White Paper

# The Financial Benefits of Vital Signs Monitoring in Post-Acute Facilities

# The Challenge

As the healthcare sector emerges from the long-standing battle against COVID-19, post-acute care (PAC) facilities continue to face a number of financial setbacks that threaten both quality of care and long-term sustainability.

## THE COST OF UNDERSTAFFING

From the COVID-19 pandemic to the Great Resignation, PAC facilities lost an estimated 15% of their workforce — the highest figure among all healthcare divisions.[1] As a result, countless long-term care facility leaders are attempting to hire and retain enough clinical employees to effectively care for post-acute patients. These efforts are often unsuccessful, as many nurses and caregivers intentionally avoid positions with long hours and overwhelming workloads. This is especially pertinent given the recent trends in the PAC setting, including growing patient-to-staff ratios (upwards of 20:1) and the admission of more medically complex patients historically treated in hospitals.[2]

PAC providers face substantial financial consequences when operating facilities amidst the staffing crisis. A recent study from a nurse staffing firm calculated a $19.5 billion revenue deficit in understaffed PAC facilities.[3] Furthermore, because the PAC industry relies primarily on government funding, facilities cannot independently raise their rates for more attractive hiring benefits.[4]

With the number of empty long-term care positions projected to be 8.2 million by 2028, the staffing crisis could have serious financial repercussions if PAC facilities fail to adopt workflow solutions that mitigate the impacts of understaffing.[1]

**A recent survey by the American Health Care Association/National Center for Assisted Living evaluating 759 long-term care facilities found:[1]**

- **61% limit new admissions due to staffing shortages**
- **87% face moderate to high staffing shortages**
- **99% ask staff to work overtime**

## HOSPITAL READMISSION PENALTIES

As the most rapidly growing sector of Medicare spending, PAC continues to be analyzed for cost-containment opportunities.[5] A notable area of concern is patient deterioration events and subsequent hospital readmissions. Approximately 23.5% of patients discharged to PAC facilities are readmitted within 30 days, costing hospitals $4.34 billion per year.[6] An Office of Inspector General (OIG) report stated that 37% of preventable adverse events were a direct result of inadequate patient monitoring.[12]

In an effort to resolve gaps in care quality, the Centers for Medicare and Medicaid Services (CMS) instituted a financial penalty for PAC facilities with high readmission rates.[5] Under the value-based purchasing program, CMS withholds 2% of Medicare fee-for-service PAC revenue for redistribution according to readmission rates.[5] Facilities with high rates are penalized with unreturned revenue, whereas facilities with low rates receive a 2% bonus in addition to their returned revenue.[5]

**Hospital readmissions facilitate billions of dollars of unnecessary healthcare spending:**

- **23.5% of the 1.5 million patients discharged annually to PAC facilities are either re-hospitalized or die within 30 days[6]**
- **Hospital readmissions cost $4.34 billion each year[6]**
- **78% of hospital readmissions are avoidable[6]**
- **$3.39 billion is wasted on avoidable readmissions[6]**

## CHANGING POST-ACUTE CARE MARKET

With declining COVID-19 cases and the widespread utilization of alternative healthcare services, such as telemedicine, PAC facilities are seeing growing admission rates of patients with more diverse medical needs.[8]

However, a tight labor supply and shifting reimbursement policies threaten facility sustainability — especially those with limited patient capacity.[8] The American Health Care Association and National Center for Assisted Living (AHCA/NCAL) projected a $94 billion[9] revenue loss in the long-term care industry. Additionally, CMS plans to decrease skilled nursing facility reimbursements by $320 million in 2023.[10]

By the end of 2022, an estimated 700 nursing homes were projected to shut down, and increasing facility consolidations further limit healthcare options, leaving many patients with unaffordable care.[10,11]

As PAC facilities continue to go out of business and consolidate at record levels, it's up to facility leaders to find innovative ways to optimize the standard of care while reducing operating costs in order to stand out in the shrinking market.


# The Solution

Historically, vital signs have been measured and documented every 6, 8 or even 12 hours in a post-acute care setting.[12] To significantly reduce preventable adverse events, monitoring frequency must be continuous to make an impact. Intermittent, manual monitoring is substantially more time-consuming and cannot capture the full picture of a patient's physical status. Even with the ideal monitoring frequency, patients may deteriorate between observations.

Continuous, wearable technology offers an alternative approach to episodic, spot-check vital signs monitoring. With automated around-the-clock patient surveillance, facilities benefit from improved patient safety, lower readmission rates, and enhanced communication among staff regarding patient health.[2] As a result, PAC facilities can avoid revenue loss by safely treating high-acuity patients in place.[13]

## Continuous vital signs monitoring can accelerate the detection of:

- **Cardiac & respiratory events**
- **Patient deterioration**
- **Sepsis onset**
- **Pressure ulcers**

Continuous monitoring also contributes to a stronger bottom line. After just 11 months, one PAC facility brought its readmission rate down to 10%.[2] Likewise, a recent meta-analysis suggested a 39% lower mortality risk for patients monitored continuously rather than intermittently.[14]

Improved patient outcomes and reduced hospital readmissions generate larger financial incentives from CMS. A business consulting and research firm calculated 22% revenue growth, with a corresponding 12.8% increase in net profit margins, for U.S. PAC providers utilizing continuous vital signs monitoring systems.[13] With richer, more objective data collected in real time, even understaffed PAC facilities can experience substantial financial benefits despite paradigm shifts in the healthcare industry.

## Vios Monitoring System

The Vios Monitoring System and Remote Monitoring Services deliver a high-quality, high-value, cost-effective solution for continuous vital signs monitoring.

Vios Monitoring System provides real-time data for patient vital signs on a centralized monitoring software that leverages existing facility infrastructure.

- **HEART RATE**
- **RESPIRATORY RATE**
- **7-LEAD ECG**
- **SPO2**
- **PULSE RATE**
- **POSTURE**

The Vios Remote Monitoring Services provide 24/7/365 oversight to ensure all patient-related events are noted. Alarm fatigue by clinical staff is avoided, thus allowing clinical staff to focus their efforts on direct patient care. Vios Remote Monitoring technicians closely watch patient vitals 24/7/365 so PAC providers can more effectively allocate resources and reduce operational costs.

## Greater Return on Investment

Vios continuous vital signs monitoring solutions produce a substantial return on investment for PAC providers. On average, facilities see a:

- 10% reduction in readmission rates[6]
- 30% increase of higher acuity mix[16]
- 20% reduction in pressure injuries[15]
- 5% increase in facility referrals[16]

**$296,400**
**total annual value**

**2.1 months**
**to breakeven**

**480%**
**annualized ROI**

With the right vital signs monitoring system, your facility can effortlessly drive revenue growth and improve patient health outcomes. Choose Vios to effectively position your facility for long-term financial success so you can focus on what you do best — elevating the standard of post-acute patient care.

Calculate your facility's potential savings when you invest in the Vios Monitoring System and Remote Monitoring Services. The Vios Economic Value Calculator is available now!

## About Murata Vios

Murata Vios, Inc. is a medical technology company focused on utilizing medical-grade IoT sensors and remote monitoring services to lower the cost of care by optimizing the management of patients throughout the continuum of care. The Vios Monitoring System seeks to deliver economic benefits, improve patient outcomes, and increase clinical efficiency.

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