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The Budget Impact of Venetoclax plus Obinutuzumab for First-line Chronic Lymphocytic Leukemia in Saudi Arabia

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OBJECTIVE

To evaluate the financial consequences of introducing Venetoclax plus Obinutuzumab for a one-year fixed treatment duration for treating first-line CLL on the public payer's budget in Saudi Arabia

CONCLUSIONS

Introducing VEN+O protocol results in net budget savings of 223 thousand SAR over 5 years, while improving patient satisfaction due to the limited period of treatment

Introducing VEN+O results in cost increase over the first 3 years, while savings appear in years 4 and 5, resulting in a negative cumulative budget impact over the model time horizon

Drug acquisition costs were the largest components of costs for both the current and projected market

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INTRODUCTION

Chronic lymphocytic leukemia (CLL) is a significant health concern in Saudi Arabia, contributing to the overall burden of leukemia in the country

Current treatments for untreated CLL often require substantial financial resources, impacting healthcare budgets

Venetoclax is a targeted therapy that has become an essential treatment option for CLL, particularly in combination with other therapies

Venetoclax is administered as a combination with Obinutuzumab for 1st line treatment for CLL for a set amount of time (12 months), which enhances patient satisfaction due to the limited time of treatment

Enhancing patient satisfaction often comes with additional budget. Treatment options that enhance patient satisfaction while maintaining minimal or zero budget impact are highly favorable to decision-makers

METHODS

Model type: Partition survival model with three health states to simulate patient pathways (Figure 1)

Time horizon: 5 years

Perspective: Healthcare payer

Costs included: Direct medical costs

Approach: Patient distribution pattern based on clinical data for progression free survival and overall survival

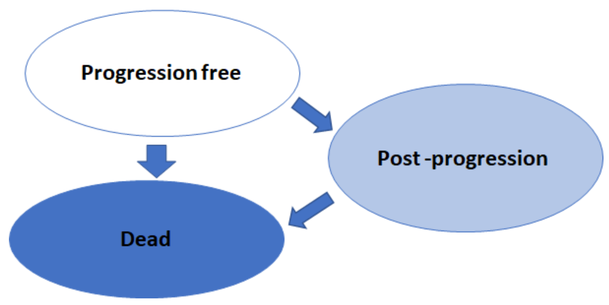


Figure 1. Partition Survival Model health states

MODEL DETAILS

Model structure

The budget impact model estimates the incremental budget of a scenario of a world with Venetoclax plus Obinutuzumab (VEN+O) compared to a scenario of a world without Venetoclax for 5 years including local data for the patient population in Saudi Arabia

Data sources

Cost data: NUPCO Tender prices, Saudi FDA prices

Resource utilization and current market shares: Local experts questionnaires interviews

Saudi population data: Literature search and Saudi health council database
Projected market shares: Estimated values validated by local Saudi experts

Comparators

Based on data from local experts, the following protocols are used for 1st line CLL in Saudi Arabia

- Chlorambucil + Obinutuzumab (GClb)
- Fludarabine, cyclophosphamide, and rituximab (FCR)
- Bendamustine + Rituximab (BR)
- Chlorambucil + Rituximab (Clb +R)
- Ibrutinib (Ibr)
- Generic Ibrutinib (Generic Ibr)
- Ibrutinib + Rituximab (IbrR)
- Chlorambucil (Clb)
- Acalabrutinib (Acala)
- Acalabrutinib + Obinutuzumab (AcalaO)

Market shares

Table 1 below shows the estimated market shares after introducing VEN+O protocol to the current treatment mix in Saudi Arabia with gradual increased from 15% in year 1 to 32% in year 5. The shares without VEN+O were estimated based on the experts' questionnaires

Table 1. Projected market shares with VEN+O protocol

Comparator	2024	2025	2026	2027	2028
VEN + O	15.00%	20.00%	25.00%	30.00%	32.00%
GClb	1.46%	1.46%	1.46%	1.46%	1.46%
FCR	4.68%	4.68%	4.68%	4.68%	4.68%
BR	16.08%	16.08%	16.08%	16.08%	16.08%
Clb + R	1.17%	1.17%	1.17%	1.17%	1.17%
Ibr	40.37%	34.14%	26.91%	19.67%	14.44%
Ibr + R	3.36%	3.10%	2.84%	2.59%	2.33%
Clb	1.17%	1.17%	1.17%	1.17%	1.17%
Acala	3.91%	3.62%	3.32%	3.02%	2.72%
Acala + O	2.80%	2.58%	2.37%	2.16%	1.94%
Generic Ibr	10.00%	12.00%	15.00%	18.00%	22.00%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

RESULTS

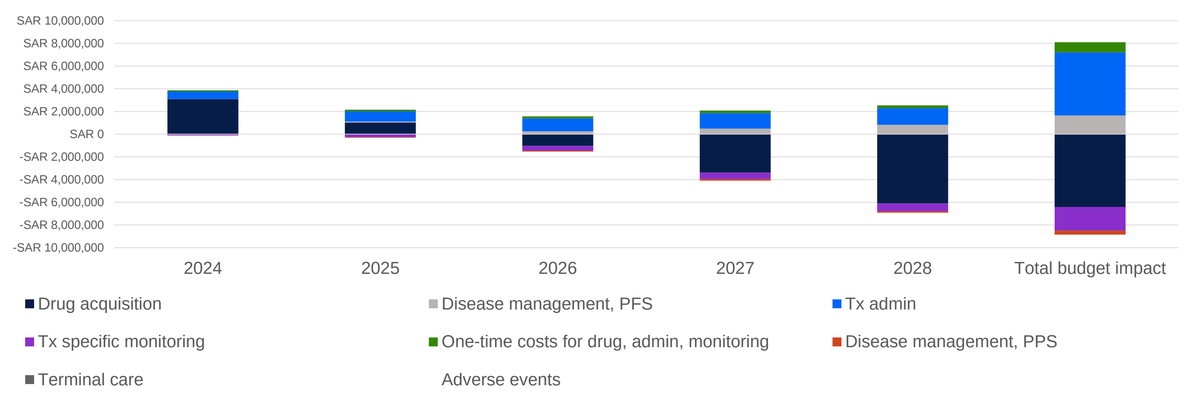
Introducing VEN+O for a one-year fixed treatment duration for treating first-line CLL resulted in additional cost in the first 3 years, followed by savings in the consequent years resulting in net incremental savings of 223 thousand SAR over the time horizon

Table 2: Budget impact results

Year	2023	2024	2025	2026	2027
Budget impact per year/ SAR	**3,811,582**	**1,930,761**	**147,226**	**-1,878,235**	**-4,234,418**
Cumulative budget impact/ SAR	**3,811,582**	**5,742,342**	**5,889,569**	**4,011,334**	**-223,084**

Drug acquisition cost was the main cost component contributing to the budget impact, followed by treatment administration associated costs

Figure 2. Annual Incremental Budget Impact by cost category



Deterministic Sensitivity Analysis (DSA) results show that the model is most sensitive to varying the values of the progression free survival of Ibrutinib and generic Ibrutinib. All except three inputs decrease or increase result in a negative to neutral budget impact over the time horizon

Figure 3. Deterministic Sensitivity Analysis results