

Retrospective Cost Analyses of Switching From a Twice-Daily Proton Pump Inhibitor to Once-Daily Esomeprazole

Joseph A Crawley, MS¹; Richard Brook, MBA²; and James Smeeding, MBA³

¹AstraZeneca LP, Wilmington, DE; ²The JeSTARx Group, Newfoundland, NJ; ³Center for Pharmacoeconomic Studies, University of Texas at Austin, Austin, TX

CONCLUSIONS

- Switching from twice-daily PPI treatment to once-daily esomeprazole had a high success rate and resulted in cost savings.
- These findings demonstrate an effective means to manage GERD in patients who would otherwise incur higher costs while seeking an acceptable level of acid suppression.

1. INTRODUCTION

- Suboptimal, symptomatic response to proton pump inhibitor (PPI) therapy commonly leads the physician to double the PPI dose.¹ Up to 30% of patients are prescribed more than single-dosage PPI therapy.²
- Esomeprazole 40 mg once daily and lansoprazole 30 mg twice daily showed similar efficacy in controlling the symptoms of gastroesophageal reflux disease (GERD) in patients with GERD symptoms refractory to lansoprazole 30 mg once daily.^{3,4}
- Switching to another PPI rather than doubling the PPI dose is an attractive option that may represent a more convenient regimen for the patient and a potentially cost-effective approach to treatment.

2. AIM

- To determine if patients with GERD taking a twice-daily PPI received more economical and successful management of their disease when switched to once-daily esomeprazole.

3. PATIENTS AND METHODS

- Inclusion criteria
 - Aged ≥18 years

- ≥1 International Classification of Disease (ICD)-9 diagnosis code for esophagitis, esophageal reflux, or heartburn in medical records
- No diagnosis of a hypersecretory condition
- Prescribed once-daily esomeprazole after ≥3 months of treatment with a twice-daily PPI
- No previous treatment with twice-daily esomeprazole or twice-daily omeprazole 10 mg
- Eligible for medical and pharmacy coverage 6 months before and after first esomeprazole prescription

- Data were obtained from Integrated Healthcare Information Services (IHCIS).
- Total costs were calculated from medical, inpatient, and pharmacy claims.
- Difference in total costs 6 months before and after conversion to once-daily esomeprazole were calculated and compared using Wilcoxon rank-sum, Wilcoxon signed-rank, and paired *t* tests.
- A successful conversion was defined as a patient who remained on once-daily esomeprazole without dosage increase or a switch to another PPI for the 6-month follow-up period.

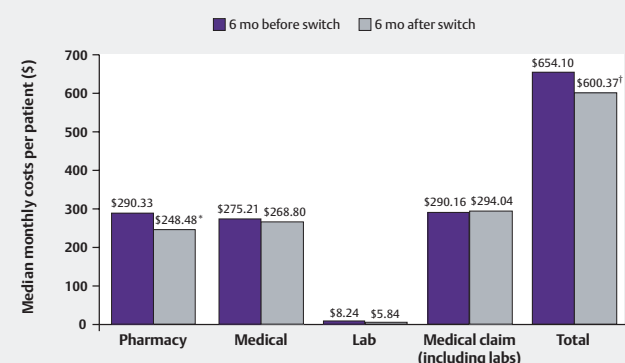
4. RESULTS

- Data for 492,633 patients were available in the IHCIS database; 595 patients met study criteria.
- When comparing the 6-month periods before and after the switch for total medical costs, the median savings per patient per month was \$36.72 (*P* = .0507).
- When comparing only pharmacy costs for the 6-month periods before and after the switch, the median savings was \$39.91 per patient per month (*P* < .0001).

Baseline characteristics of patients switched from twice-daily PPI therapy to once-daily esomeprazole

Variable	N = 595
Mean age 6 mo before therapy switch, y (SD)	50.3 (11.0)
Women, %	59.8
ICD-9 diagnosis, %	
Esophagitis, unspecified (530.10)	27.7
Reflux esophagitis (530.11)	52.6
Acute esophagitis (530.12)	0.7
Other esophagitis (530.19)	5.4
Esophageal reflux (530.81)	77.3
Heartburn (787.1)	11.9
Prior twice-daily prescription, %	
Rabeprazole 20 mg	6.7
Lansoprazole 15 mg	3.0
Lansoprazole 30 mg	35.4
Omeprazole 20 mg	48.6
Omeprazole 40 mg	3.4
Pantoprazole 40 mg	2.9

