

Abstract 57170

A Web Based Automated Messaging Program For CPAP Adherence Coaching Reduced The Coaching Labor Required While Yielding Similar Adherence And Efficacy To Standard Of Care Coaching

D. Munafa¹, W. Hevener¹, S. Sridasome¹, B. Gansevich¹, M. Crocker², L. Willes³, M. Muhsin¹

¹Sleep Data - San Diego, CA/US, ²ResMed - San Diego, CA/US, ³Willes Consulting - San Diego, CA/US

[Receipt](#)

[View Disclosure for Presenter](#)

Type: **Late Breaking Abstract**
Category: **16.07 - Sleep Disordered Breathing: Treatment and Management (SRN)**
Presentation preference: **Either Poster or Oral**

Abstract Body

INTRODUCTION

Obstructive sleep apnea (OSA) is a common condition with significant consequences if left untreated. Despite the wide availability of effective therapy in the form of continuous positive airway pressure (CPAP), the limited ability of patients to successfully adhere to therapy severely limits the ultimate benefit. We undertook a study to compare the effectiveness and coaching labor requirements of a web based automated messaging program (U-Sleep) compared to standard of care (SOC) CPAP adherence coaching. The primary objective was to determine the coaching labor necessary to achieve Medicare adherence.

METHODS

The study was an IRB approved, unblinded, multi-center, prospective trial of patients with newly diagnosed OSA. A 1:1 randomization was used to assign 140 enrolled subjects to either the U-Sleep arm or to the SOC arm. A total of 122 patients completed the 3 month study protocol. All patients were set up on CPAP with heated humidification and a wireless modem (ResMed). Both groups received standardized initial CPAP education and set up. The U-Sleep arm (n = 58) were followed utilizing an automated series of text messages and/or emails that were triggered by one of five conditions (Table 1). The SOC arm (n = 64) were followed utilizing scheduled calls on Days 1, 7, 14, and 30. Additional contacts were allowed for patients in both groups as deemed clinically necessary. Coaching labor was calculated by totaling the number of patient contacts and assigning historical time values. Each phone contact attempt was allocated 4 minutes, each completed call 9 minutes, and each clinic visit 30 minutes.

RESULTS

Baseline characteristics were similar between the two groups. There was no statistically significant difference between the U-Sleep group and the SOC group in Medicare adherence (83% vs. 73%), mean hours of CPAP usage (5.1 ± 1.9 vs. 4.7 ± 2.1), CPAP efficacy (mean residual Apnea Hypopnea Index 3.0 ± 4.1 vs. 2.8 ± 3.8 events/hr), or improvement in Epworth Sleepiness Score (-5.8 vs. -5.1). There was a significant reduction in the mean number of minutes of coaching required per patient between the U-Sleep group and the SOC group (23.9 ± 26 vs. 58.3 ± 25 , $p < 0.0001$). This represents a 59% reduction in labor.

CONCLUSIONS

The use of an automated web based follow up program utilizing text messaging and email was widely accepted and yielded excellent adherence at a substantially reduced coaching labor requirement when compared to SOC CPAP adherence coaching.

Table 1: U-Sleep Notification Triggers

| Trigger | To Whom | Method |
|-------------------------------------------------|--------------------|-------------------|
| No CPAP data for 2 consecutive days | Patient & Provider | Email and/or Text |
| CPAP usage <4 hrs for 3 consecutive nights | Patient & Provider | Email and/or Text |
| Median mask leak >24 l/m for 2 consecutive days | Provider | Email |
| Apnea Hypopnea Index >15 for 5 consecutive days | Provider | Email |
| CPAP usage met Medicare criteria for adherence | Patient & Provider | Email and/or Text |