IMPROVED OUTCOMES FOR BRONCHIECTASIS MAY BE SUSTAINED THREE YEARS AFTER HFCWO THERAPY

OVERVIEW
Data presented at the American Thoracic Society 2021 meeting evaluated the long-term clinical and economic outcomes of High Frequency Chest Wall Oscillation (HFCWO) therapy in adult non-cystic fibrosis bronchiectasis patients. Prior data has demonstrated that initiation of HFCWO therapy for bronchiectasis patients significantly improved disease-specific clinical outcomes within 12 months of starting treatment. This included a 66% reduction in acute bronchiectasis exacerbations (P=0.0073) and a 66% reduction in disease-specific inpatient hospitalizations (P=0.0043).

METHODS
This retrospective pre-post cohort study was conducted using the IQVIA PharMetrics® Health Plan Claims Database. The study evaluated outcomes, resources and costs for bronchiectasis patients receiving HFCWO (1st claim=Index date) between January 1, 2009 and November 30, 2018. Criteria were measured in the 12-month pre- and out to 3-year post-index periods.

RESULTS
One hundred thirty-nine and 73 subjects met 2- and 3-year criteria, respectively. The mean age of the cohort was 55.8 years and 69.9% were female. 61% had COPD and 53.7% had asthma. 54% had a high risk Bronchiectasis Aetiology and Comorbidity Index (BACI) score.

HIGHLIGHTS
HFCWO may sustain improvements in clinical and economic outcomes for bronchiectasis patients sustained 3 years after receiving therapy:
- 43% reduction in disease-specific hospitalizations
- 71% reduction in disease-specific acute exacerbations
- 16% reduction in all-cause oral antibiotic and steroid use
- 33% reduction in all-cause IV antibiotic use
- 68% reduction in disease-specific costs

REDUCTION IN PROPORTION OF DISEASE-SPECIFIC OUTCOMES AFTER INITIATION OF HFCWO THERAPY

* Reduction from baseline, the 12 months prior to initiation of HFCWO therapy.
REFERENCES


The study found a significant long-term reduction in disease-specific costs as a result of reduced hospitalizations, physicians office visits, antibiotic prescriptions, as well as reduced bronchoscopy, laboratory, and radiology utilization. Although the first year showed a cost increase following initial device purchase, the next two years indicated reductions.

**REDUCTION IN PROPORTION OF MEDICATIONS USED (ALL CAUSE) AFTER INITIATION OF HFCWO THERAPY**

<table>
<thead>
<tr>
<th></th>
<th>Y1 (N=139)</th>
<th>Y2 (N=139)</th>
<th>Y3 (N=73)</th>
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<tbody>
<tr>
<td>IV Antibiotic Use</td>
<td>-50%</td>
<td>-30%</td>
<td>-40%</td>
</tr>
<tr>
<td>Oral Antibiotic Use</td>
<td>-20%</td>
<td>-10%</td>
<td>0%</td>
</tr>
<tr>
<td>Oral Steroid Use</td>
<td>P&lt;0.01</td>
<td>P&lt;0.01</td>
<td>P&lt;0.001</td>
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* Reduction from baseline, the 12 months prior to initiation of HFCWO therapy.

**REDUCTION IN TOTAL MEAN DISEASE-SPECIFIC COSTS**

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<tr>
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<th>Y3 (N=73)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV Antibiotic Use</td>
<td>-100%</td>
<td>0%</td>
<td>300%</td>
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* Change from baseline, the 12 months prior to initiation of HFCWO therapy. Increase in first-year cost is likely a result of device costs.

NOTE: Total mean costs include HFCWO device cost (typically paid in a 13-month rental period).