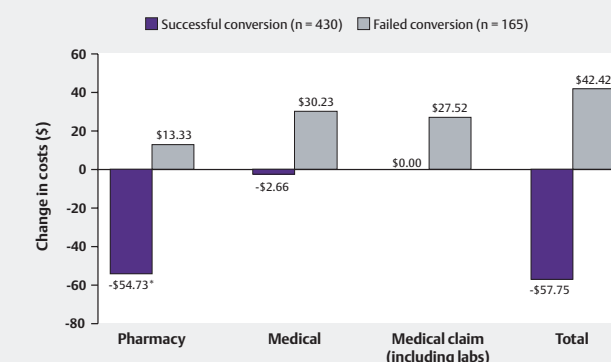
Medical costs before and after treatment conversion



Median medical costs 6 months before and after conversion from twice-daily PPI therapy to once-daily esomeprazole. **P* < .0001; †*P* = .0507.

- 72% of conversions from a twice-daily PPI to once-daily esomeprazole met the definition of successful.
- Patients who successfully converted to once-daily esomeprazole had significant per-patient per-month median savings in pharmacy costs compared with pharmacy costs incurred before the switch (*P* < .0001).

Change between pre- and postswitch periods in median per-patient per-month costs for successful and failed conversions to once-daily esomeprazole



Median change in per-patient per-month laboratory costs was \$0 for both patients who were successfully converted to once-daily esomeprazole and those who failed the conversion. **P* < .0001.

5. REFERENCES

- Richardson P, et al. *Drugs*. 1998;56:307-335.
- Pharmacy Benefits Management Strategic Health Group. Contract adherence reports national reports: Q4FY99. Washington, DC: Department of Veterans Affairs, Veterans Health Administration, 2000.
- Fass R, et al. *Gastroenterology*. 2004;126(suppl 2):A37.
- Fass R, et al. *Aliment Pharmacol Ther*. 2000;14:1595-1603.

Retrospective Cost Analyses of Switching Proton Pump Inhibitor to Once-Daily Esomeprazole

Joseph A Crawley, MS¹; Richard Brook, MD²

¹AstraZeneca LP, Wilmington, DE; ²The JeSTARx Group, Newfoundland, NJ; ³Ce

CONCLUSIONS

- Switching from twice-daily PPI treatment to once-daily esomeprazole had a high success rate and resulted in cost savings.
- These findings demonstrate an effective means to manage GERD in patients who would otherwise incur higher costs while seeking an acceptable level of acid suppression.

1. INTRODUCTION

- Suboptimal, symptomatic response to proton pump inhibitor (PPI) therapy commonly leads the physician to double the PPI dose.¹ Up to 30% of patients are prescribed more than single-dosage PPI therapy.²
- Esomeprazole 40 mg once daily and lansoprazole 30 mg twice daily showed similar efficacy in controlling the symptoms of gastroesophageal reflux disease (GERD) in patients with GERD symptoms refractory to lansoprazole 30 mg once daily.^{3,4}
- Switching to another PPI rather than doubling the PPI dose is an attractive option that may represent a more convenient regimen for the patient and a potentially cost-effective approach to treatment.

2. AIM

- To determine if patients with GERD taking a twice-daily PPI received more economical and successful management of their disease when switched to once-daily esomeprazole.

3. PATIENTS AND METHODS

- Inclusion criteria
 - Aged ≥18 years

- ≥1 International Classification of Disease (ICD)-9 diagnosis code for esophagitis, esophageal reflux, or heartburn in medical records
- No diagnosis of a hypersecretory condition
- Prescribed once-daily esomeprazole after ≥3 months of treatment with a twice-daily PPI
- No previous treatment with twice-daily esomeprazole or twice-daily omeprazole 10 mg
- Eligible for medical and pharmacy coverage 6 months before and after first esomeprazole prescription

- Data were obtained from Integrated Healthcare Information Services (IHCIS).
- Total costs were calculated from medical, inpatient, and pharmacy claims.
- Difference in total costs 6 months before and after conversion to once-daily esomeprazole were calculated and compared using Wilcoxon rank-sum, Wilcoxon signed-rank, and paired *t* tests.
- A successful conversion was defined as a patient who remained on once-daily esomeprazole without dosage increase or a switch to another PPI for the 6-month follow-up period.

