**ABSTRACT**

The Reduction by Dutasteride of Prostate Cancer Events (REDUCE) clinical trial examined whether a dual 5-alpha reductase inhibitor (dutasteride; a nonsteroidal, nonselective, double 5-alpha reductase inhibitor) offers improved prostate cancer prevention compared with usual care. Subjects were men aged 50 to 75 with serum prostate-specific antigen (PSA) of 2.5 to 10 ng/mL and a clinical diagnosis of Benign Prostatic Hyperplasia (BPH). The trial randomized 17,685 men to either dutasteride (0.5 mg once daily) or usual care. The primary outcome measure was the incidence of biopsy-positive prostate cancer, documented on two consecutive negative prostate biopsies. A secondary objective was the incidence of high-grade tumors. Results were reported at the American Urological Association conference (May 13-16, 2009).

**OBJECTIVE:**

We developed a Markov model to compare the costs and outcomes of chemoprevention with dutasteride 0.5 mg daily with usual care. Costs and outcomes were compared in a US perspective, using data from the REDUCE clinical trial.

**METHODS:**

Costs and outcomes are discounted at 3% per annum. Resource use and costs for PCa workup and staging, treatment, and chemoprevention were estimated using data from the REDUCE clinical trial. The Markov model was developed to simulate the progression of patients through health states for a 4-year period. The model is based on the perspective of a US third-party payer. The model is an age- and PSA-based Markov model with 150 health states. The 3-year timespan was the window of observation. The model was not discounted.

**RESULTS:**

The model was run comparing dutasteride against usual care for 1,000 men. The results were based on the Markov model and were reported in life-years and costs over a 10-year period. Dutasteride patients experienced greater gains in quality-adjusted life-years than usual care patients: 7.62 versus 7.47.

**CONCLUSIONS:**

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**ACKNOWLEDGEMENTS**

This study was funded by GlaxoSmithKline.

**REFERENCES**


8. GLASO-Smith Kline, Research Triangle Park, NC, USA. Costs per patient at 0.975 million US dollars.
