Budget Impact of Selinexor Combination Regimens in Previously Treated Multiple Myeloma: A Payer Perspective

EE403

Authors: J.A. Carter[1], S.C. Ijioma[2], D. Ray[2], **Affiliations: 1.** OPEN Health, Bethesda, Maryland, USA. **2.** Karyopharm Therapeutics, Newton, Massachusetts, USA.

Introduction

- Selinexor, an oral exportin 1 (XPO1) inhibitor, prevents the XPO1-mediated export of several tumor suppressor proteins (TSPs), leading to the accumulation of TSPs in the nuclei of malignant cells, and blocks protein translation of oncogenes that drive cell proliferation, ultimately causing cell cycle arrest and apoptosis.[1]
- The National Comprehensive Cancer Network (NCCN) guidelines recommend selinexor–bortezomib–dexamethasone (XVd) as a preferred regimen and selinexor–carfilzomib–dexamethasone (XKd), selinexor–pomalidomide–dexamethasone (XPd), and selinexor–daratumumab–dexamethasone (XDd) as useful in certain circumstances in patients with relapsed/refractory MM (RRMM).[2]
- Patient prognosis worsens once progression occurs after exposure to an immunomodulatory drug, proteasome inhibitor, and anti-CD38 monoclonal antibody (mAb).[3-5]
- We sought to assess the budget impact of selinexor-based combination regimens post anti-CD38 mAb therapy in the 2nd-5th treatment line from a payer perspective.

Methods

- A 3-year budget impact model was developed from a hypothetical US payer perspective.
- Scenarios with and without selinexor-based combinations, including 13 NCCN guideline-supported non-selinexor regimens, were compared.
- The model is based on incident patients with 2-5L RRMM post anti-CD38 mAb.
- Costs (2023 US dollars) attributable to primary treatment drug acquisition and administration, adverse events, routine monitoring and medical services, post-progression treatment and medical services, and terminal care were included.
- Annual and cumulative total costs and incremental cost per patient per month (PPPM) and per member per month (PMPM) were assessed.
- One-way (deterministic) sensitivity analysis was also conducted.
- Additional scenarios were modeled with 1) selinexor real-world data[6] and 2) XVd as the only selinexor combination regimen.

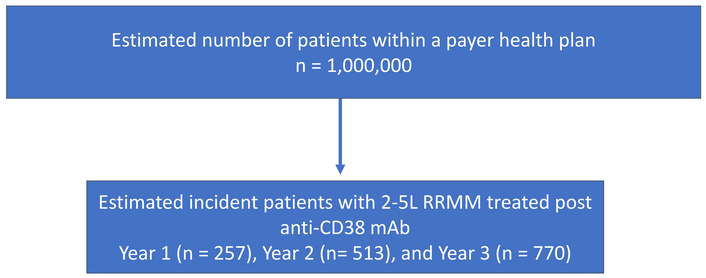
Karyopharm® Therapeutics

ISPOR 2024, May 5 – 8 2024, Atlanta, Georgia, USA

Table 1: Market Share Assumption with Selinexor Uptake

	Status Quo Scenario (Without Selinexor)			Projected Scenario (With Selinexor)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
XVd	0.0%	0.00%	0.00%	3.15%	3.99%	4.94%
XKd	0.0%	0.00%	0.00%	1.93%	3.08%	4.66%
XPd	0.0%	0.00%	0.00%	1.28%	1.76%	2.47%
EPd	7.8%	7.81%	7.70%	7.22%	7.13%	6.65%
ERd	5.3%	4.80%	4.40%	4.85%	4.09%	3.33%
KRd	15.1%	12.80%	10.48%	14.63%	12.07%	9.50%
KPd	12.2%	11.50%	10.48%	11.69%	10.74%	9.50%
IRd	18.3%	16.60%	14.54%	17.77%	15.87%	13.59%
IPd	5.8%	5.30%	4.85%	5.23%	4.66%	3.90%
ASCT	5.0%	5.00%	5.00%	5.00%	5.00%	5.00%
Teclistamab	0.9%	1.71%	3.71%	0.29%	0.95%	2.66%
Talquetamab	1.0%	1.43%	1.90%	0.57%	0.67%	0.86%
Elranatamab	3.7%	5.51%	7.32%	3.14%	4.75%	6.37%
Ciltacabtagene autoleucel	3.7%	5.51%	7.32%	3.14%	4.75%	6.37%
Idecabtagene vicleucel	3.7%	5.51%	7.32%	3.14%	4.75%	6.37%
CyBorD	17.5%	16.53%	15.01%	17.01%	15.77%	13.87%

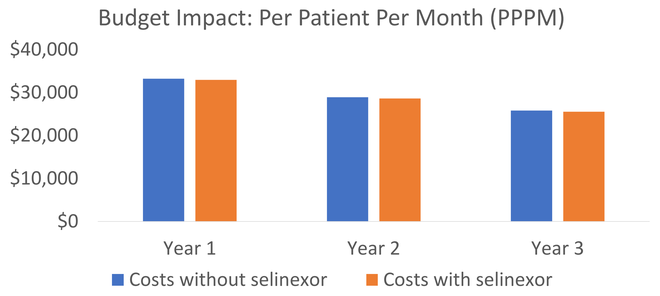
Figure 1. Attrition Diagram - Patient Population



Disclaimer: The budget impact model was updated after the abstract submission. This poster includes the updated results.

