Vios MEDICAL
A Murata Company

CASE STUDY

Enhancing Patient Outcomes at a Post-Acute Healthcare Facility with the Vios Monitoring System

Background

A 160-bed Post-Acute Healthcare Facility in New York faced challenges in monitoring and managing patients with complex health conditions. The facility needed an efficient system to continuously monitor vital signs, detect early signs of deterioration, and intervene promptly to prevent adverse outcomes. To address this need, the facility implemented the Vios Monitoring System (VMS) and Remote Monitoring Services (RMS), deploying 22 beds with 24/7/365 RMS support.
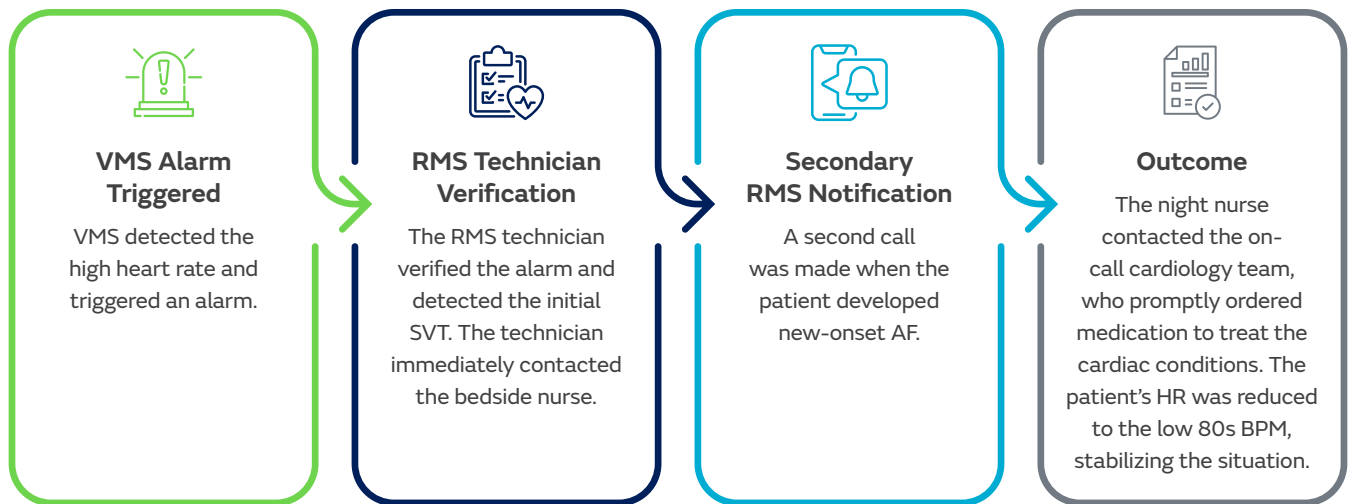
Clinical Event I

A 77-year-old female was admitted with pneumonia and had a confirmed cardiac history with multiple comorbidities. Upon admission, she presented with sinus tachycardia, consistently maintaining a heart rate around 110 BPM, and exhibited tachypnea with a respiratory rate of 32-38 breaths per minute.

Overnight, the patient experienced an acute conversion into unprecipitated Supraventricular Tachycardia (SVT), with heart rate (HR) escalating from 109 to 176 BPM. The SVT then converted into new-onset Atrial Fibrillation (AF) with Rapid Ventricular Response.

Vios Intervention

VMS Alarm Triggered
VMS detected the high heart rate and triggered an alarm.

RMS Technician Verification
The RMS technician verified the alarm and detected the initial SVT. The technician immediately contacted the bedside nurse.

Secondary RMS Notification
A second call was made when the patient developed new-onset AF.

