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Transforming Healthcare Delivery & Economics

Using Monitoring for Early Detection & Proactive Care

A practical guide to understanding how continuous monitoring supports early detection and how to get started

Content

Introduction

Reactive healthcare is one of the costliest inefficiencies in modern medicine. We wait for patients to deteriorate before acting, for symptoms to become severe before intervening, for emergencies to unfold before responding. By then, what could have been manageable has become a costly crisis.

This reactive approach hurts everyone involved. Patients suffer more than necessary, hospitals scramble to handle preventable emergencies, costs spiral upward, and healthcare workers spend their days putting out fires instead of preventing them.

But what if we could see problems coming days before they become crises?

The **Numbers** Tell The Story

18-25%

of nursing facility residents experience unplanned hospitalizations annually

Readmission rates within 30 days for post-acute care facilities

12-19%

Each avoidable hospitalization costs an average of

$15,000 - $25,000

The **Science** Behind Early Warning

A clinical efficacy study involving 612 patients across five nursing facilities revealed something remarkable: continuous monitoring detected 77% of health deterioration events an average of five days before hospitalization became necessary.

Think about what **five days** means. That's enough time to:

- Consult with physicians and specialists
- Adjust medications and treatments
- Coordinate with families
- Implement interventions to treat in place

Recent clinical evidence shows we can detect health deterioration patterns before they become emergencies.

77%

Detection of All Hospitalizations

Nearly 8 out of 10 hospitalizations were preceded by system alerts

89%

Accuracy for Cardiac/Respiratory Events

These conditions are most likely to cause emergency transfers

5

Days Warning Prior to a Hospitalization

The average time that an alert preceded a hospitalization

Modern ambient monitoring uses advanced radar technology to track vital signs without wearables, cameras, or microphones.

How **Continuous** Monitoring Works

Contactless technology works through clothing and bedding, respecting patient privacy and comfort while providing 24/7 surveillance that human staff simply can't match.

Depending on the system, measurements can include:

Respiratory Patterns

Often the first indicator of developing problems

Heart Rate Trends

Gradual changes that may signal physiological stress

Occupancy Insight

Alerts for bed exits and tracking of duration and frequency

Activity Levels

Movement patterns that could indicate a changing health status

Sleep Analysis

Rest patterns, duration, and depth that affect overall well-being

Real **Financial Impact** Through Proactive Care

Beyond the clinical benefits, continuous monitoring as part of a proactive care model can deliver measurable financial returns that healthcare administrators can take to the board.

Every preventable hospitalization represents not only patient suffering but also a significant financial burden that could have been avoided with early intervention. When you can detect deterioration patterns days before they become crises, you transform what would have been emergency expenses into manageable, in-facility treatments.

Let's talk numbers that matter to your bottom line. Using a typical 150-bed facility and an estimated readmission cost as an example, this is the annual savings potential:

Prevention rate

77% of hospitalizations detected early

Prevented readmissions

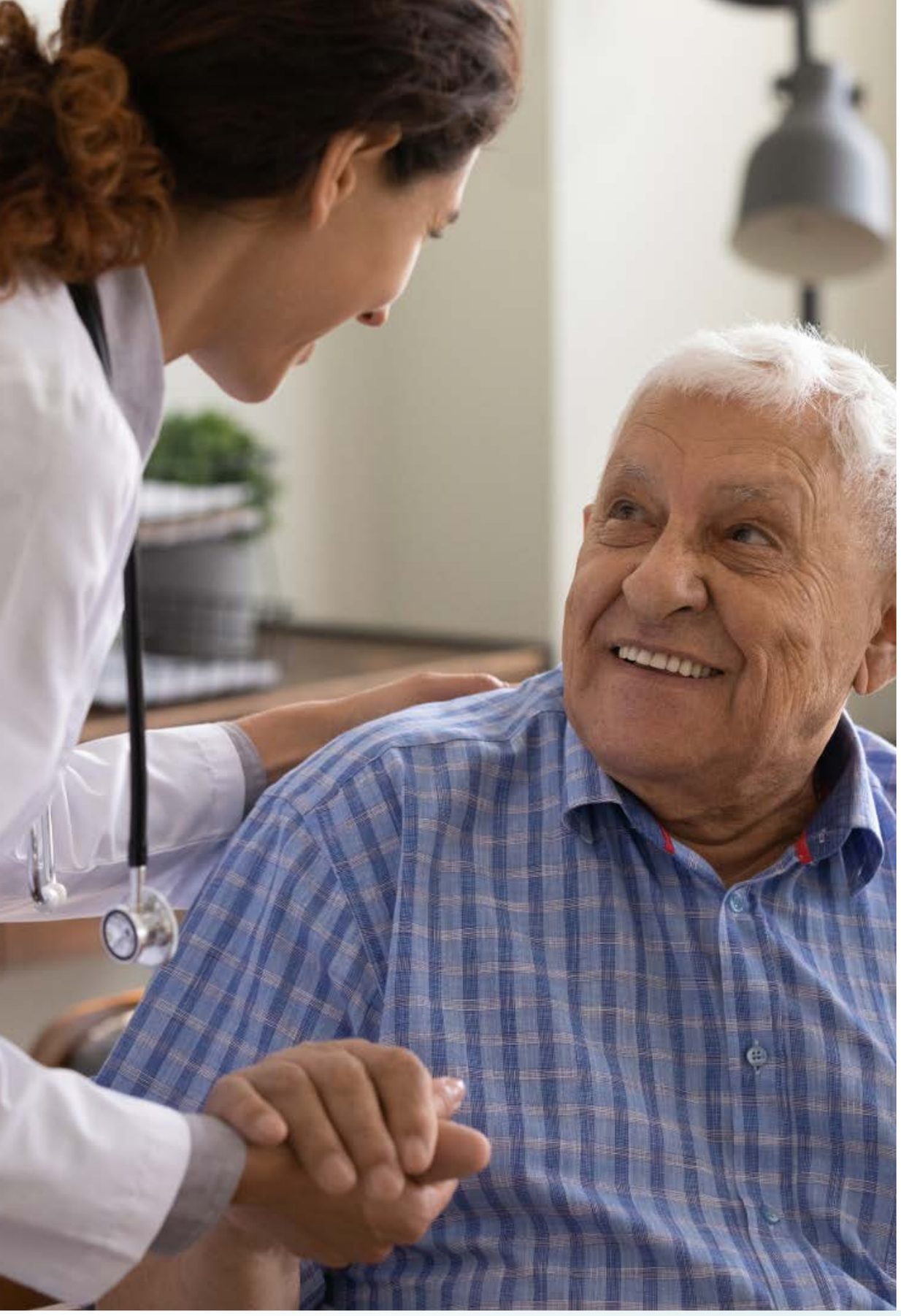
27 events avoided per year

Average cost of hospitalization

$16,037

$433,000

TOTAL ANNUAL SAVINGS POTENTIAL



Advantages in **Value-Based Care** Models

Medicare Shared Savings Programs Early intervention lowers the total cost of care while upholding quality standards required for shared savings.

Medicare Advantage Star Ratings
Better clinical outcomes support higher star ratings, with four+ star plans receiving benchmark increases of approximately five percentage points, enhancing a competitive position and rebate percentages.

Medicaid Managed Care
Risk-based contracts reward early intervention and prevention with performance bonuses.

Commercial Payer Arrangements
Risk-based contracts reward early intervention and prevention with performance bonuses.

Real-World **Success** Stories

Case 1: Pneumonia Prevention

78-year-old nursing home resident with COPD would have traditionally developed pneumonia over a weekend, going unrecognized until Monday when emergency hospitalization was required.

With continuous monitoring, alerts generated Friday evening led to early assessment, oral antibiotics, and recovery in the facility.

Cost difference: $44,200 savings

Patient outcome: Maintained independence and avoided inpatient stay

Case 2: Heart Failure Management

An 82-year-old assisted living resident's heart rate variability changes triggered alerts before symptoms appeared.

Telemedicine consultation led to medication adjustments that prevented acute exacerbation.

Cost difference: $26,800 savings

Clinical benefit: Earlier intervention preventing crisis

Roadmap for Monitoring Implementation

PHASE 1

Technology Review
(Months 1-2)

Evaluate possible monitoring solutions based on clinical evidence, integration capabilities, and total cost of ownership. Request references from similar facilities and validate detection accuracy claims through site visits or pilot demonstrations.

PHASE 2

Pilot Program
(Months 3-4)

Most monitoring technology developers and resellers offer pilot programs. Choose a high-risk population to see what works, adjust parameters, and develop workflow integration processes.

PHASE 3

Full Implementation
(Months 5-6)

Expand systematically based on pilot results. Train all staff, standardize protocols, and integrate monitoring into daily workflows.

