibitors. Frequent injections may create treatment burden, reduce adherence, and negatively affect quality of life.[2]
- Fitusiran is an antithrombin (AT)-lowering, subcutaneous, small interfering RNA (siRNA) therapy that increases thrombin generation to restore hemostasis in people with hemophilia A or B (PwHA/B), with or without inhibitors.[3]
- Globally, the prevalence of hemophilia is estimated at 17.1 per 100,000 males for hemophilia A and 5.3 per 100,000 males for hemophilia B.[4,5]

OBJECTIVE

To estimate the five-year budget impact of introducing fitusiran for eligible pediatric patients aged 12–17 years and adults ≥ 18 years with hemophilia A or B, with or without inhibitors, in Saudi Arabia from a public-payer perspective.

CONCLUSIONS

- Fitusiran formulary adoption is projected to generate substantial public-payer savings in Saudi Arabia over 5 years.
- The model estimated cumulative savings of SAR 134.7 million with zero bleeding events.
- Savings are mainly driven by lower pharmacy, medication, and administration costs after displacement of costly comparators.

References

1. CDC. What Is Hemophilia? 2022.
2. CDC. Treatment of Hemophilia. 2022.
3. Sanofi. Fitusiran prophylaxis reduced bleeds by 61% versus prior prophylaxis. Press release; 2022.
4. Gringeri A, et al. Global estimation of bleeding episodes treatable with desmopressin in von Willebrand disease and hemophilia A. Haematologica. 2025;110:1710–22. doi:10.3324/haematol.2025.287572
5. Research and Markets. Hemophilia B Epidemiology Forecast Report 2025–2034. 2025.
6. Sullivan SD, et al. Budget impact analysis: principles of good practice. Value Health. 2014;17:5–14. doi:10.1016/j.jval.2013.08.2291
7. General Authority for Statistics. Population Estimates Statistics 2024. 2024.
8. Sanofi. Clinical Trial Appendices. 2020.
9. U.S. Food and Drug Administration. Licensed biological products with supporting documents. 2023. Available from: https://www.fda.gov/vaccines-blood-biologics/licensed-biological-products-supporting-documents

METHODS

- **Model design** was an excel model with prevalence-based budget impact model compared current standard care without fitusiran versus a revised scenario with gradual fitusiran uptake over 5 years.
- **Perspective** of Saudi public payer. All model costs were calculated in SAR and converted to USD using an exchange rate of 1 USD = 3.75 SAR. Costs are reported in both currencies.
- **Time horizon** budget impact over 5 years; discounting was not applied, consistent with budget impact methods.[6]
- **Target population** of males aged ≥12 years with hemophilia A or B, with or without inhibitors.[4,5]
- **Model input** included drug acquisition, administration, antithrombin monitoring, and indirect costs. Bleeding costs (non-drug and on-demand bleed treatment) were not considered in the current or fitusiran scenario.
- **Data sources** included Saudi population estimates (GASTAT), SFDA drug prices, public-hospital business-center costs, and fitusiran trial and product data.[7-9] In the absence of local epidemiological data, the model assumed global prevalence estimates, validated by local experts.[4,5]
- **Tornado sensitivity analysis** varied key population, cost, and bleed-rate parameters around the base case.

Figure 1. | Model structure

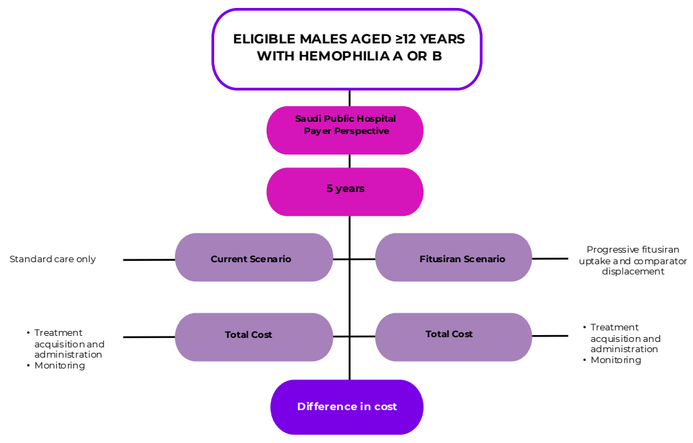
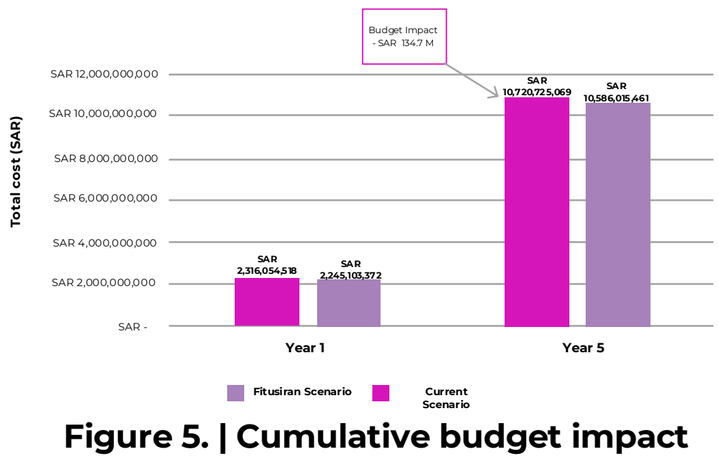


