

# THE COST OF TREATING GASTROESOPHAGEAL REFLUX DISEASE: A SYSTEMATIC REVIEW

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## INTRODUCTION

Mainstays of treating gastroesophageal reflux disease (GERD) are medical management and anti-reflux surgery. The vast amount of research reviews on the effects of clinical treatment stands in stark contrast to the modest economic evidence for each approach. The aim of this review is to provide insights on direct and indirect costs associated with GERD treatment by synthesizing the existing evidence.

## METHODS

### SEARCH PARAMETERS

- Full-text economic evaluations, cost studies, trials, and observational studies
- Published in English between 2013-2023
- Databases: MEDLINE, Embase, Cochrane Library

### ELIGIBILITY AND ANALYSIS

- Cost data for different medical and surgical options for GERD management in adults
- Data analysis contained a narrative synthesis

## RESULTS

### STUDY CHARACTERISTICS (n=17)

- Multiple study designs, including economic evaluations utilizing Markov model (n=5)
- Time horizons from index submission to lifetime
- Costing year ranged between 2006 and 2020
- Total direct costs (n=17), total indirect costs (n=2)
- US studies are dominant, regardless of study design
- Costs reported for major treatment options, mostly PPIs (n=10) and LNF (n=7)
- Total direct costs entail a variety items (e.g. out-patient visits, laboratory tests)
- Heterogenous nature of cost data prevented pooling

### MAJOR FINDINGS

- Marginal difference between LNF and MSA costs  $\geq 1$  year (Fig. 1)
- LNF – more expensive than TIF over 2 years, but TIF involved higher direct costs in the long-run; 10 years to lifetime (Fig. 1, 2)
- Substantially lower medical costs than surgical costs over a 1-year horizon (Fig. 1)
- Conflicting long-term results (Fig. 2)
  - Considerably higher medical costs than surgical costs (LNF, TIF) over a 10-year horizon and lifetime
  - Lower total direct costs associated with PPIs twice/day compared to LNF, TIF, and Stretta over 30 years