Success Factors

- Leadership commitment beyond just budget approval
- Comprehensive staff training, not just a one-day session
- Workflow integration that doesn't disrupt existing routines
- Regular feedback and protocol refinement

Common Pitfalls

- Alert fatigue from poorly calibrated sensitivity
- Inadequate engagement with monitoring data
- Insufficient family communication about the technology
- Underestimating the change management required

Getting Started

1. **Assess your baseline:** Calculate your current hospitalization costs and patterns.
2. **Identify champions:** Find clinical staff excited about proactive care.
3. **Evaluate vendors**: Focus on clinical evidence and integration capabilities
4. **Plan your pilot**: Choose high-risk patients where impact will be most visible
5. **Prepare for change:** Invest in comprehensive staff training and support

Choosing the Right Monitoring Solution

Focus on essentials and asking the right questions

Capabilities

- Minimum of 70% detection accuracy
- Average of 4+ days of advanced warning
- EHR integration for workflow efficiency
- Configurable sensitivity settings

Requirements

- Device compatibility for staff alerts, including mobile
- Quality reporting and analytics
- Technical and training support
- Continued software development/improvements

Common Mistakes

- Choosing systems based on price alone
- Inadequate due diligence on vendor stability
- Insufficient consideration of ongoing support needs
- Overlooking staff training and change management

Questions to Ask

Clinical Relevance & Outcomes

- What evidence supports your solution's impact on outcomes?
- What's your detection accuracy rate in real-world implementations?
- Which condition or patient populations are best suited for this solution?
- Integration & Workflow
- How do you integrate with our existing EHR system?
- What workflows are automated vs. manual?
- Can alerts and thresholds be customized?

Patient Experience

- How easy is it for patients to use?
- What features drive adherence and engagement?
- How do you support patients with limited digital access or literacy?

Clinical Experience

- How easy is it for the clinician to use?
- How do you minimize false positives and alert fatigue?
- What does your training and support program look like?

Data & Analytics

- How is data captured, transmitted, and displayed?
- Does it provide predictive insights or risk stratification?
- Who owns the data, and how easily can it be shared/exported?

Security & Compliance

- How do you ensure HIPAA and regulatory compliance?
- What security certifications or audits back this up?

Scalability & Flexibility

- How well does the system scale for large populations?
- Can it support multiple conditions and devices?

Financial & ROI

- What is the total cost of ownership?
- How does this solution support reimbursement pathways?
- What ROI have clients achieved?

Validation

- What results have you delivered for similar organizations?
- What's on your product roadmap in the next 2–3 years?
- Can you provide references from similar facilities? Or, can you provide case studies or references?

Measuring **Success**

Track the metrics that matter to your organization

Clinical Outcomes

- Hospitalization reduction percentage
- Early detection rate for deterioration events
- Average warning time before crises
- Patient and family satisfaction scores

Operational Efficiency

- Response time from alert to assessment
- Staff overtime reduction
- Emergency response frequency
- Technology adoption rates

Financial Performance

- Direct cost savings from prevented hospitalizations
- Quality bonus improvements
- Revenue enhancement from better ratings
- Return on investment timeline

The **Future** of Healthcare

Healthcare is moving toward proactive, predictive care, regardless of whether individual organizations lead or follow. The clinical evidence is compelling, the financial case is strong, and the technology is proven.

Organizations that implement continuous monitoring have a tool that helps them establish competitive advantages through:

> • Enhanced patient outcomes and safety
> • Higher quality ratings and compliance
> • Improved financial performance
> • Increased staff satisfaction
> • Stronger patient, staff, and family relationships

The question isn't whether continuous monitoring will become standard practice - the evidence is too compelling. The question is whether your organization will be an early adopter that captures the benefits or will follow industry trends after others have established their advantages.

The future of healthcare is proactive, predictive, and patient-centered.
Organizations that act now will lead this transformation.

Resources

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About This Publication

This guide synthesizes evidence from clinical studies, various media and research sources, implementation experiences from healthcare organizations, and Neteera’s expetise. Financial projections, estimates, and examples are based on documented healthcare cost data and information provided by some heatlhcare providers. Actual outcomes and savings will be determined by each organization’s specific conditions.

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About **Neteera**

Better care leads to better outcomes, improving both the provider and patient experience—that's the power of Neteera.

The Neteera System automates monitoring and tracking of vitals and activity metrics without contact. Passive sensor technology is combined with sophisticated algorithms to provide accurate, real-time patient insights.

Our innovative monitoring and alert notification platform enhances patient care and comfort without using wearables, cameras, microphones, clothing removal, or staff activation. Caregivers can stay ahead of patient conditions with advanced alerts customized to desired thresholds and baseline deviations.

Designed for most healthcare settings, Neteera technology is FDA-cleared and CE-certified by NB 2797. Simple, accurate, and secure—Neteera empowers healthcare providers to elevate patient care.

MKT-US-0049 REV012626