4. RESULTS

- Data for 492,633 patients were available in the IHCIS database; 595 patients met study criteria.
- When comparing the 6-month periods before and after the switch for total medical costs, the median savings per patient per month was \$36.72 (*P* = .0507).
- When comparing only pharmacy costs for the 6-month periods before and after the switch, the median savings was \$39.91 per patient per month (*P* < .0001).

Switching From a Twice-Daily Proton Pump Inhibitor to Once-Daily Esomeprazole

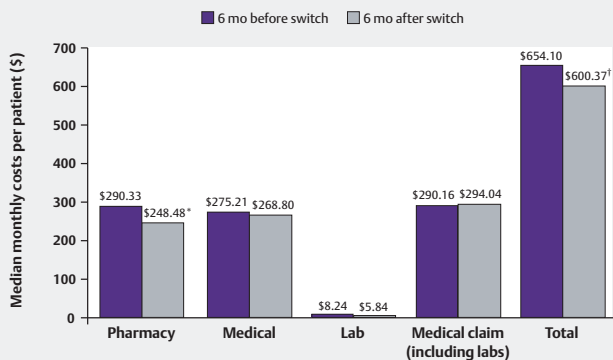
Richardson P, MBA²; and James Smeeding, MBA³

Center for Pharmacoeconomic Studies, University of Texas at Austin, Austin, TX

Baseline characteristics of patients switched from twice-daily PPI therapy to once-daily esomeprazole

Variable	N = 595
Mean age 6 mo before therapy switch, y (SD)	50.3 (11.0)
Women, %	59.8
ICD-9 diagnosis, %	
Esophagitis, unspecified (530.10)	27.7
Reflux esophagitis (530.11)	52.6
Acute esophagitis (530.12)	0.7
Other esophagitis (530.19)	5.4
Esophageal reflux (530.81)	77.3
Heartburn (787.1)	11.9
Prior twice-daily prescription, %	
Rabeprazole 20 mg	6.7
Lansoprazole 15 mg	3.0
Lansoprazole 30 mg	35.4
Omeprazole 20 mg	48.6
Omeprazole 40 mg	3.4
Pantoprazole 40 mg	2.9

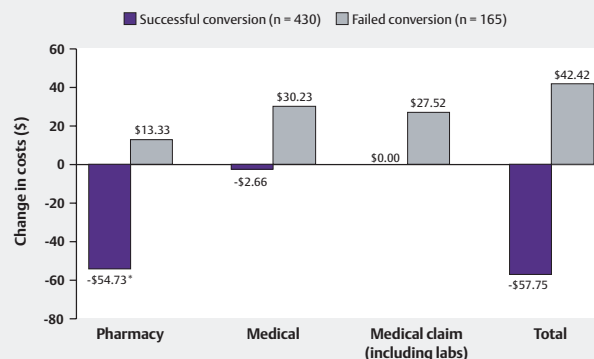
Medical costs before and after treatment conversion



Median medical costs 6 months before and after conversion from twice-daily PPI therapy to once-daily esomeprazole. * $P < .0001$; [†] $P = .0507$.

- 72% of conversions from a twice-daily PPI to once-daily esomeprazole met the definition of successful.
- Patients who successfully converted to once-daily esomeprazole had significant per-patient per-month median savings in pharmacy costs compared with pharmacy costs incurred before the switch ($P < .0001$).

Change between pre- and postswitch periods in median per-patient per-month costs for successful and failed conversions to once-daily esomeprazole



Median change in per-patient per-month laboratory costs was \$0 for both patients who were successfully converted to once-daily esomeprazole and those who failed the conversion. * $P < .0001$.

5. REFERENCES

1. Richardson P, et al. *Drugs*. 1998;56:307-335.
2. Pharmacy Benefits Management Strategic Health Group. Contract adherence reports national reports: Q4FY99. Washington, DC: Department of Veterans Affairs, Veterans Health Administration, 2000.
3. Fass R, et al. *Gastroenterology*. 2004;126(suppl 2):A37.
4. Fass R, et al. *Aliment Pharmacol Ther*. 2000;14:1595-1603.