Title: Pharmacoeconomic effect of Genentech’s drug distribution model change on a health system

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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 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: To determine the health system level financial impact of Genentech’s change from open to limited distribution for bevacizumab, rituximab, and trastuzumab.

Methods: To assess the financial impact on the health system, the cost-minus discount was applied to total drug expenditure during a one-year period after the distribution model change (Post-Period). Using WAC and vial purchase price directly prior to the distribution model change, cost-minus discount was calculated by dividing the difference between WAC and vial purchase price by WAC.

Results: The total drug expenditure for the Post-Period was $26,427,263. The Post-Period expenditure with cost-minus discount applied was $25,033,657. Thus, the pharmacoeconomic effect of the distribution model change was $1,393,606.

Conclusion: Health-system drug expenditure for the three drugs increased by approximately $1.4 million following a distribution model change resulting in the loss of the cost-minus discount.