



CASE STUDY SLEEP HEALTH



Improving the Diagnosis and Treatment of Sleep Apnea

80%

REDUCTION in HSAT no shows

24%

DECREASE in HSAT tech failures

14%

INCREASE in 90-day CPAP compliance

92%

Patient adoption

CLINICAL PRIORITY

Sleep specialists at Virginia Mason Medical Center recognized that the path to diagnosis and treatment of obstructive sleep apnea (OSA) is riddled with patient fall-out.

Once a sleep provider orders a home sleep apnea testing (HSAT) the patient must pick up the equipment, learn how to use it, and successfully complete the test. Many patients do not show up to receive the equipment, or do not perform the test accurately and must repeat the cycle again.

Those that are successfully diagnosed with OSA must then work with the HME to obtain the continuous positive airway pressure (CPAP) equipment and wear the device for at least four hours per night for 21 out of 30 consecutive nights (within the first 90 days of use) to qualify for reimbursement.

They sought a better way to support patients throughout the diagnosis and treatment process to improve quality of life and life expectancy of their OSA patient population.

APPROACH

Virginia Mason formed a unique collaboration with another large healthcare provider, Twistle, ResMed, a medical device manufacturer, and Performance Home Medical (PMH), a HME provider.

Several automated communication pathways were deployed to promote HME appointment attendance, deliver educational messages and videos, provide encouragement and coaching, and support troubleshooting for HSAT completion and CPAP compliance.

Integration with ResMed's AirView application enabled patient-centric messages and support, e.g., "Congratulations, you slept 6 hours and 33 minutes with your CPAP machine last night!", or "You only wore your CPAP machine for 2 hours and 15 minutes last night. Please use the form below to tell us what went wrong."

"I'm thrilled that this initiative has had such a positive impact on patient compliance. We are having a meaningful impact on the health and wellness of our OSA patients."

Oneil Bains, MD
SLEEP MEDICINE SPECIALIST, VIRGINIA MASON

“We invest a lot in the HSAT - a technician has to set up the test, a courier has to deliver it, and the patient has to complete the test accurately. We consistently see reduced no shows and same day cancelations and fewer technical failures with patients enrolled in Twistle and that translates to significant savings for us.”

Douglas Schmidt, PhD DABSM, Director, Sleep Disorders Center
DIRECTOR, SLEEP DISORDER CENTER, VIRGINIA MASON

STUDY DESIGN

A six-month pilot using Twistle’s secure communication pathways took place between May and September of 2018. Performance data was compared to a control group of patients treated from May to September of 2017.

- There were 157 patients in the HSAT cohort
- There were 207 patients in the CPAP cohort

RESULTS

Simplification of the referral process from the sleep provider to the dispensing HME resulted in an 80% reduction in HSAT no-shows and a 4% increase in completed CPAP HME appointments.

- Education and troubleshooting support resulted in a 24% reduction in technically inadequate HSATs.
- Integration with ResMed’s AirView database supported patient-specific messages and encouragement and was a key factor in the 14% increase in 90-day CPAP compliance.
- 92% of patients engaged with Twistle throughout the entire HSAT process, and 77% of patients engaged throughout the 90-day CPAP compliance period.

CONCLUSION

This pilot demonstrated improved experience and quality of HSAT, improved delivery of CPAP to OSA patients and a successful integration of ResMed’s AirView database into Twistle workflows, all resulting in more patients with OSA being diagnosed and treated effectively. In addition, the ROI for both the diagnostic sleep centers and the HMEs was improved through reduced appointment no shows, improved technician productivity, increased patient adherence and better CPAP reimbursement.



ABOUT VIRGINIA MASON

Virginia Mason Medical Center is a nonprofit health care system based in Seattle that serves the Puget Sound Region and the Pacific Northwest. The system includes 336-bed Virginia Mason Hospital; a primary and specialty care group practice of more than 500 physicians; and nine regional medical centers located in Seattle on First Hill, and at University Village, Bainbridge Island, Bellevue, Edmonds, Federal Way, Issaquah, Kirkland and Lynnwood.

ABOUT TWISTLE

Twistle automates patient-centered, HIPAA-compliant communication between care teams and patients to transform the patient experience, drive better outcomes, and reduce costs. Twistle offers “turn-by-turn” guidance to patients as they navigate care journeys before, during, and after a care episode. Patients are engaged in their own care and follow best practices, communicate as needed with their care teams, and realize measurably better outcomes. Twistle integrates sophisticated automation with multi-channel communication, engaging patients through secure text messaging, interactive voice response, patient portals, or the health system’s digital applications.