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Qin L[1], Luo X[2], Zou K H[2], Snedecor S J[1]
1. *Pharmerit International,* ***2.*** *Pfizer Inc*

ECONOMIC IMPACT OF USING FESOTERODINE FOR THE TREATMENT OF OVERACTIVE BLADDER IN VULNERABLE ELDERLY POPULATION IN THE UNITED STATES

Hypothesis / aims of study

To assess the costs of treating overactive bladder (OAB) with fesoterodine compared to no treatment among vulnerable elderly from the US payer perspective.

Study design, materials and methods

A decision analytic cost model was developed to estimate the 52-week costs of a cohort of vulnerable elderly with OAB initiating treatment with fesoterodine or not. Vulnerable elderly were defined as those ≥65 years and at risk of deteriorating health by a score of ≥3 on the Vulnerable Elders Survey (VES)-13. OAB patients were defined as those with self-reported urge urinary incontinence (UUI) symptoms for ≥3 months and 2-15 UUI episodes/day among other symptoms [1]. The model represented typical clinical treatment patterns of OAB patients receiving antimuscarinic therapy where patients were evaluated for clinical and economic outcomes at weeks 12, 26, and 52.

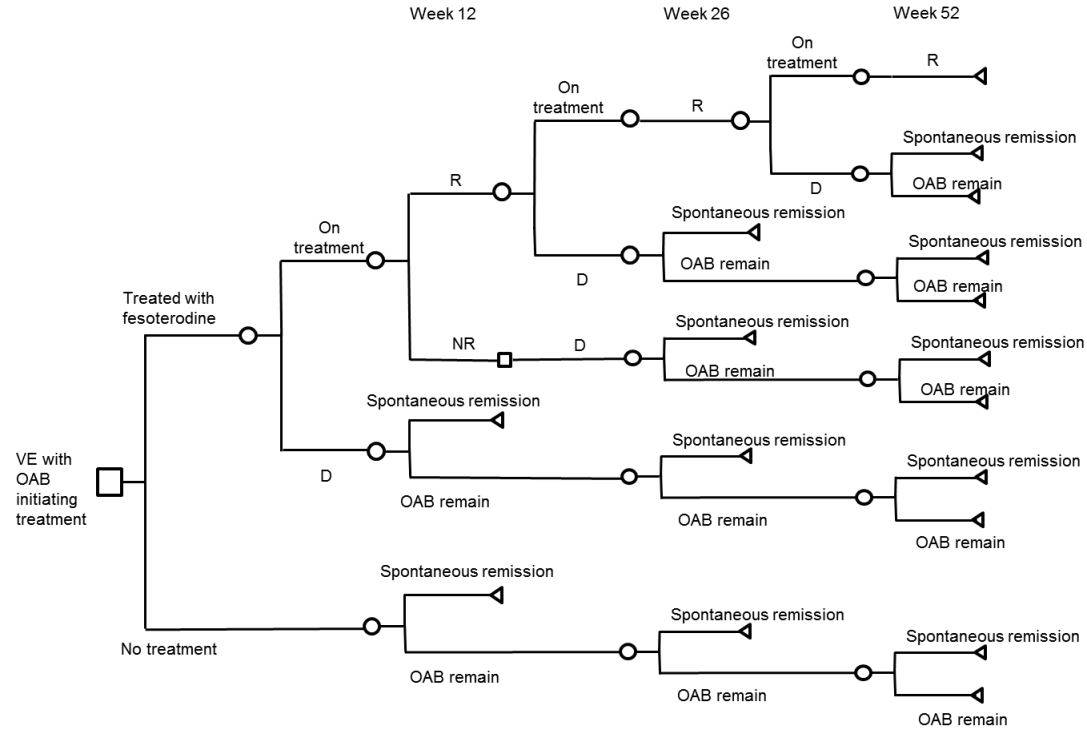
At week 12, the proportion (50.8%) of fesoterodine treatment responders (defined as no UUI episodes) was taken from a randomized, double-blind, placebo-controlled trial of vulnerable elderly subjects [1]. Responders maintained treatment efficacy until subsequent discontinuation or week 52; Non-responders discontinued after 12 weeks of fesoterodine treatment (Figure). Probabilities of discontinuation prior to and after week 12 were estimated from a published source. Patients discontinuing treatment were assumed to return to baseline (untreated) status.

The model assumed spontaneous remission from OAB symptoms (no UUI episodes) among untreated patients and treatment-discontinued patients (2.0% per year [2]), which was maintained until week 52 (Figure). Sensitivity analyses were also conducted with yearly remission of 0% and 36%, which represented the remission observed in the placebo arm in the clinical trial [1].

Components of costs included fesoterodine, health care resource (HCRU; inpatient hospitalization, ER visits, outpatient hospitalization, and physician office visits), and OAB-related comorbidities (falls/fractures, urinary tract infections, depression, and nursing home admissions). HCRU costs for vulnerable elderly, with and without OAB symptoms, were estimated from an analysis of the Medicare Current Beneficiary Survey (MCBS) [3]. Responders and untreated patients with remission were assigned the costs of vulnerable elderly without OAB. Non-responders and untreated patients without remission were assigned the costs of vulnerable elderly with OAB. Costs of hospitalization and physician visits were estimated from the MCBS. [3] OAB-related comorbidity costs were taken from published sources. All costs were inflated to 2013 US$ using the medical care component of the consumer price index.

The model included 100,000 elderly members from a hypothetical health plan. The proportion of vulnerable elderly (52.4%) in the plan and prevalence of OAB among vulnerable elderly (13.5%) were estimated from the MCBS [3], resulting in a total of 7,096 patients as the model target population.

Figure. Model design diagram



VE: vulnerable elderly; OAB: overactive bladder; R: Responders; NR: non-responders; D: discontinued.

Results

Table. Estimated costs (in 2013US$) per 7,096 vulnerable elderly OAB patients over 52 weeks

Cost component	Fesoterodine	No treatment	Incremental cost (savings)
Antimuscarinic	$7,832,919	$0	$7,832,919
HCRU	$92,714,109	$99,905,656	-$7,191,547
OAB-related comorbidities	$107,431,501	$119,346,101	-$11,914,600
Total	**$207,978,529**	**$219,251,757**	**-$11,273,228**
Cost per patient per year	$29,310	$30,899	-$1,589

Interpretation of results

Within a cohort of 7,096 vulnerable elderly patients with OAB, if untreated patients were given fesoterodine, US health care payers would save $11,273,228 per year, or $1,589 per patient. The costs of fesoterodine were offset by lower HCRU and OAB-related comorbidities costs.

Sensitivity analysis using alternate assumptions for the probability of spontaneous remission also showed fesoterodine treatment to be cost saving but resulted in large variation in overall costs. When the annual remission was 0% or 36%, the total cost savings were $11,656,443 and $4,572,853 and per patient per year cost savings were $1,643 and $644.

Concluding message

From a US payer perspective, treating vulnerable elderly OAB patients with fesoterodine was cost-saving compared to no treatment.

References

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Disclosures

Funding: This study was funded by Pfizer, Inc. **Clinical Trial:** No **Subjects:** NONE