International Society of Gastrointestinal Oncology
2013 Gastrointestinal Oncology Conference
October 17–19, 2013

BUDGETARY IMPACT OF THE ADDITION OF ZIV-AFLIBERCEPT TO A HEALTH PLAN FORMULARY AS A POST-OXALIPLATIN PROGRESSION BIOLOGIC OPTION FOR TREATING PATIENTS WITH METASTATIC COLORECTAL CANCER

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Background: A rigorous model to examine the budgetary impact following the availability of ziv-aflibercept as a biologic option for patients with metastatic colorectal cancer (mCRC) who have progressed following an oxaliplatin-containing regimen was developed. The model, based on the International Society for Pharmacoeconomics and Outcomes Research guidelines for Budget Impact Models, was from the perspective of health care payers in the United States. Here we report on the updated model subsequent to commercial availability of ziv-aflibercept; addition of a backbone chemotherapy regimen of 5-fluorouracil, leucovorin, and irinotecan (FOLFIRI); and user input.

Methods: A Markov model was developed to simulate the transition of patients receiving treatment for mCRC through health states (progression-free survival, progressive disease, and death) that are typically observed in a clinical setting. The biologic options—ziv-aflibercept, bevacizumab, cetuximab, and panitumumab—all in combination with FOLFIRI, and FOLFIRI alone, were chosen based on the 2013 National Comprehensive Cancer Network® (NCCN®) Clinical Practice Guidelines in Oncology. The overall model time frame was 1 year, with 4 successive 90-day model cycle lengths. Drug cost and utilization rates in the United States as of April 2013 were applied for all comparators. Costs for biologic treatments were based on April

2013 wholesale acquisition cost (WAC) and average sales price (ASP). Landmark trials of biologic agents in combination with FOLFIRI, FOLFOX (5-fluorouracil, leucovorin, and oxaliplatin), or irinotecan alone were used to calculate survival (progression-free and overall) and adverse event costs, which were calculated using incidence rates from product labeling and published cost sources. Other costs included in the budget impact analysis were biomarker testing (assumed for all patients), drug administration and monitoring, and death/terminal care.

Results: The estimated proportion of health plan members treated with biologics in combination with FOLFIRI or with FOLFIRI alone for mCRC after an oxaliplatin-based regimen was 57 patients/1 million member population. For a hypothetical health plan of 1 million members and the current utilization rate of ziv-aflibercept of 3.4% among patients with mCRC, the estimated total annual cost was $6,008,224 for patients with mCRC after treatment with an oxaliplatin-containing regimen. The per-member-per-month (PMPM) cost was $0.50. With an estimated increase in utilization rate to 20.1% for ziv-aflibercept, the annual cost to the hypothetical 1 million member health plan would decrease 1.1% (-$81,893) to $5,926,331. The PMPM cost would decrease by $0.0068. The model estimates that the cost savings will be due to a decrease in drug acquisition and death-related costs, along with an increase in costs related to adverse events.

Conclusions: Under the updated model's assumptions, which include utilizing approved product labeling across the biologic options, altering the budget impact of ziv-aflibercept from its current utilization rate of 3.4% to a new rate of 20.1% is estimated to be associated with a PMPM cost savings of $0.0068. This reflects a 1.1% decrease in the total annual budget of the hypothetical 1 million member health plan.

Research and analyses supported by Sanofi U.S. LLC in collaboration with Regeneron Pharmaceuticals, Inc.

Editorial support in the preparation of this publication was provided by Susan DePetris, PhD of Phase Five Communications Inc. and sponsored by Sanofi U.S. The authors were responsible for all content and editorial decisions and received no honoraria related to the development/presentation of this publication.