OBJECTIVES: Economic modeling is an accepted tool for making formulary decisions by payers in the US. Hospital and institutional healthcare providers have expressed increased interest in using economic modeling in their decision making processes, particularly regarding potential reimbursement based on hospital-specific pricing. This study presents hospital perspective costs from a revenue impact (RI) calculator component of an economic model.

METHODS: An economic model was developed that investigated hospital RI (or hospital actual costs minus projected reimbursement) of introducing National Comprehensive Cancer Network Category 1 recommended treatments for metastatic melanoma to a hospital formulary. Therapies investigated in the analysis included: dabrafenib, trametinib combination, vemurafenib monotherapy, dabrafenib monotherapy, and trametinib monotherapy. The model calculated the annual pharmaceutical acquisition cost savings of each therapy based on recommended dosing, progression-free survival as a marker for duration of treatment, and drug pricing. Pricing data was retrieved from the Truven Health Analytics RED BOOK database. Acquisition costs in the model could be set to 340B, wholesale acquisition cost (WAC), or average wholesale price (AWP) values. The hospital has the option to select a fixed discount to WAC to approximate 340B pricing. The projected reimbursement in the model uses WAC plus a modifiable 4.3% (based on the Medicare permitted reimbursement premium) for both Medicare and commercial payers. The perspective payer mix and respective reimbursement percentages can be modified by the model user. WAC was used in place of average sales price (ASP) due to the unavailability of hospital-specific ASP values. Results: Annual net reimbursement revenues per patient based on 340B acquisition costs were projected to be $53,270 for dabrafenib+trametinib combination, $27,043 for vemurafenib, $22,634 for dabrafenib, and $19,029 for trametinib.

RESULTS: The commercial and Medicare reimbursement totals are summed to estimate the total reimbursement for the special discount for 340B products. The total reimbursement then subtracts the total treatment cost (340B Pricing) to get the projected reimbursement revenue.

CONCLUSIONS: The RI calculator calculates the total reimbursement revenue calculation is a valuable tool that expands the contribution of economic modeling to hospital formulary decision-making.