



Six Practical Ways to Reduce Data Burden in Cardiology Clinics

Quick tips to streamline device data management

Executive Summary

Remote monitoring (RM) of cardiac implantable electronic devices (CIEDs) is now central to electrophysiology practice. Its benefits are clear: earlier detection, improved adherence, and reduced hospitalizations. Yet, across the U.S., many device clinics struggle under the weight of their own success. Alert volumes have doubled in less than a decade, staff turnover is rising, and clinicians report burnout at record levels.

In 2023, an international consensus from the Heart Rhythm Society (HRS), European Heart Rhythm Association (EHRA), Asian Pacific Heart Rhythm Society (APHRS), and Latin American Heart Rhythm Society (LAHRS) called this out directly: remote monitoring is essential but critically under-resourced.

This whitepaper summarizes six evidence-backed strategies to make RM scalable, efficient, and sustainable – while maintaining clinical quality. Each is drawn from recent peer-reviewed research, operational case studies, and published consensus recommendations.



01. Reduce Unnecessary Transmissions at the Source

Problem

Default device settings often flood clinics with low-priority transmissions. Minor fluctuations in impedance, rate response, or battery voltage frequently trigger alerts that do not require clinical attention.

Evidence

A multicenter study published in *JACC: Clinical Electrophysiology* found that targeted reprogramming of device parameters reduced alert volume by 65% without affecting safety outcomes. Similarly, European analyses confirm that workflow customization is the most direct path to efficiency.

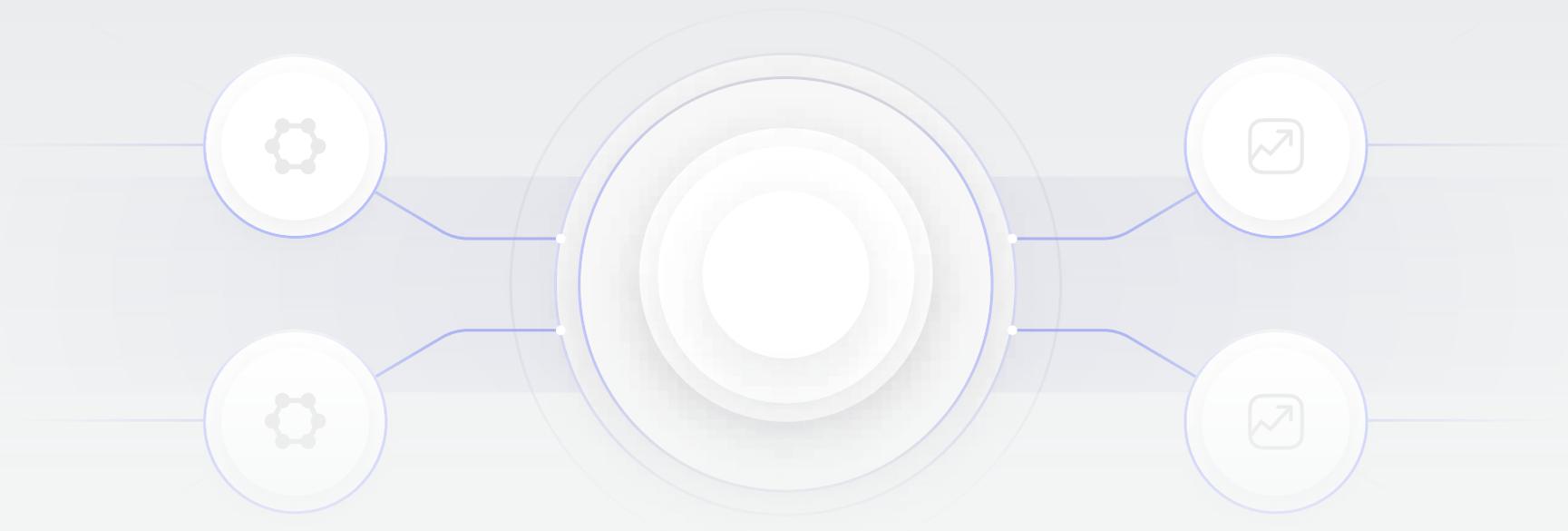


Action

Collaborate with electrophysiologists and device vendors to adjust alert thresholds and suppress redundant triggers. Re-evaluate these at device checks, annually, or after major software updates.

