Economic analysis of a herpes zoster vaccination program in 19 affiliated supermarket pharmacies

Megan A. Hedden, Peggy G. Kuehl, and Yifei Liu

Abstract

Objectives: To examine the economic impact of providing herpes zoster vaccine (ZOS) in 19 affiliated supermarket pharmacies in a midwestern metropolitan area from the perspective of the pharmacy and to identify factors associated with greater rates of vaccine delivery and profitability.

Setting: 19 affiliated supermarket pharmacies in the Kansas City metropolitan area.

Practice description: Immunizations with ZOS were expanded from 2 pharmacies to all 19 affiliated pharmacies. Various methods to promote the vaccine were used, including personal selling, store signage, and circular ads.

Practice innovation: In addition to a broad perspective pharmacoeconomic model, a localized perspective model is proposed to determine profitability for the service. Factors associated with greater success in vaccine delivery and profitability were identified.

Main outcomes measure: Net financial gains or losses were calculated for each vaccine administered for each of the 19 pharmacies and for the entire supermarket chain.

Results: 662 vaccines were given during the study period, accounting for 6.7% of all eligible patients. The profit per vaccine averaged $9.60 (5.7%) and $28.37 (18.9%) using the broad and localized perspective models, respectively.

Conclusion: Success of the ZOS program was demonstrated using both models. Certain factors correlated with greater profits when using the localized perspective model.

Keywords: Herpes zoster, vaccination, pharmacist, community pharmacy, economic analysis.

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Megan A. Hedden, PharmD, is Pharmacist-in-Charge, AuBurn Pharmacy, Eudora, KS; at the time of the research, she was Community Pharmacy Resident, University of Missouri–Kansas City (UMKC)/Ball's Food Stores Price Chopper Pharmacy. **Peggy G. Kuehl, PharmD, FCCP,** is Clinical Associate Professor and Community Pharmacy Coordinator, UMKC School of Pharmacy, and Director, Community Pharmacy Residency Program, UMKC. **Yifei Liu, PhD,** is Associate Professor, UMKC School of Pharmacy.

Correspondence: Peggy G. Kuehl, PharmD, FCCP, UMKC School of Pharmacy, 2464 Charlotte Street, Kansas City, MO 64108. Fax 816-235-6008. E-mail kuehlp@umkc.edu

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Herpes zoster, commonly known as shingles, is a vaccine-preventable disease caused by reactivation of latent varicella zoster virus. According to the Centers for Disease Control and Prevention (CDC), approximately 50% of those who live to age 85 years will experience an episode of herpes zoster. This is equivalent to approximately 10 cases per 1,000 of the U.S. population older than 60 years, or an estimated 1 million cases, annually.[1]

Herpes zoster can cause significant long-term secondary complications including post-herpetic neuralgia, loss of sight, bacterial super-infection, and disfiguring scarring. CDC recommends routine vaccination of all persons 60 years of age or older with a single subcutaneous dose of 0.65 mL of the herpes zoster vaccine (ZOS).[2] Although this vaccine has been available since 2006, only 20.1% of the eligible population reported having received it as of 2012.[3]

Pharmacists are in a unique position to provide ZOS because of their ease of accessibility and ability to bill prescription plans for administration of the vaccine. However, pharmacists often overlook their role in promoting vaccinations, perhaps because of time constraints, a focus on patient counseling, or unfamiliarity with vaccine recommendations.[4]

One strategy for vaccination promotion is personal selling, a process by which the pharmacist proactively engages a patient in conversation about a desired intervention,[5,6] removing any barriers the patient might have to receiving the intervention. A recent study reported that, when compared with a control pharmacy, patient commitment to receiving ZOS was 10 times greater in a pharmacy where personal selling was used.[6]

Beyond the public health benefits of an immunization program, it is important to analyze the associated economic benefits. Shrinking third-party reimbursements, increased drug costs, and the growing influence of government health care programs are all driving community pharmacists to seek new revenue sources.[7] Wood et al. analyzed the financial implications of a ZOS program from the perspective of an independent pharmacy, reporting a net profit of $15.02 (8.15%) per dose administered.[8]

A study conducted in 2001 by Kamal et al. found that pharmacists in chain community settings were more willing to promote adult immunizations than were pharmacists in independent settings; however, chain pharmacists were also more concerned about liability and internal support.[4] These factors may contribute to different rates of immunization delivery and profitability in independent versus chain community pharmacy settings.

At a Glance

Synopsis: This analysis of the economic impact of implementing a herpes zoster vaccine (ZOS) program compared the amount of expenses involved in supplies, labor, and promotion with postimplementation profits. Pharmacists and technicians from the 19 affiliated supermarket pharmacies involved in the study also self-reported the amount of time spent processing, preparing, and administering vaccines, and proactively discussing the program with patients. Net financial gains or losses were calculated for each vaccine administered using "broad" and "localized" perspective pharmacoeconomic models.

Analysis: *Declining third-party reimbursements, increasing drug costs, and the growing influence of government health care programs are driving community pharmacists to find new methods of generating revenue. A ZOS program provides a supplemental revenue stream while also meeting the public health needs of patients. The ZOS program was profitable overall. We propose using both broad and localized perspective economic models for comparisons of program success. Using a localized approach for internal comparisons provides a sense of actual cash flows and profits, while the broad perspective model allows for comparisons with other pharmacies.*

Objectives

Our first objective was to examine the economic impact (net profit or loss) of providing and administering ZOS in 19 affiliated supermarket pharmacies. Our second objective was to identify factors associated with increased rates of vaccine delivery. Analyzing these factors may help community pharmacists decide where to focus their efforts when implementing a vaccination program.

Setting

Ball's Food Stores is a family-owned supermarket chain in the Kansas City metropolitan area comprising 28 grocery stores, 19 of which have pharmacies. Ball's Food Stores is a self-insured company that provides disease-management programs for its employees with diabetes mellitus and cardiovascular conditions. Other programs offered by the company include smoking cessation; immunizations, including a travel vaccine clinic; medication therapy management services; and health screenings. Influenza vaccines were first administered at one of the Ball's Food Stores pharmacies in 2008, with expansion to all of the chain's other pharmacies in 2010. That same year, two of the company pharmacies began offering ZOS, with the remaining 17 offering the vaccine in 2011.

Methods

In all, 19 affiliated Ball's Food Stores pharmacies in the Kansas City metropolitan area participated in this research from September 1, 2011, through January 31,