BUDGET IMPACT ANALYSIS OF ZANUBRUTINIB FOR THE TREATMENT OF ADULT PATIENTS WITH MANTLE CELL LYMPHOMA WHO HAVE RECEIVED AT LEAST ONE PRIOR THERAPY FROM THE PAYER PERSPECTIVE IN THE UNITED STATES

Mantle cell lymphoma (MCL) is a rare, aggressive B-cell non-Hodgkin lymphoma (NHL) subtype that is estimated to account for approximately 3% of all NHL cases in the United States (US). The incidence is about 1.15 persons per 100,000 in the US.

Treatment options for patients with advanced MCL include induction therapy with chemomunotherapy followed by an autologous stem cell transplant and rituximab maintenance therapy. For patients unfit for transplant, a less aggressive chemomunotherapy regimen with rituximab maintenance therapy can be used. Most patients with MCL will eventually relapse and require further therapy.

Zanubrutinib, a Bruton’s tyrosine kinase inhibitor (BTKi) received accelerated approval by the US Food and Drug Administration in November 2019 for the treatment of adult patients with MCL who have received at least one prior therapy.

The objective of this analysis was to evaluate the budget impact of adding zanubrutinib to the formulary for the treatment of adult patients with MCL who have received at least one prior therapy from the US Medicare and commercial payer perspectives.

### METHODS

**Model Overview**
- The model compared the total costs between two scenarios over one year time horizon (Figure 1, Table 1)
  - A scenario without zanubrutinib on the formulary: Patients might receive acalabrutinib, brutinib, B-R, or RCHOP
  - A scenario with zanubrutinib on the formulary: Patients might receive one of the aforementioned therapies or zanubrutinib

The analysis was conducted from the US Medicare and commercial payer perspectives, each with 1 million members. Target population was adult patients with MCL who received at least 1 prior therapy, consistent with the approved indication for zanubrutinib.

Costs included drug acquisition, drug administration, monitoring, and adverse event (AE) management. All costs were reported in 2020 dollars.

### RESULTS

**Budget Impact**
- In a hypothetical Medicare plan with 1 million members, there were 13 eligible R/R MCL patients and adding zanubrutinib to the formulary was associated with a cost savings of $8139 over 1 year ($633 PPP; $2,001 PMPM) (Figure 2, Table 3)
- In a hypothetical commercial plan with 1 million members, there was 1 eligible R/R MCL patient and adding zanubrutinib to the formulary was associated with a cost savings of $739 over 1 year ($333 PPP; $500 PMPM) (Table 3).

**Sensitivity Analysis**
- The 1-year budget impact results were most sensitive to drug acquisition cost of zanubrutinib, followed by drug acquisition cost of the other BTKi (i.e., acalabrutinib, brutinib) (Figure 4).

### BUDGET IMPACT ANALYSIS OF ZANUBRUTINIB FOR THE TREATMENT OF ADULT PATIENTS WITH MANTLE CELL LYMPHOMA WHO HAVE RECEIVED AT LEAST ONE PRIOR THERAPY FROM THE PAYER PERSPECTIVE IN THE UNITED STATES

- **Nirjhor Chak, MD, Shujeeb Khan, MD, Mei Tang, MD, Vin Goyal, MD, Mark Bakul, MD, Buo Liang Tong, MD**
- **Pharmacia – an OPEN Health Company, Bethesda, MD**
- **Pharmacia – an OPEN Health Company, Newton, MA**
- **Beigene, Ltd.**

### BACKGROUND
- Mantle cell lymphoma (MCL) is a rare, aggressive B-cell non-Hodgkin lymphoma (NHL) subtype that is estimated to account for approximately 3% of all NHL cases in the United States (US). The incidence is about 1.15 persons per 100,000 in the US.
- Treatment options for patients with advanced MCL include induction therapy with chemomunotherapy followed by an autologous stem cell transplant and rituximab maintenance therapy. For patients unfit for transplant, a less aggressive chemomunotherapy regimen with rituximab maintenance therapy can be used. Most patients with MCL will eventually relapse and require further therapy.
- Zanubrutinib, a Bruton’s tyrosine kinase inhibitor (BTKi) received accelerated approval by the US Food and Drug Administration in November 2019 for the treatment of adult patients with MCL who have received at least one prior therapy.

- The objective of this analysis was to evaluate the budget impact of adding zanubrutinib to the formulary for the treatment of adult patients with MCL who have received at least one prior therapy from the US Medicare and commercial payer perspectives.

### METHODS

- **Model Overview**
  - The model compared the total costs between two scenarios over one year time horizon (Figure 1, Table 1)
    - A scenario without zanubrutinib on the formulary: Patients might receive acalabrutinib, brutinib, B-R, or RCHOP
    - A scenario with zanubrutinib on the formulary: Patients might receive one of the aforementioned therapies or zanubrutinib
  - The analysis was conducted from the US Medicare and commercial payer perspectives, each with 1 million members. Target population was adult patients with MCL who received at least 1 prior therapy, consistent with the approved indication for zanubrutinib.
  - Costs included drug acquisition, drug administration, monitoring, and adverse event (AE) management. All costs were reported in 2020 dollars.

- **Table 1. Model Input Category and Reference**
- **Table 2. Budget Impact Results**
- **Figure 1. Budget Impact Model Framework**

### RESULTS

- **Budget Impact**
  - In a hypothetical Medicare plan with 1 million members, there were 13 eligible R/R MCL patients and adding zanubrutinib to the formulary was associated with a cost savings of $8139 over 1 year ($633 PPP; $2,001 PMPM) (Figure 2, Table 3)
  - In a hypothetical commercial plan with 1 million members, there was 1 eligible R/R MCL patient and adding zanubrutinib to the formulary was associated with a cost savings of $739 over 1 year ($333 PPP; $500 PMPM) (Table 3).

- **Sensitivity Analysis**
  - The 1-year budget impact results were most sensitive to drug acquisition cost of zanubrutinib, followed by drug acquisition cost of the other BTKi (i.e., acalabrutinib, brutinib) (Figure 4).

### REFERENCES

- Nirjhor Chak, Shujeeb Khan, Mei Tang, Vin Goyal, Mark Bakul, Buo Liang Tong. Budget impact analysis of zanubrutinib for the treatment of adult patients with mantle cell lymphoma who have received at least one prior therapy from the payer perspective in the United States. Oncotarget. 2018;9(29):20527-20538.
- 6. Wang M, Rule S, Zinzani PL, et al. The study was sponsored by Beigene, Ltd.