Payoff

Smarter programming reduces false positives and frees clinical teams to focus on transmissions that require timely review and action.



02. Implement Tiered Triage and Role-Based Escalation

Problem

Too often, every alert lands on a clinician's desk. Without clear triage roles, clinics face bottlenecks, clinical delays, and burnout.

Evidence

Consensus guidelines and workflow studies endorse a three-tier model:

Automation filters low-value alerts.

Technician review confirms actionable events.

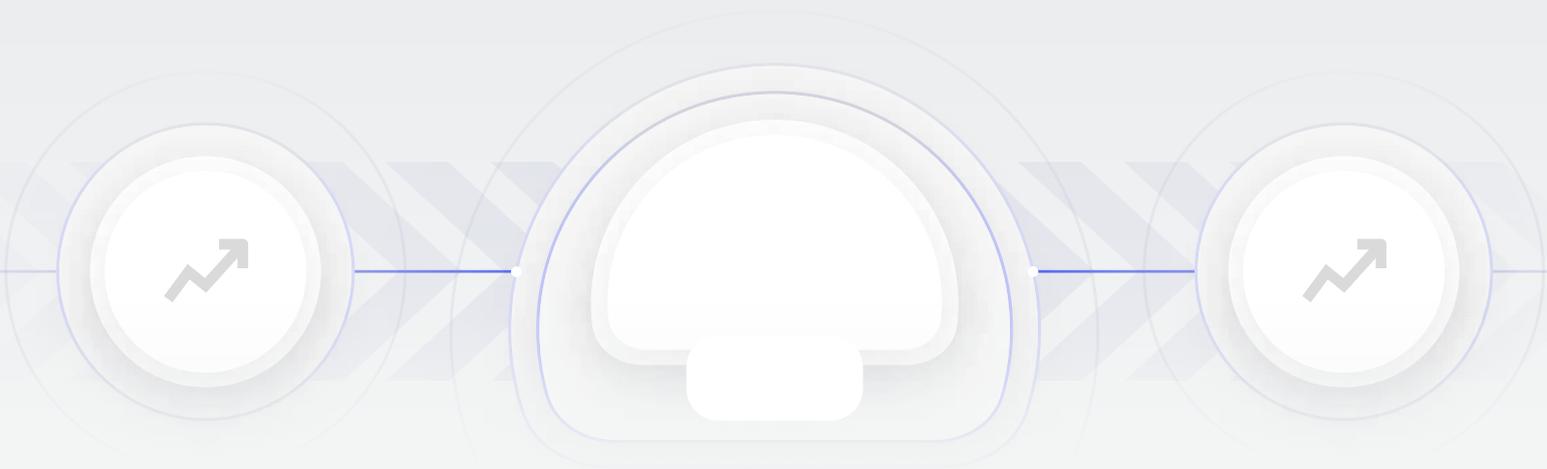
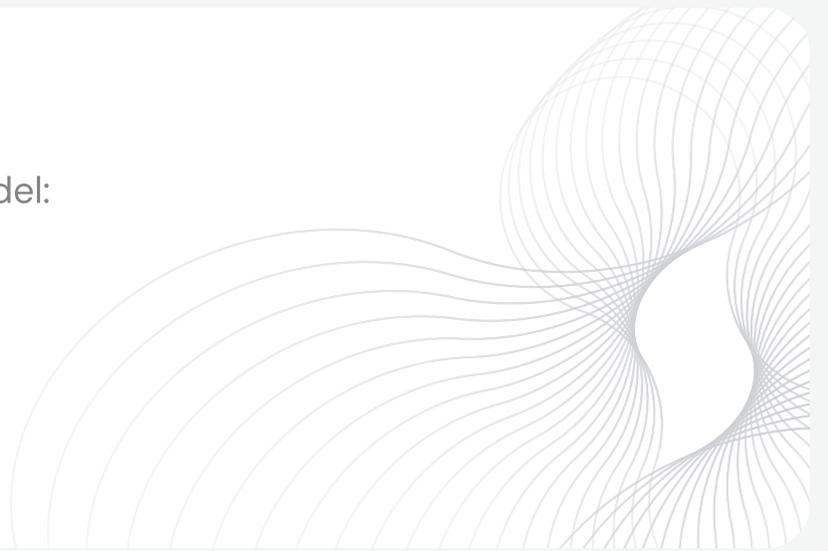
Clinician oversight addresses complex or urgent cases.

