Title: Pharmacoeconomic effect of Genentech’s drug distribution model change on a health system: Opportunity Cost Analysis of UNC Health Care Institutions

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Background: The pharmacy supply chain is a complex system revolving around product transition from the manufacturer to the patient. Wholesalers earn revenue from discounts and fees from manufacturers based on services provided. In turn, the wholesaler returns part of their revenue streams to their purchasers in the form of a “cost-minus” distribution discount which they negotiate for market share. This results in purchasers paying less than contract cost or wholesale acquisition cost (WAC) for non-contracted products.

In addition to the various pricing and strategies, manufacturers determine the optimal distribution strategy to ensure product integrity for patient safety. Manufacturers transition between distribution strategies to fit the needs of patients and providers as products mature in the market.

Genentech, the manufacturer of bevacizumab (Avastin®), rituximab (Rituxan®), and trastuzumab (Herceptin®), announced it would be shifting the distribution models for all three drugs from open channel to a limited distribution model through authorized specialty distributors beginning October 1, 2014. The manufacturer cited a 2012 incident of bevacizumab counterfeiting, stating the change was implemented to improve the overall security of their supply chain. By limiting distribution to specialty distributors, hospitals and health systems that previously purchased these products through wholesalers affording cost-minus discounts would no longer receive these discounts.

UNC Health Care is a not-for-profit health system that projected a $2 million increase in drug expense per year due to the loss of cost-minus discount. The financial analysis illustrated the shift caused a $1.39 million increase in expenditure for the health system. The health system includes an academic medical center, a centralized services center, and community hospitals. Of the eight entities, three are eligible for 340B pricing. Additionally, seven entities have infusion clinic services.

Purpose: Identify opportunities to shift administration of these agents from inpatient to outpatient settings and identify the associated opportunity cost. Support the development of policies providing additional guidance for utilization of these products within UNC Health Care.

Methods: Patients were identified utilizing the elecAn opportunity analysis was conducted for three institutions within the health-system. Inpatient administrations of trastuzumab, rituximab, or bevacizumab during the post-period were identified as opportunities to be moved to outpatient administration through an algorithm designed with input from oncology specialists. After identifying administrations with opportunity to be shifted to the outpatient sector, the opportunity cost was calculated by the sum of inpatient drug cost and estimated outpatient margin.

Results: A total of 162 administrations were determined to be opportunities to be shifted to the outpatient setting during the post-period. The opportunity cost for the post-period was $1,766,048.
Conclusion: The opportunity cost of $1.7 million to shift infusions from inpatient to outpatient could recover the increase in expenditure of $1.4 million of cost increase in the post-period due to the loss of the cost-minus discount.