The Budget Impact of Zanubrutinib for the Treatment of Waldenstrom's Macroglobulinemia in the United States

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OBJECTIVE: Waldenström's macroglobulinemia (WM) is a rare B-cell malignancy of which Bruton tyrosine kinase (BTK) plays a critical role in B-cell receptor signaling. Zanubrutinib, a highly selective, next-generation BTK inhibitor was approved for the treatment of adult patients with WM in the United States (US) on August 31, 2021. This study aimed to estimate the budget impact of providing access to zanubrutinib for the treatment of adult patients with WM from the US healthcare payer perspective.

METHODS: An Excel-based budget impact model (BIM) with a 3-year time horizon was developed to estimate the economic impact of providing adult WM patients access to zanubrutinib within a 1-million-member US health plan (a mixed health plan with both commercial and Medicare plan). The targeted patient population was estimated based on epidemiological inputs. Comparators included ibrutinib ± rituximab, bendamustine + rituximab, bortezomib + dexamethasone + rituximab, and rituximab monotherapy. The BIM accounted for the treatment eligible population, projected market shares, and costs for drug acquisition, administration, monitoring, and adverse events (AEs). Efficacy, AE, dosing, and treatment schedules were obtained from clinical trial publications. Costs were reported in 2021 US$. Model outputs included annual budget impact and per member per month cost (PMPM) differences calculated over a 3-year time horizon. Sensitivity analyses tested the impact of input uncertainty on outcomes.

RESULTS: In a 1-million-member payer plan, 5 WM patients were estimated to be diagnosed and treated. After the adoption of zanubrutinib, the estimated total budget impacts were $33,708 ($0.003 PMPM), $84,510 ($0.007 PMPM), and $117,963 ($0.010 PMPM) in year 1, year 2, and year 3, respectively. The BIM results were most sensitive to changes in the acquisition costs of zanubrutinib, rituximab, and ibrutinib.

CONCLUSIONS: Providing access to zanubrutinib for the treatment of patients with WM showed minimal budget impact on a US health plan.