Action

Define and document escalation thresholds in your clinic. Equip staff with standardized triage protocols and decision trees. Use technology to pre-prioritize alerts and streamline routing before review. Use AI to help reduce redundant alerts.

Payoff

Clear role delineation reduces response times, improves safety, and limits physician overload. Clinics report up to 30% faster closure of actionable alerts when this model is followed.⁵



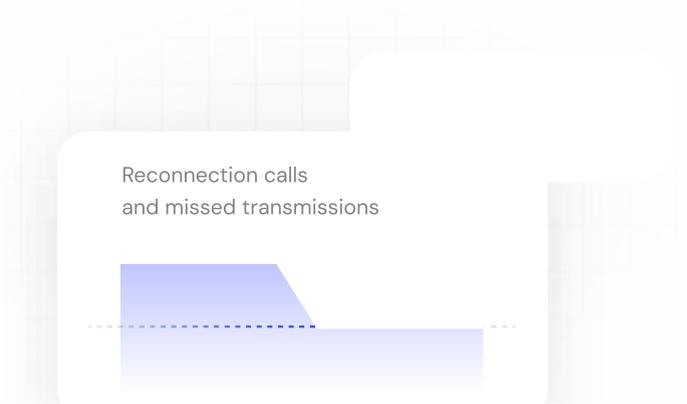
03. Preventing Connectivity Gaps Before They Create Work

Problem

Lost device connectivity is a silent workload driver. Each missed transmission triggers a manual follow-up and, in some cases, delays detection of clinically relevant events.

Evidence

The HRS/EHRA consensus cites patient education and connectivity monitoring as core requirements of an effective RM program. Research shows that proactive connection management decreases reconnection calls and missed transmissions by up to 50%.

