USE OF NON-INVASIVE OPEN VENTILATION SYSTEM IN PATIENTS WITH SEVERE RESPIRATORY INSUFFICIENCY IMPROVES HEALTH STATUS

Data Presented During Late Breaking Oral Session at CHEST 2014

AUSTIN, TX, October 28, 2014 – Results from a retrospective analysis of patients with chronic lung disease conducted by SCIO Health Analytics and validated by leading pulmonologists demonstrated that use of a portable non-invasive open ventilation system resulted in clinically significant improvements in the modified British Medical Research Council (mMRC) dyspnea scale and the COPD Assessment Test (CAT). These data are being presented today as part of a late-breaking oral presentation at the American College of Chest Physicians (ACCP) annual meeting, CHEST 2014, in Austin, Texas.

During the 12-month period preceding use of a portable non-invasive open ventilation system, patients included in the study had an average mMRC dyspnea score of 3.38 and a mean CAT score of 26.71. During the 12-month period following the addition of a non-invasive open ventilation system, patients included in the study had an average mMRC dyspnea score of 1.43, and a mean CAT score of 12.33.

The Global Initiative for Chronic Obstructive Lung Disease has established improvement of respiratory symptoms as a treatment goal for patients with COPD. The mMRC dyspnea scale and CAT are validated measures of respiratory health status. A score of ≥2 on the mMRC is indicative of greater dyspnea and a score of ≥10 on the CAT is indicative of medium to very high impact of respiratory symptoms on health status.

“This analysis shows that use of a non-invasive open ventilation system leads to significant increases in oxygenation and endurance time with activities of daily living in oxygen-dependent patients with respiratory insufficiency,” said lead study author Brian W. Carlin, MD, FCCP, assistant professor of medicine, Drexel University School of Medicine, Philadelphia, Pa. “These results are consistent with outcomes from prospective, open-label, cross-over studies in patients with chronic lung disease. That we saw mMRC and CAT scores reduced by more than half is further support for using a portable non-invasive open ventilation system a patient population that would otherwise have seen deterioration instead of improvement during the same timeframe.”

The study was designed to determine improvements in health status by comparing clinical parameters over a 24.8-month period. This included a 14.6-month period during which patients used prescription medications, oxygen and other equipment followed by a 10.2-month period during which a portable non-invasive open ventilation system was added to their treatment regimen. The analysis was conducted over a two-month period utilizing data from 21 patients with COPD and other respiratory diseases obtained from patient self-completed surveys and patient-consented clinical charts obtained from providers.

“We are encouraged by these initial findings and hope that they contribute to improving outcomes for patients with respiratory insufficiency disease,” said Kevin Farberow, DHSc, MBA, SCIO Health Analytics. “Further analysis with regard to healthcare cost utilization in this patient population is underway and we look forward to sharing those results at a forthcoming scientific program.”
The 21 patients in the study had a variety of chronic lung diseases: obstructive chronic bronchitis (7 patients); bullous emphysema (5); emphysema and obstructive chronic bronchitis (3); bullous emphysema and alpha-1 antitrypsin deficiency (1); obstructive chronic bronchitis and alpha-1 antitrypsin deficiency (1); emphysema, obstructive chronic bronchitis and alpha-1 antitrypsin deficiency (1); bronchiolitis obliterans (1); emphysema, obstructive chronic bronchitis and bronchiectasis (1); and pulmonary hypertension (1). The mean patient age was 69.7 years, with a mean elapsed time of 14.6 months from diagnosis to initiation of a non-invasive open ventilation system.

“The significant improvements in clinical measures seen in this study are similar to the results we see in the clinic when patients add a portable non-invasive open ventilation system to an existing regimen, that may include pharmacological agents and oxygen therapy,” said Larry C. Casey, MD, PhD, Mayo Clinic Health System, Franciscan Healthcare, La Crosse, WI. “Improvements of this magnitude have rarely occurred over the past several decades, and these findings support the use of a portable non-invasive open ventilation system as part of the treatment paradigm for patients living with chronic lung disease.”

### About Chronic Lung Diseases

Chronic bronchitis, prolonged inflammation of the lining of the airways, or bronchial tubes, and emphysema are commonly referred to as chronic obstructive pulmonary disease (COPD). COPD is a progressive respiratory disease that is estimated to affect 24 million U.S. adults, approximately half of whom are undiagnosed. It is a major cause of disability and the third leading cause of death in the U.S. Alpha-1 antitrypsin deficiency is an inherited disorder that may cause lung disease and liver disease.

### About SCIO Health Analytics®

Based in West Hartford, Connecticut, SCIO Health Analytics® is an industry-leading services company that delivers analytic solutions to more than 50 healthcare organizations, including 15 of the top 25 health insurers and life sciences companies. With more than 600 employees and four delivery centers, the company’s focus is in the healthcare domain.

Since 2008, SCIO’s commitment to analytics-driven outcomes, technology and services has generated more than $250 million in annual savings for clients across multiple markets. The company audits more than 114,000 patient charts annually and provides a portfolio of solutions that transform information into valuable evidence. SCIO integrates disparate data generated by an entire ecosystem that enables clients to draw insights from their drugs, devices or diagnostic interventions, and enhances the value to patients, providers and health systems. The company also leverages advanced analytics and validated models to simulate economic and clinical outcomes. To learn more, visit www.sciohealthanalytics.com.