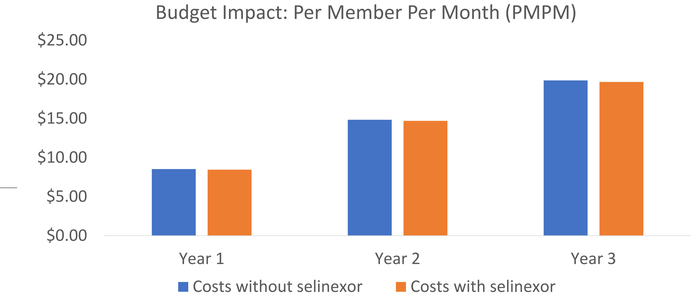
Results

Figure 2: Base-Case Budget Impact: Per Patient Per Month



	Year 1	Year 2	Year 3
Costs without selinexor	$33,235	$28,911	$25,815
Costs with selinexor	$32,955	$28,635	$25,558
Budget impact of selinexor (PPPM)	**-$280**	**-$276**	**-$257**

Figure 3: Base-Case Budget Impact: Per Member Per Month



	Year 1	Year 2	Year 3
Costs without selinexor	$8.53	$14.84	$19.88
Costs with selinexor	$8.46	$14.70	$19.68
Budget impact of selinexor (PMPM)	**-$0.07**	**-$0.14**	**-$0.20**

- The 3-year costs for PPPM and PMPM comparing scenarios was -$257 (**Figure 2**) and -$0.20 (**Figure 3**), respectively.

Table 2. Base-Case Total Budget Impact by Cost Category

	Year 1	Year 2	Year 3
Primary treatment: Drug and Administration	$80,154	-$574,242	-$706,208
Primary Treatment: AE Management	-$39,428	-$56,358	-$71,704
Primary Treatment: Monitoring	0	0	0
Pre-progression: Medical Services	$6,008	$3,275	$4,738
Post-progression: Subsequent Treatment	-$1,028,183	-$1,359,602	-$2,300,194
Post-progression: Medical Services	-$7,723	-$10,212	-$17,277
Terminal Care	$127,769	$293,869	$715,508
TOTAL	**-$861,402**	**-$1,703,270**	**-$2,375,137**

Figure 4. Base-Case One-Way Sensitivity Analysis: Tornado Diagram.

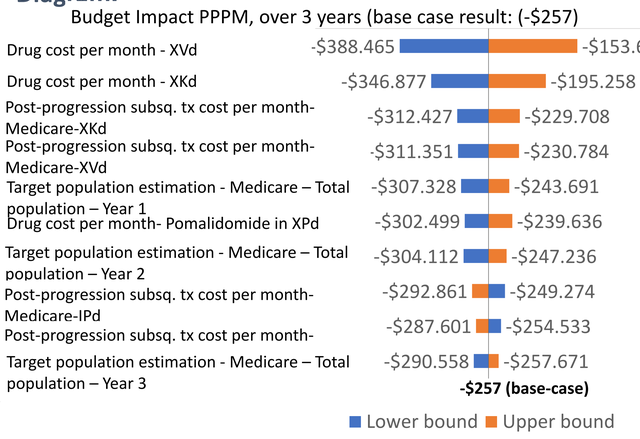


Table 3. Additional Scenario Analysis: Budget Impact

	Year 1	Year 2	Year 3
XVd-only			
PPPM	-$415	-$72	-$307
PMPM	-$0.11	-$0.04	-$0.24
Total budget impact	**-$12,787**	**-$4,438**	**-$28,364**
Real-world data[6]			
PPPM	-$122	-$60	-$120
PMPM	-$0.03	-$0.03	-$0.09
Total budget impact	**-$3,763**	**-$3,673**	**-$11,044**

Conclusions

- The implementation of selinexor-based combination regimens for treatment in patients with RRMM previously treated with an anti-CD38 mAb in the 2nd to 5th line over 3 years was associated with cost-savings.
- These cost savings associated with selinexor are multifactorial, and partly attributed to treatment with selinexor delaying more costly subsequent treatment options, such as bispecific and CAR-T therapies.
- Future research is warranted as the increased use of newer therapies such as bispecific and CAR-T therapies in earlier lines will change the economic paradigm in RRMM.

Limitations

- Clinical data and medical resource utilization data were based on external literature sources.
- Cost of AEs was calculated based on their incidence rate, a subset of all prevalent patients.
- The model relied on assumptions for future market share projections.

References: 1. Tai YT, Landesman Y, Acharya C, et al. *Leukemia*. 2014, 28, 155-65. **2.** National Comprehensive Cancer Network. Multiple Myeloma (Version 2.2024). Accessed February 14, 2024. **3.** Gandhi UH, et al. *Leukemia*. 2019; 33(9): 2266-2275. **4.** Mateos MV, et al. *Leukemia*. 2022; 36:1371–1376. **5.** Nooka AK, et al. *Cancer*. 2019;125(17):2991-3000. **6.** Gordan LN, et al. *Current Oncology*. 2024; 31(1):501-510.

Disclosures: This study was funded by Karyopharm Therapeutics Inc.

Abbreviations: AE, adverse event; ASCT, autologous stem cell transplant; CyBorD, Cyclophosphamide + bortezomib + dexamethasone; EPd, Elotuzumab + Pomalidomide + Dexamethasone; ERd, Elotuzumab + Lenalidomide + Dexamethasone; IRd, Ixazomib + Lenalidomide + Dexamethasone; IPd, Ixazomib + Poalidomide + Dexamethasone; KPd, Carfilzomib + Pomalidomide + Dexamethasone; KRd, Carfilzomib + Lenalidomide + Dexamethasone; PPPM, per patient per month; PPPY, per patient per year; RRMM, relapsed/refractory multiple myeloma; XDd, selinexor + daratumumab + dexamethasone; XKd, selinexor + carfilzomib + dexamethasone; XPd, selinexor + pomalidomide + dexamethasone; XVd, selinexor + bortezomib + dexamethasone.