Outcome
The night nurse contacted the on-call cardiology team, who promptly ordered medication to treat the cardiac conditions. The patient's HR was reduced to the low 80s BPM, stabilizing the situation.
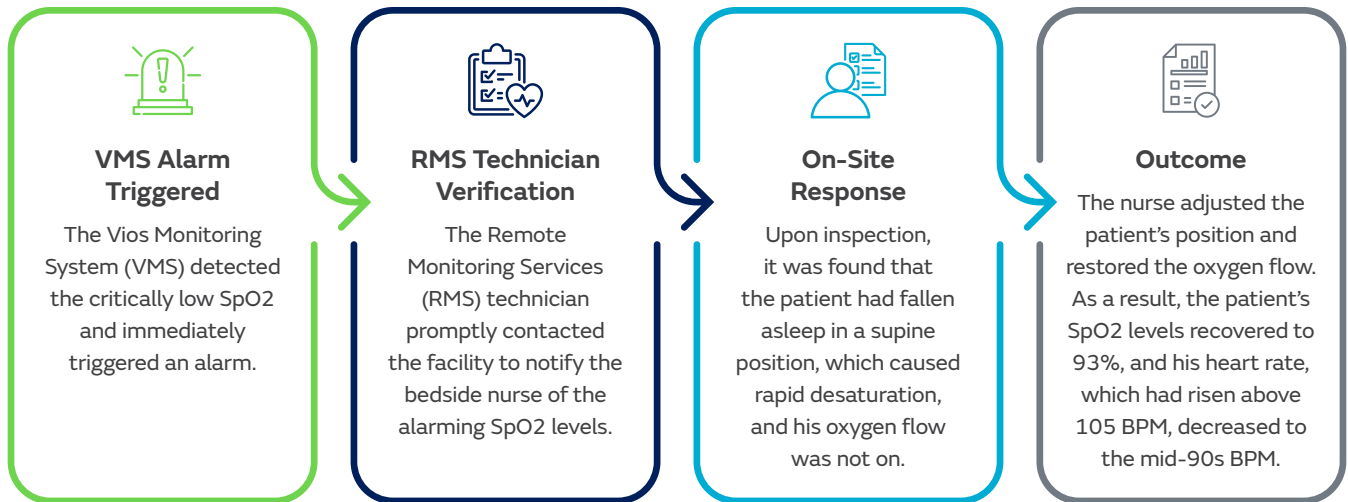
Outcome

Due to the timely intervention enabled by VMS and RMS, the patient's condition was managed effectively within the facility. The patient remained at the Post Acute Healthcare Facility, avoiding a transfer to the emergency room, which significantly improved the clinical outcome and patient experience.

Clinical Event II

A 54-year-old male patient with a diagnosis of sleep apnea was admitted to the Post-Acute Healthcare Facility. He also had a decubitus pressure ulcer on his sacrum and was managing multiple comorbidities. At the time of admission, the patient required 2.5 liters of supplemental oxygen. The patient had completed a physical therapy session around 16:00 and was placed in bed in a semi-fowler position. Later in the evening, his oxygen saturation (SpO2) began to decline, trending into the low 80s. By 20:15, his SpO2 had dropped to a critical level.

Vios Intervention

VMS Alarm Triggered

The Vios Monitoring System (VMS) detected the critically low SpO2 and immediately triggered an alarm.

RMS Technician Verification

The Remote Monitoring Services (RMS) technician promptly contacted the facility to notify the bedside nurse of the alarming SpO2 levels.

On-Site Response

Upon inspection, it was found that the patient had fallen asleep in a supine position, which caused rapid desaturation, and his oxygen flow was not on.

Outcome

The nurse adjusted the patient's position and restored the oxygen flow. As a result, the patient's SpO2 levels recovered to 93%, and his heart rate, which had risen above 105 BPM, decreased to the mid-90s BPM.

Outcome

The timely intervention facilitated by the VMS and RMS prevented prolonged hypoxemia and further clinical deterioration. The patient's condition was stabilized without the need for additional medical escalation, highlighting the effectiveness of continuous monitoring in managing high-risk patients in a post-acute care setting.

Conclusion: Remote Monitoring Saves

The implementation of the VMS and RMS at this Post-Acute Healthcare Facility demonstrated significant improvements in patient care. The VMS provided continuous, real-time monitoring, enabling early detection of patient deterioration and prompt intervention by clinical staff. This not only prevented potential hospital readmissions but also ensured that higher acuity patients could be managed effectively within the facility, enhancing overall patient safety and satisfaction.

For more information on the Vios Monitoring System,
visit **viosmedical.com** or contact us at **viosusa@murata.com**