Dysphagia is a common post-treatment morbidty for patients with head and neck cancer (HNC) treated with chemoradiation (CRT). Previous studies have demonstrated that pre-treatment swallowing exercises may improve post-treatment swallowing function and quality-of-life in (QOL) patients with HNC treated with CRT.

**Objectives:**
- Estimate the incremental cost-effectiveness ratio (ICER) of pre-treatment swallowing exercises with post-treatment swallowing exercises (current standard).

**Design:**
- Cost-effective analysis

**Results:**
- Pre-treatment swallowing exercises were less costly and resulted in a greater gain in quality-adjusted life-years (QALYs) compared to post-treatment swallowing exercises after intervention following CRT.
- Sensitivity analysis adjusting both costs and utilities had minimal impact on results as ICER continued to be advantageous or deleterious in tube-dependency at one-year post-treatment.

**Conclusions:**
- Based on a Markov state-transition model, implementing pre-treatment swallowing exercises offers a clinical benefit in patients treated with CRT for HNC with significant cost savings relative to the current standard of care.

**RESULTS**

- Three possible states were designed (Figure 1). Initially, all patients were all distributed into the Tube-dependent state (n=100). Patients could either remain in the current state or advance to the next level.

**MODEL**

- We created a Markov discrete-time state transition model based on a cohort of 100 hypothetical patients to evaluate the cost-utility of pre-treatment swallowing exercises in patients with HNC treated with CRT. A 1-month cycle period was selected to capture improvement over the first year post-treatment (12 constant cycles). A matrix of probabilities were applied in each successive cycle. Costs were estimated from Medicare reimbursement data. QOL estimates were obtained through convenience sampling.

- **Sensitivity Analyses**

  - Several assumptions were made during model development and sensitivity analyses were performed to test the effect of variations in these values of the estimates in our model.

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**REFERENCE**