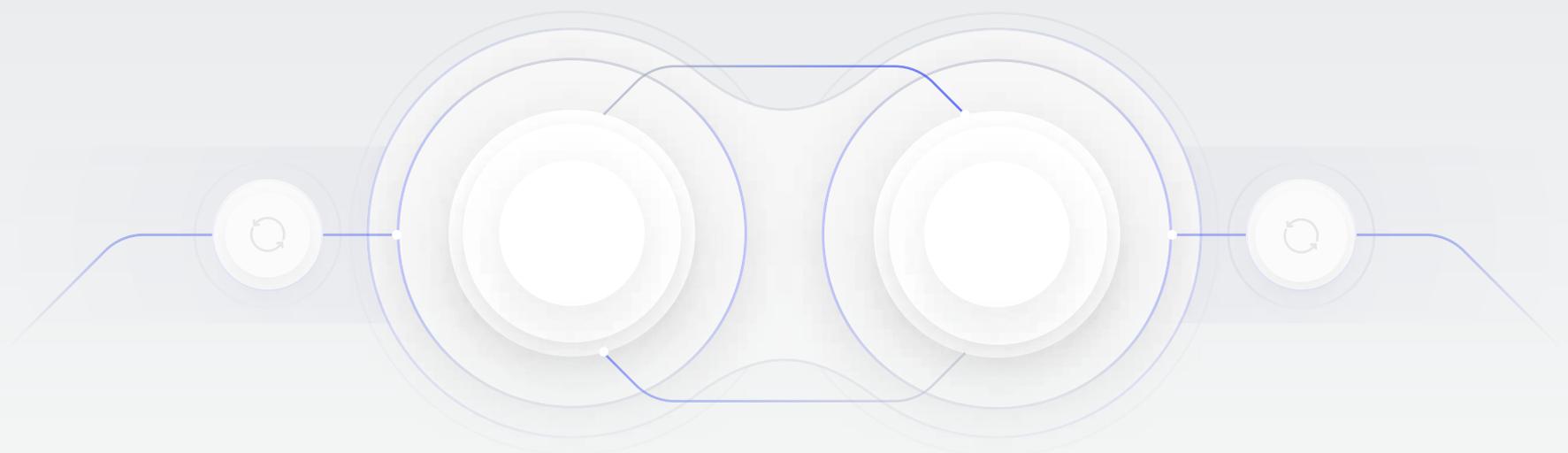


Action

Set expectations with patients by explaining how remote monitoring works, when transmissions occur, and how to troubleshoot common issues. Use structured agreements with patients as to the use of remote monitoring. Use third-party remote monitoring programs that ensure connected patients.

Payoff

Better patient engagement lowers back-office noise, improves compliance, and reduces clinical risk.



04. Measuring What's Working and Refining Workflows

Problem

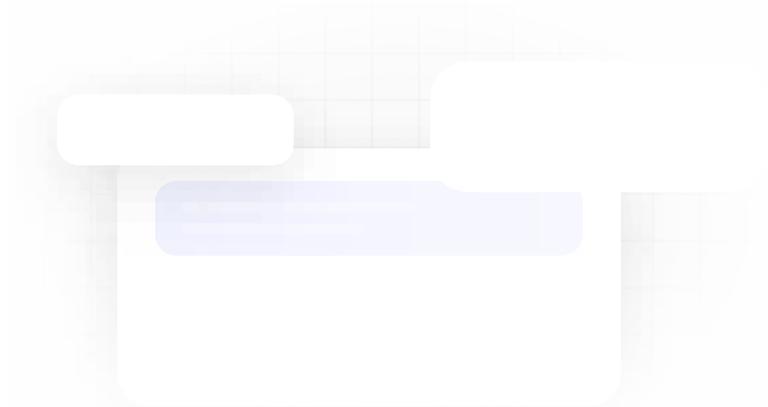
Many clinics lack visibility into their remote monitoring performance. Without clear metrics, inefficiencies persist and improvement efforts stall.

Evidence

HRS guidelines recommend tracking operational KPIs such as alerts per patient, review time, and percentage of actionable transmissions. Clinics that monitor and adjust based on these metrics see measurable gains in efficiency and billing compliance.

Action

Create a simple operational dashboard. Track metrics monthly, review them quarterly, and adjust protocols. If an alert type is dismissed more than 95% of the time, consider suppressing it. Incorporate staff feedback and patient satisfaction scores to refine workflows over time. The right third-party platform can help by providing these features and analytics realtime.



Payoff

Data-driven improvement allows clinics to reduce wasted effort and optimize staffing levels over time.



