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Clinical Research Summary
LECHTZIN, ET AL. STUDY¹

IMPACT OF HFCWO ON HEALTHCARE USE AND COSTS IN PATIENTS WITH NEUROMUSCULAR DISEASES

OVERVIEW

People with chronic neuromuscular disease often find it hard to clear pulmonary secretions, which can lead to recurrent pulmonary infections and respiratory failure, which are a major cause of morbidity and mortality.² The objective of this study was to determine if High Frequency Chest Wall Oscillation (HFCWO) leads to lower healthcare use in these patients.

STUDY DESIGN

A study of 426 neuromuscular disease patients compared healthcare claims before and after HFCWO therapy intervention.

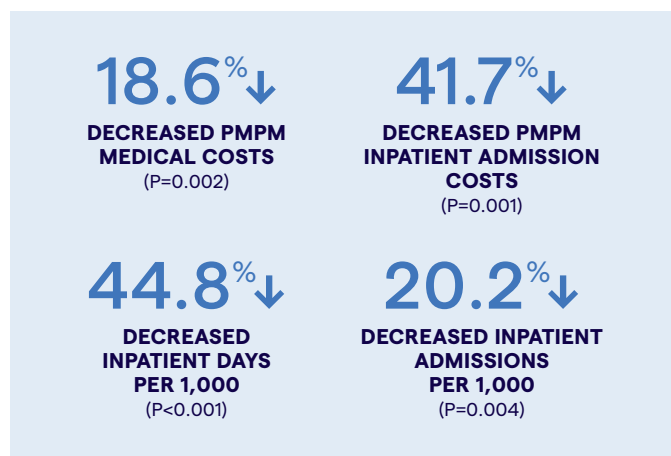
Data were obtained from two large database sources of commercial insurance claims (Truven Health MarketScan and Milliman's Consolidated Health Cost Guidelines Source Databases), between 2007 and 2011. The study included both children and adults. Total medical costs (per member per month/PMPM and overall), hospitalizations, and pneumonia claims were measured 12 months pre- and post-initiation of HFCWO.

- 61.7% were male
- Mean age 29.9 +/- 22.0 years
- 40% Quadriplegia
- 35% Muscular dystrophy
- 22% ALS
- 20% Spinal muscular atrophy

FINDINGS

After initiation of HFCWO:

- Decreased inpatient admissions per 1,000 by 20.2% (P=0.004)
- Decreased inpatient days per 1,000 by 44.8% (P<0.001)
- Decreased total medical costs PMPM by 18.6% or \$1,949 (P=0.002)
- Decreased medical costs for pulmonary diagnoses PMPM by 30.7% or \$1,751 (P=0.028)
- Decreased inpatient admission costs PMPM by 41.7% or \$2,392 (P=0.001)



See Figures 1-3 on reverse side.

FIGURE 1: INPATIENT ADMISSIONS PER 1,000

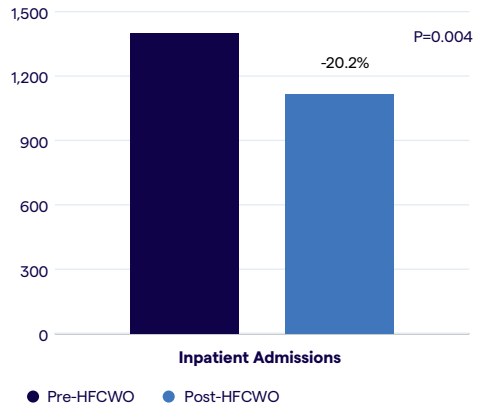


FIGURE 2: INPATIENT DAYS PER 1,000

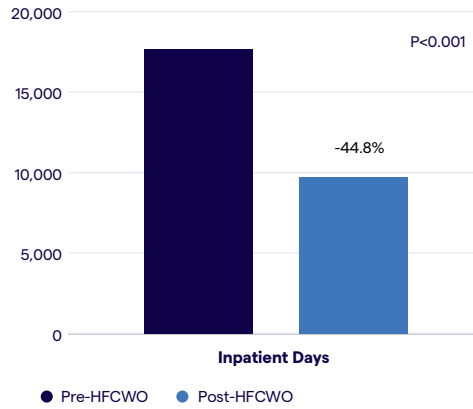
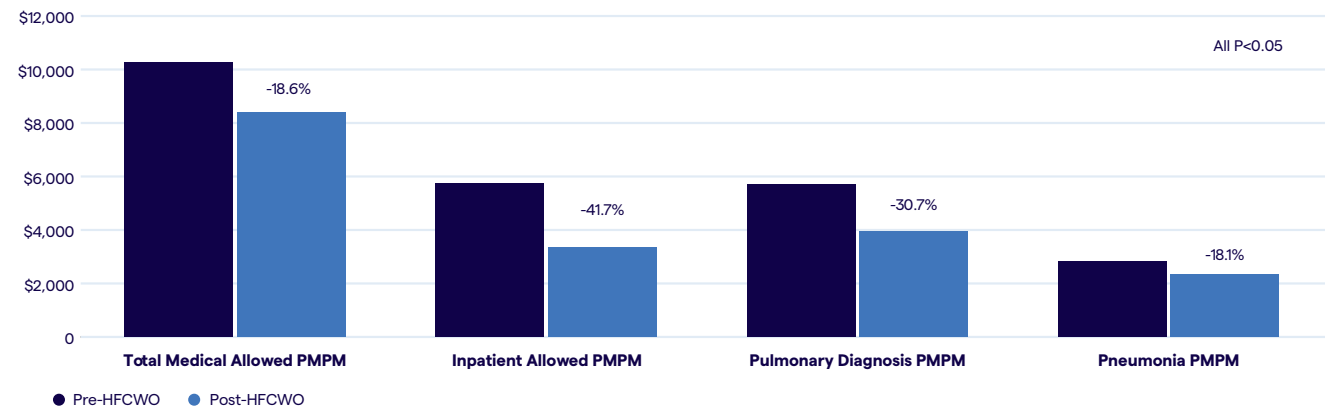


FIGURE 3: HEALTHCARE COSTS (PMPM)



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- ² Voulgaris A, Antoniadou M, Agrafiotis M, Steiropoulos P. Respiratory Involvement in Patients with Neuromuscular Diseases: A Narrative Review. Pulm Med. 2019;2019:2734054. Published 2019 Dec 26. doi:10.1155/2019/2734054.