Figure 1. US clinical studies – Direct costs converted to 2023

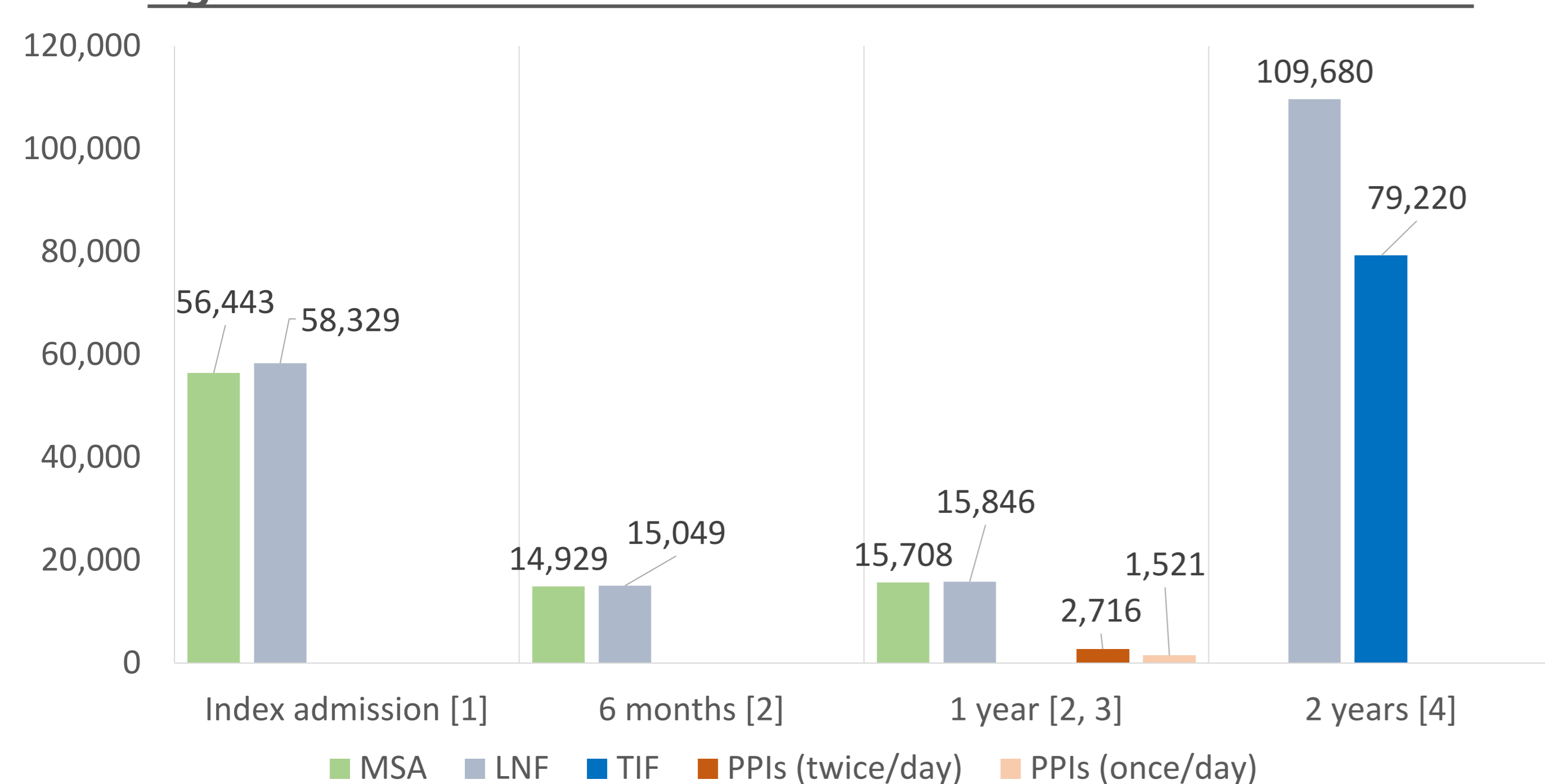
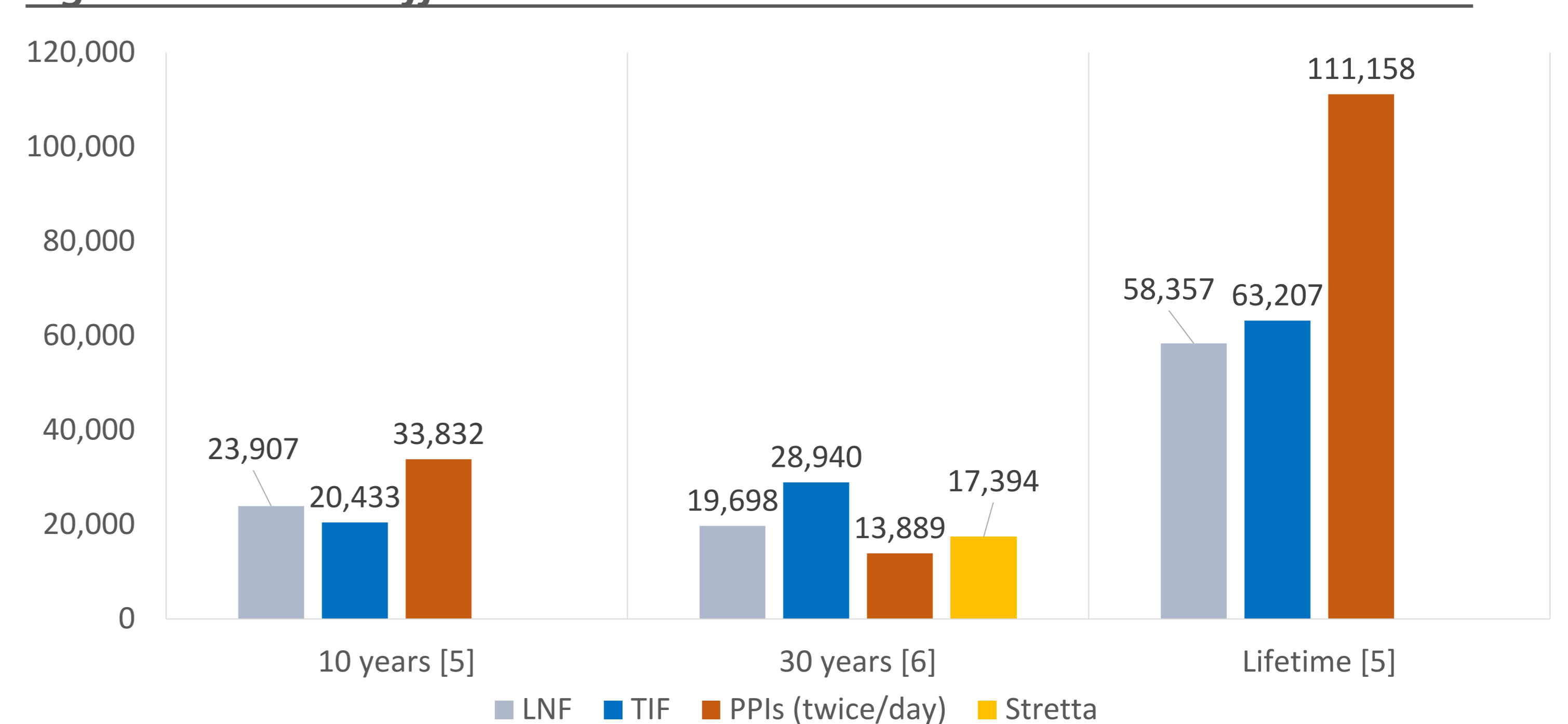


Figure 2. US cost-effectiveness studies – Direct costs converted to 2023



## CONCLUSIONS

**Treating GERD is inevitably associated with higher costs, regardless of choosing medical or surgical options. Surgery costs tend to be higher in shorter time horizon, however, over a lifetime, direct costs seem to be higher for medical management than surgical options.**

**References:** 1. Reynolds (2016), 2. Ayazi (2020), 3. Mody (2013), 4. Trad (2018), 5. Funk (2015). 6. McCarty (2022).

**Abbreviations:** GERD, gastroesophageal reflux disease; LNF, laparoscopic Nissen fundoplication; MSA, magnetic sphincter augmentation; PPI, proton pump inhibitor; TIF, transoral incisionless fundoplication; US, United States.