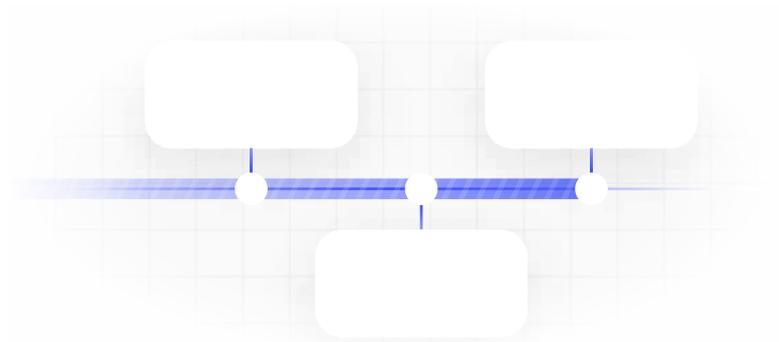
05. Testing Changes Before Scaling Across the Clinic

Problem

Workflow changes can create unintended consequences when implemented broadly without validation. Rolling out new triage rules or programming changes too quickly can introduce risk and disrupt established processes.

Evidence

In a 2024 Journal of Cardiovascular Electrophysiology review, Maines et al. found that clinics piloting incremental workflow adjustments saw faster adoption and experienced fewer errors than those attempting full-scale conversions.

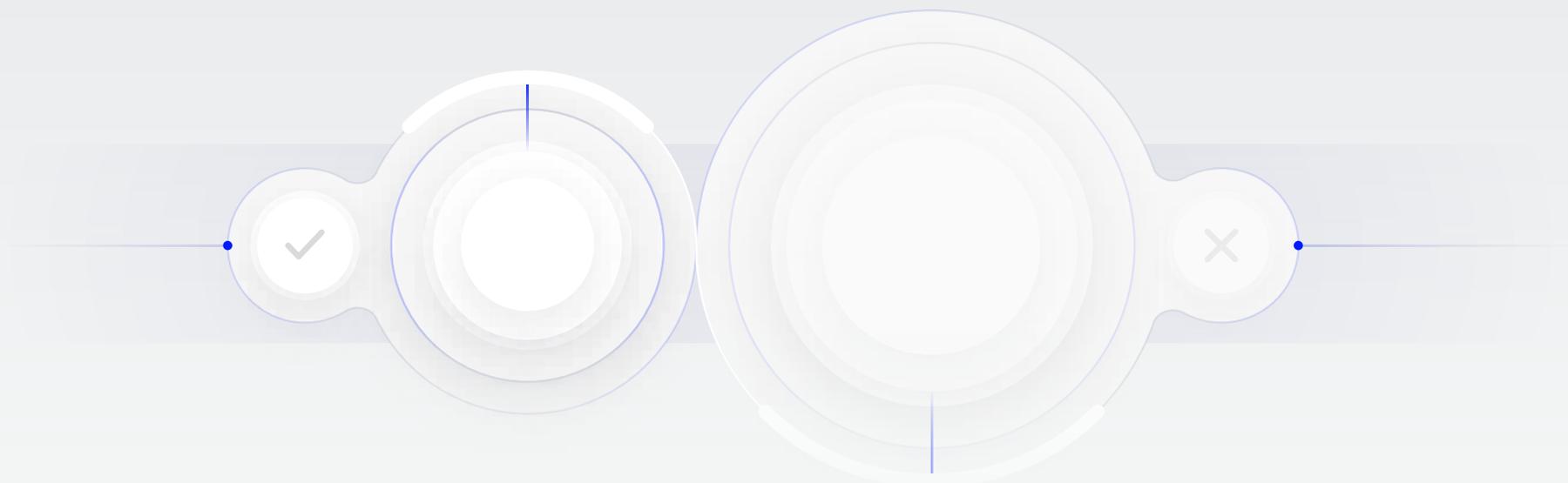


Action

Start small: one location, one device manufacturer, or one patient cohort. Measure key metrics pre- and post-implementation, refine the process, and expand gradually. Create buy-in with decision makers early.

Payoff

Phased rollouts lower risk, build staff confidence, and enable continuous improvement.



