

November 17-20 2024, Barcelona, Spain

Cost-Minimization Analysis for Subcutaneous Daratumumab in the Treatment of Newly Diagnosed Multiple Myeloma in Qatar

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Introduction

Daratumumab given intravenously (Dara-IV) and a daratumumab formulation for subcutaneous administration (Dara-SC) were indicated in newly diagnosed multiple myeloma (NDMM). Dara-SC was granted a license in 2020 and is anticipated to receive the same reimbursement as dara-IV. To assess the financial effects of the adoption of dara-SC rather than dara-IV for the treatment of NDMM in Qatar, a cost-minimization model (CMM) was conducted.



Methodology

We built a static cost minimization analysis (CMA) to evaluate the associated costs and possible reduction in costs when shifting the NDMM patients from the daratumumab-IV infusion to daratumumab-SC injection over a 5-year time horizon. The model included two scenarios: the current scenario in which 100% of NDMM are treated with daratumumab-IV infusion and future scenario in which daratumumab-SC injection is gradually adopted over the model time-horizon. The model differentiated precisely between the Autologous stem cell transplant (ASCT) eligible and ASCT ineligible NDMM patients in terms of their number in each group and the associated therapeutic regimens. One-way sensitivity analyses were conducted.

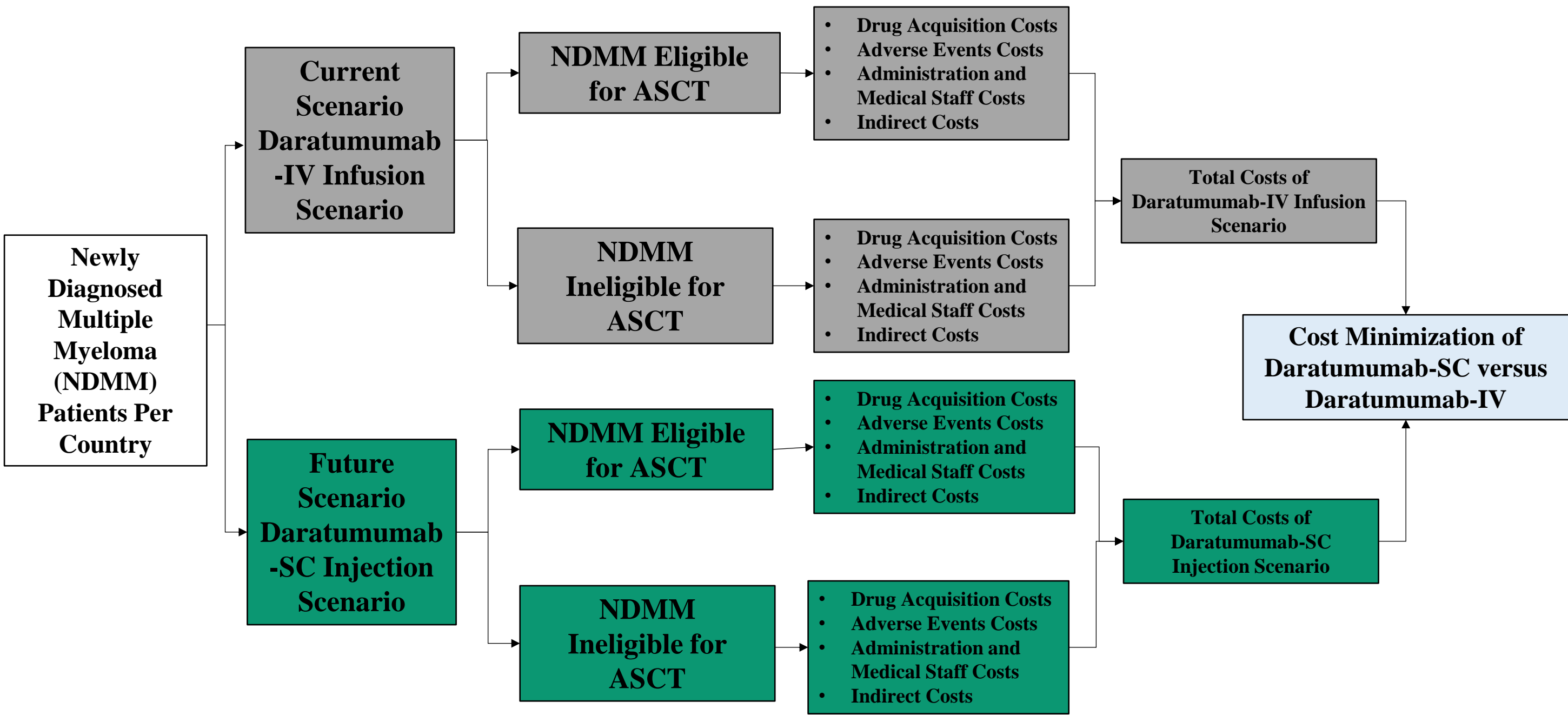


Figure 1: Model Structure



Results

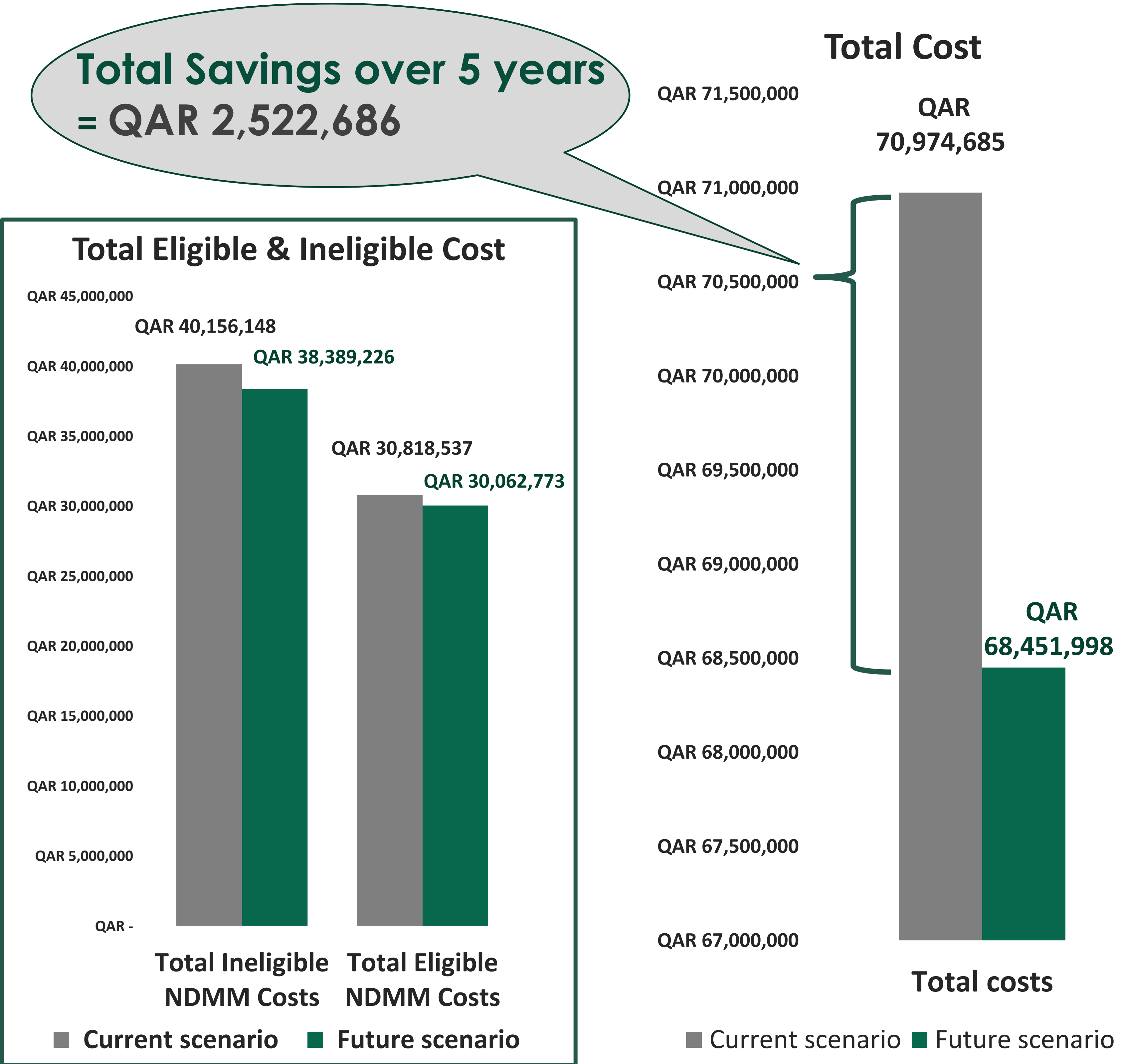
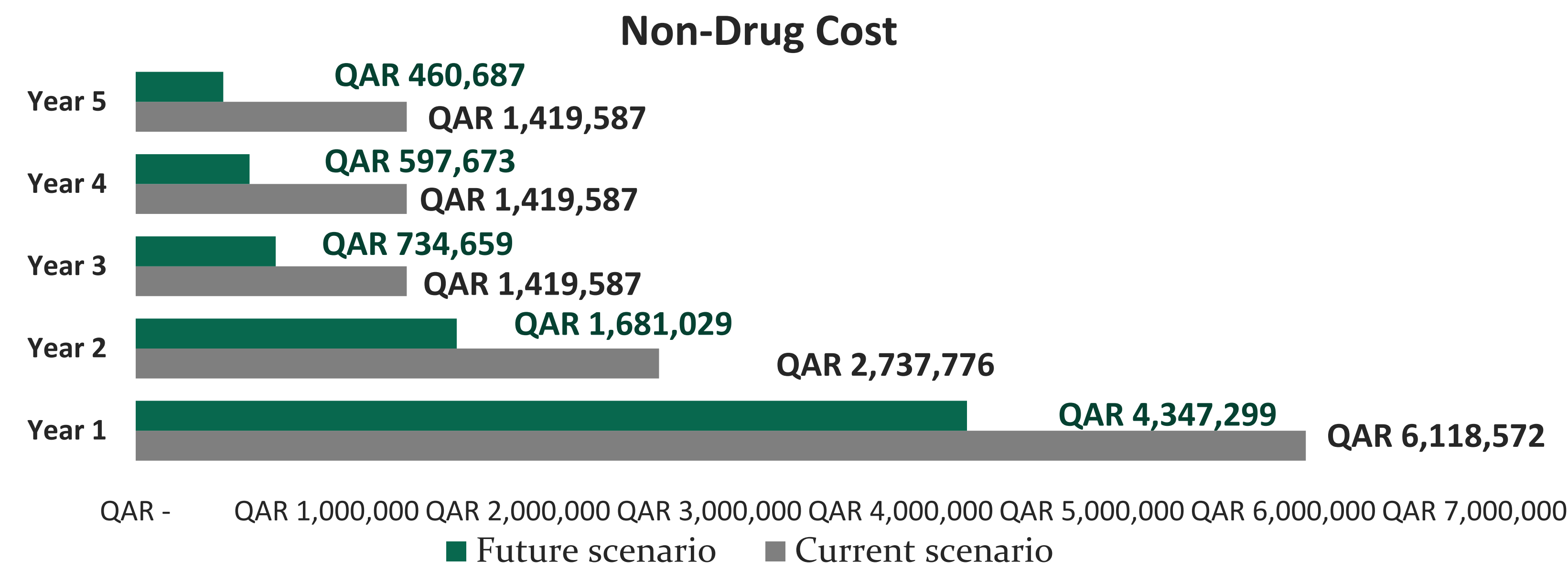
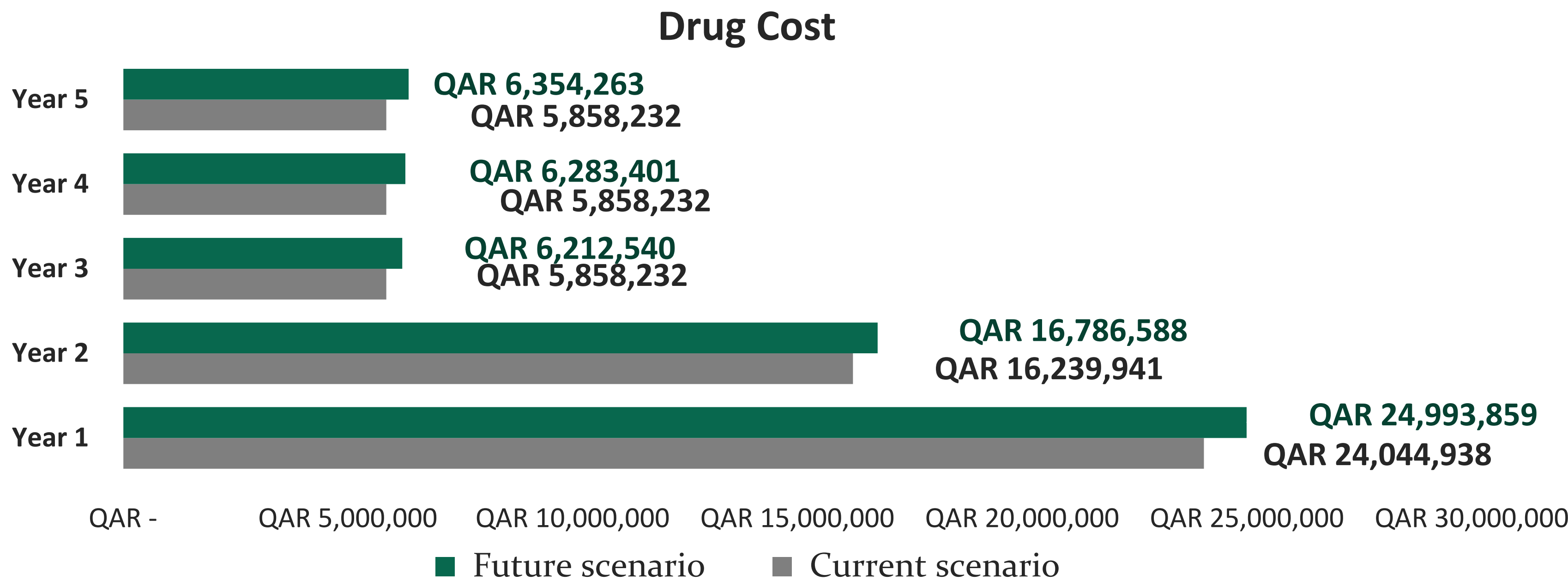
The model showed that the use of daratumumab-SC in NDMM patients both eligible and ineligible to ASCT had resulted in less non-drug costs that included the following: pre-medication drugs costs, AE costs, administration costs, medical staff costs and indirect costs. The total drug costs of the current and future scenarios were QAR 57,859,575 and QAR 60,630,65, respectively; while the non-drug costs were QAR 13,115,110 and

Acknowledgment

Fady Abdelmalek, PharmB
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QAR 7,821,347 for the current and future scenarios, respectively. The resulted total savings over the 5-years' time horizon of the model were QAR 2,522,686.



Conclusion

The introduction of daratumumab-SC formulation within the Qatar healthcare system (Hamad Medical Corporation) as a front-line treatment for the treatment of NDMM patients can help save resources and minimize the constraints over the healthcare system.

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