Budget Impact Analysis of Fitusiran for the Treatment of Hemophilia A and B in Pediatric and Adult Patients in the United Arab Emirates (Abu Dhabi)

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KEY LEARNINGS

Introducing fitusiran for eligible people aged ≥12 years with hemophilia A or B in the United Arab Emirates (Abu Dhabi) is projected to save USD 7.854 million (AED 28.86 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 standard- and 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 the United Arab Emirates from a public-payer perspective.

CONCLUSIONS

- Fitusiran formulary adoption is projected to generate substantial public-payer savings in UAE over 5 years in hemophilia A patients.
- The model estimated cumulative savings of USD 7.854 million (AED 28.86 million).
- Savings are mainly driven by lower pharmacy, medication, and administration costs after displacement of comparators.

References

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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 UAE public payer. All model costs were calculated in AED and converted to USD using an exchange rate of 1 USD = 3.675 AED. 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 Abu Dhabi nationals' demographic data, TAMM Abu Dhabi CIF 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.

RESULTS

1. Eligible population was estimated at approximately 78 patients in Year 1, including 60 with hemophilia A and 19 with hemophilia B; this increased to 94 patients by Year 5. (Figure 1)
2. The modeled annual average acquisition cost of fitusiran was USD 350,539 (AED 1,288,231) lower than the other comparators. (Figure 2)
3. Greater Uptake of fitusiran at the expense of higher cost treatments such as hemlibra, eloctate and standard half life factors, resulted in greater cost savings in the fitusiran scenario. (Figure 3)
4. Five-year total costs were USD 182.4 million (AED 670.3 million) without fitusiran versus USD 174.5 million (AED 641.5 million) with fitusiran, generating cumulative savings of USD 7.854 million (AED 28.86 million). (Figure 5)
5. Year-by-year budget impact: Year 1, -USD 768,203 (-AED 2.82M); Year 2, -USD 995,772 (-AED 3.66M); Year 3, -USD 1,508,386 (-AED 5.54M); Year 4, -USD 2,061,471 (-AED 7.58M); Year 5, -USD 2,519,758 (-AED 9.26M). (Figure 4)
6. Key drivers in deterministic sensitivity analysis were mean patient weight, prevalence of hemophilia A and B, incidence of hemophilia A, and drug costs (including fitusiran, Alprolix, and Hemlibra).

Figure 1. | Model structure

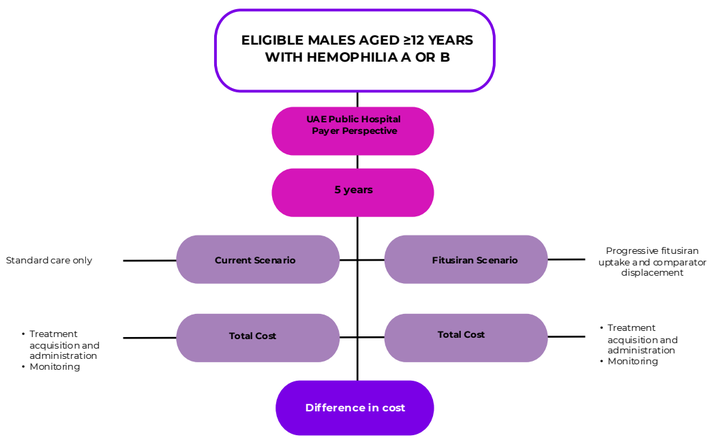

Figure 2. | Annual cost per patient (USD; AED)

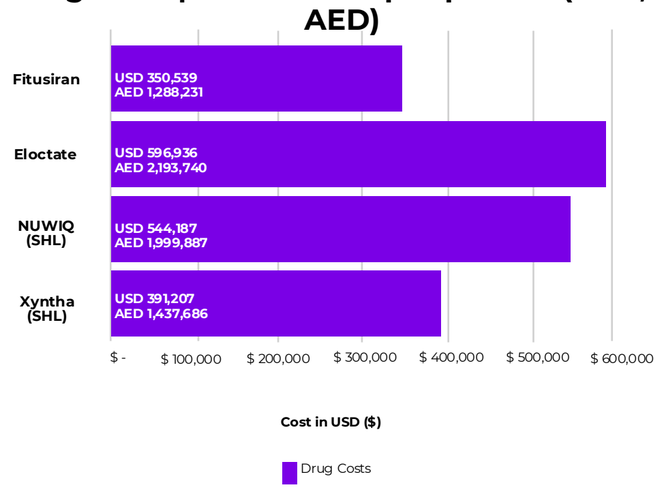

Figure 3. | First year cost and cumulative 5th year cost per 94 patients (USD; AED)

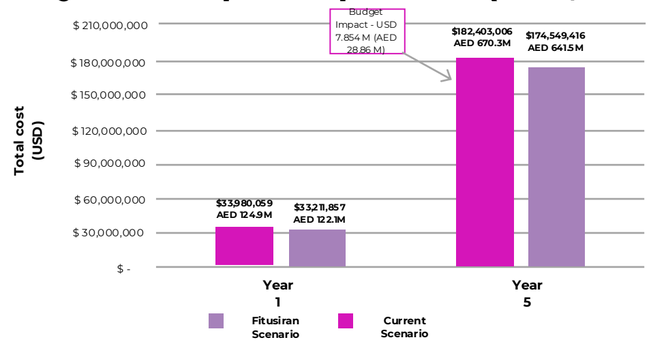

Figure 4. | Year-by-year budget impact

Year	Budget impact (USD)	Budget impact (AED)
Year 1	-USD 768,203	-AED 2,823,146
Year 2	-USD 995,772	-AED 3,659,462
Year 3	-USD 1,508,386	-AED 5,543,319
Year 4	-USD 2,061,471	-AED 7,575,906
Year 5	-USD 2,519,758	-AED 9,260,111

Figure 5. | Cumulative budget impact

Parameter	Current Scenario	Fitusiran Scenario	Difference (USD)	Difference (AED)
Base Case Analysis for 94 Patients	$182,403,006	$174,549,416	-$7,853,589	-AED 28,861,940
Hemophilia A with and without inhibitors	$159,981,010	$151,654,714	-$8,326,296	-AED 30,599,138
Hemophilia A with inhibitors	$21,798,618	$20,801,323	-$997,294	-AED 3,665,055
Hemophilia A without inhibitors	$138,182,393	$130,853,391	-$7,329,002	-AED 26,934,082
Hemophilia B with and without inhibitors	$22,421,995	$22,894,702	$472,707	AED 1,737,198
Hemophilia B with inhibitors	$0	$0	$0	AED 0
Hemophilia B without inhibitors	$22,421,995	$22,894,702	$472,707	AED 1,737,198

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