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ResMed Studies Show Remote Monitoring and Automated Resupply Improve Adherence to PAP Therapy

Data from more than 2.6 million sleep apnea patients reveals 75 percent adherence rate when patients are remotely monitored

Separate study shows enrolling in resupply programs increases long-term device usage, and decreases termination rates

SAN DIEGO--(BUSINESS WIRE)-- Remote patient monitoring and resupply programs have been shown to improve patient adherence to positive airway pressure (PAP) therapy, according to two separate studies presented by ResMed (NYSE: RMD, ASX: RMD) this week at the ATS 2018 International Conference.

Remote monitoring boosts compliance

In the first study, medXcloud, a ResMed-assembled group of healthcare key opinion leaders, examined de-identified data of more than 2.6 million U.S. PAP users from ResMed's world-leading remote monitoring network, AirView. Using this big data approach, researchers observed excellent adherence among patients initiating PAP therapy: 75 percent achieved the CMS compliance threshold.* This rate compares very favorably with that of non-cloud-connected PAP therapy and other chronic medical therapies – both around 50 percent. Plus, the large sample suggests that the findings are generalizable and likely to reflect real-world clinical care.

Resupply program boosts long-term compliance

In a separate study of more than 100,000 well-matched PAP users, ResMed and collaborating researchers found that over a one-year period, those enrolled in a resupply program slept 5.6 hours on PAP each night, compared to 4.5 hours/night for those not enrolled (a 24 percent increase). Resupply patients were also significantly less likely to terminate PAP altogether, with a one-year termination rate probability of 16.1 percent for the resupply group, compared with 33.8 percent for the control group.

"These two studies demonstrate significantly effective ways to help patients achieve 90-day compliance with cloud-based remote monitoring and to keep them compliant over the long term with mask resupply programs," said Adam Benjafield, researcher on both studies and ResMed's vice president of Medical Affairs. "This is why every new ResMed PAP device has cloud connectivity without any setup required by the clinician or user, and why we advocate

for patients to be enrolled in mask resupply programs to maximize their long-term adherence to improve health outcomes.”

Details about both studies

Real World PAP Adherence: Results from a Big Data Approach in More than Two Million Patients: ResMed examined de-identified AirView database (ResMed Corp., USA) data in >2.6M U.S. sleep-disordered breathing (SDB) patients on PAP therapies (40.9% CPAP, 49.9% APAP, 9.2% Bilevel) to investigate 90-day adherence. To be included, patients were enrolled in the U.S. AirView database by their healthcare provider and used a single therapy mode to treat SDB available on the wirelessly connected AirSense or AirCurve 10 platforms. Data were extracted for adult patients (age >18 years) enrolled during the period 1 October 2014 to 31 October 2017, which contained at least one session with device usage ≥1 hour in the first 90 days. Researchers defined the primary outcome as adherence using CMS criteria. The study was reviewed by an Institutional Review Board (IRB) and deemed exempt from IRB oversight.

Positive Airway Pressure (PAP) Therapy Compliance on a Resupply Program: A Retrospective Analysis: De-identified data from a patient billing database (Brightree) and de-identified device data from a telemonitoring database (AirView) were sent to a third-party independent statistician who provided the anonymized analyses and findings. Patients were included if they met the following criteria: initiation of PAP therapy between 1 July 2014 and 17 June 2016; achievement of CMS compliance; therapy management via telemonitoring (AirView; ResMed). Patients who started a resupply program (resupply group) were propensity matched 1:1 with patients who did not start a resupply program. The resupply program replenished a patient’s PAP therapy equipment (mask systems and/or cushions). The primary endpoint was adherence, measured by average device usage hours per day, in the resupply versus control group. Secondary endpoints include other measures of adherence and device usage, and the rate of therapy termination (zero usage in the previous 30 days). The study protocol was reviewed by an Institutional Review Board and deemed exempt from IRB oversight.

About ResMed

ResMed (NYSE: RMD, ASX: RMD), a world-leading connected health company with more than 5 million cloud-connected devices for daily remote patient monitoring, changes lives with every breath. Its award-winning devices and software solutions help treat and manage sleep apnea, chronic obstructive pulmonary disease and other respiratory conditions. Its 6,000-member team strives to improve patients’ quality of life, reduce the impact of chronic disease and save healthcare costs in more than 120 countries. [ResMed.com](https://www.resmed.com)

*CMS compliance, as defined by the U.S. Center for Medicare & Medicaid Services, requires using CPAP usage of 4 hours a night for 70% of nights in a 30-day span within the first 90 days of therapy.

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