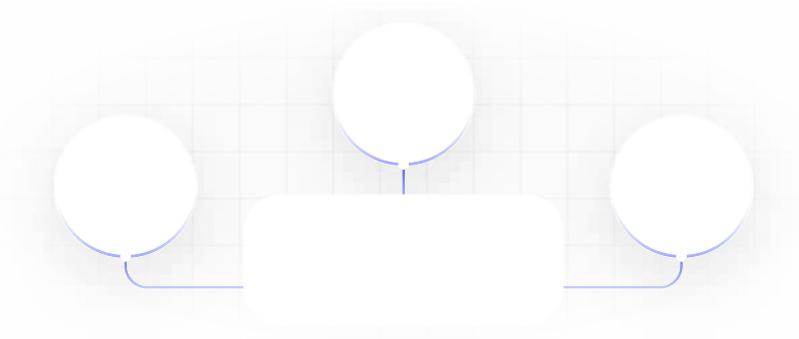
06. Equip Staff to Standardize What Works

Problem

Remote monitoring is often added “on top” of existing clinic responsibilities, leaving teams understaffed and unstructured.

Evidence

Workforce analyses confirm that dedicated RM staff reduce backlogs and increase report accuracy. Consensus guidelines suggest staffing ratios near 3 full-time employees per 1,000 active RM patients.



Action

Allocate defined FTEs for alert triage, transmission reconciliation, and patient outreach. Develop clear SOPs, escalation trees, and coverage schedules to ensure consistency even during absences. If acceptable ratios can't be met in your clinic, consider outsourcing to dedicated experts in third-party platforms, or using software to streamline operations.

Payoff

Dedicated teams and documented workflows create sustainable programs with lower turnover and higher morale.



Conclusion

Remote monitoring has transformed cardiac care, but the operational strain is real. By adopting evidence-based workflow strategies – alert prioritization, smart programming, structured triage, patient education, continuous measurement, pilot testing, and dedicated staffing – clinics can achieve both clinical and operational excellence. These strategies are proven in the Lehigh Valley Heart & Vascular Institute case study: Optimizing workflows and implementing AI-assisted triage increased billing efficiency from 68% to 91%, recovered \$365k in annual revenue, and reduced report backlog within 90 days. Real-world experience echoes the literature: fewer alerts, faster action, better care.

"When we transitioned from a prior remote monitoring service to Octagos, our staff responsibilities were actually reduced. Connectivity and billing issues disappeared. Things are integrated quickly and seamlessly."

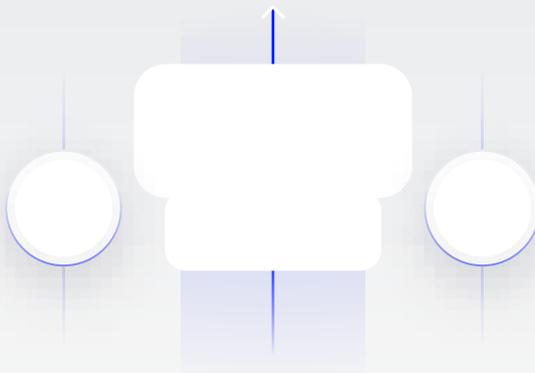
– Christopher Porterfield, MD, MPH, Cardiac Electrophysiologist, Aurora Denver Cardiology Associates

As patient volumes rise and technology evolves, scalable RM workflows are no longer optional – they're essential for the sustainability of cardiac care teams.

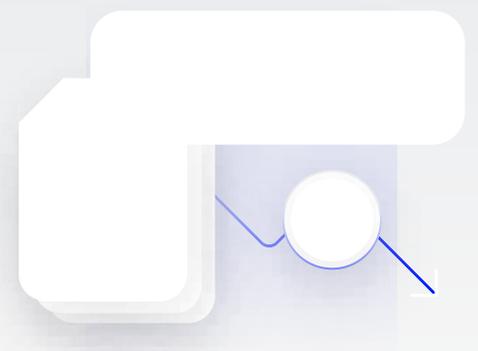
Annual Revenue
Recovered



Billing Efficiency
Increased



Report Backlog
Reduced



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