Figure 3. | First year cost and cumulative 5th year cost per 2,763 patients (SAR)



RESULTS

1. Eligible population was estimated at 2,612 patients in Year 1, including 1,994 with hemophilia A and 618 with hemophilia B; this increased to 2,763 patients by Year 5. (Figure 1)
2. The modeled annual average drug acquisition cost of fitusiran was SAR 1,385,387 per patient (approximately USD 369,437). (Figure 2)
3. Greater Uptake of fitusiran at the expense of higher cost treatments such as Hemlibra, marstacimab, and bypassing agents, resulted in greater cost savings in the fitusiran scenario. (Figure 3)
4. Five-year total costs were SAR 10.720 billion without fitusiran versus SAR 10.586 billion with fitusiran, generating cumulative savings of SAR 134.7 million (USD 35.9 million). (Figure 5)
5. Year-by-year budget impact: Year 1, -SAR 71.0M; Year 2, -SAR 34.2M; Year 3, -SAR 11.1M; Year 4, -SAR 11.0M; Year 5, -SAR 7.4M. (Figure 4)
6. Key drivers in deterministic sensitivity analysis were mean patient weight (adults and pediatrics), drug costs (including fitusiran, bypassing agents [NovoSeven and FEIBA], Hemlibra, Jivi and Adynovate) and prevalence of hemophilia A. (Figure 5)

Figure 2. | Annualized per-patient cost (SAR)

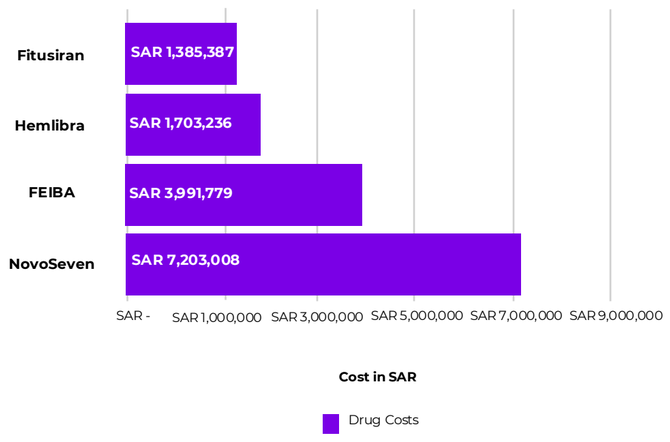


Figure 4. | Year-by-year budget impact

Year	Current Scenario
Year 1	-SAR 70,951,147
Year 2	-SAR 34,186,243
Year 3	-SAR 11,081,197
Year 4	-SAR 11,045,684
Year 5	-SAR 7,445,337

Figure 5. | Cumulative budget impact

Parameter	Current Scenario	Fitusiran Scenario	Difference (SAR)	Difference (USD)
Base Case Analysis for 2,763 Patients	SAR 10,720,725,069	SAR 10,586,015,461	-SAR 134,709,608	$ (35,922,562)
Hemophilia A with and without inhibitors	SAR 9,544,972,963	SAR 9,429,888,181	-SAR 115,084,782	$ (30,689,275)
Hemophilia A with inhibitors	SAR 6,693,023,208	SAR 6,147,189,928	-SAR 545,833,279	$ (145,555,541)
Hemophilia A without inhibitors	SAR 2,851,949,756	SAR 3,282,698,253	SAR 430,748,497	$ 114,866,266
Hemophilia B with and without inhibitors	SAR 1,175,752,106	SAR 1,156,127,280	-SAR 19,624,826	$ (5,233,287)
Hemophilia B with inhibitors	SAR 416,440,437	SAR 376,140,837	-SAR 40,299,600	$ (10,746,560)
Hemophilia B without inhibitors	SAR 759,311,669	SAR 779,986,443	SAR 20,674,774	$ 5,513,273

Author contributions All authors provided substantial contributions to study conception/design, or acquisition/analysis/interpretation of data; drafting of the publication or reviewing it critically for important intellectual content; and gave their final approval of the publication.
Acknowledgments The authors thank all investigators and research staff in participating institutions. Medical writing service was provided by HEPA Solutions Company.
Disclosures AN: Employee of HEPA solutions. WA: Employee of Sanofi

Presented at ISPOR EUROPE | Vienna, Austria| 11 November 2026

This study was conducted by HEPA and sponsored by Sanofi