

Coordinating faster response around critical ICU dialysis therapy

at Henry Ford Health System

A customer story demonstrating how an Ascom-enabled remote alerting workflow helped support rapid correction of SLED-RCA treatment alarms.



Background

Henry Ford Hospital operates one of the largest critical care environments in the region. Its Detroit campus includes 148 ICU beds spanning Medical ICU, Surgical ICU, Neuro ICU, Cardiac ICU, Cardiovascular ICU, and Neonatal ICU units. More than 3,000 patients are admitted to intensive care annually, and more than 20,000 patients each year are triaged directly to the highest-acuity emergency department care areas.

Within this environment, Henry Ford Health System provides continuous kidney replacement therapy for critically ill patients using a proprietary 24-hour low-efficiency dialysis system with regional citrate anticoagulation treatment protocol, referred to as SLED-RCA.

The numbers

15

SLED-RCA
included in QI assessment

11,896

alerts recorded
over six month period

~600

alerts per week
average volume

Clinical context

SLED-RCA

Prolonged dialysis treatment used for critically ill ICU patients who require continuous kidney replacement therapy.

Reliability need

Safe administration depends on reliable operation of the dialysis machine, blood circuit, dialysate delivery and anticoagulation process.

Response objective

Reduce delays in alarm recognition, escalation and correction while supporting treatment continuity.

The Clinical Challenge

When treatment-related machine alarms occur, treatment may be interrupted, delayed or compromised, potentially exposing critically ill patients to avoidable clinical risk.

Henry Ford Health System identified an opportunity to strengthen alarm recognition, escalation and response around SLED-RCA administration.

Four Worklow Challenges

Challenge	Why it mattered	Ascom-enabled response
Treatment-related alarms	Could signal interruption, unsafe treatment conditions, blood flow issues, pressure abnormalities, or compromised therapy.	Actionable alerts routed to the appropriate staff role.
Manual escalation	Nurses often had to recognize, identify, communicate, and escalate dialysis-specific alarms amid competing priorities.	Direct notifications reduced communication friction and supported role-based response.
Distributed ICU locations	Machines operated across four floors and two buildings, with up to 15 running simultaneously.	Machine-specific notifications reached responders regardless of location.
Alarm-heavy ICU environment	Important treatment alarms could be harder to distinguish in an already alarm-intensive care setting.	Structured alerts supported quicker identification and more reliable response processes.

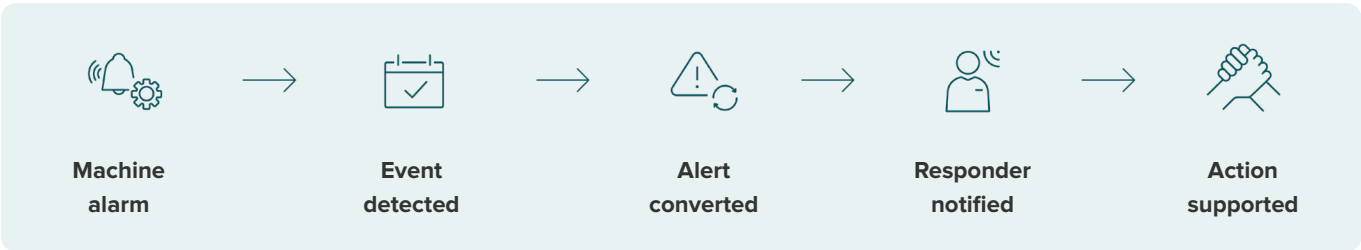
Patient safety objective

Improve the safety and reliability of SLED-RCA treatment administration by reducing delays in alarm recognition, escalation and correction. The goal was to strengthen the response pathway surrounding a critical therapy so treatment interruptions and unsafe conditions could be addressed as quickly as possible.

How the Ascom-enabled workflow works

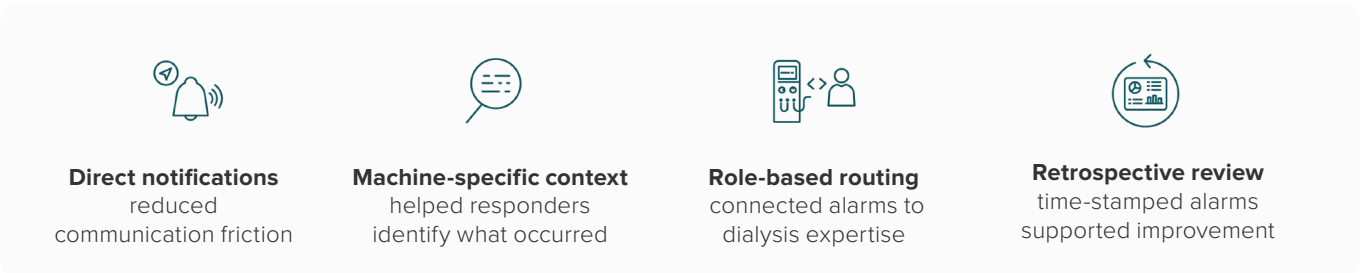
Henry Ford Health System developed a remote alerting workflow that connected SLED-RCA machine alarms to the appropriate clinical responders.

Ascom served as the communication and workflow layer between machine-generated events and caregiver action. Treatment alarms were transformed into role-based alerts delivered directly to designated staff.



Alerts included patient name, room number, machine number, alarm description, specific machine alarm and date/time information. This allowed responders to identify what occurred, where it occurred and what type of intervention might be required.

Workflow analysis insights



Results and operational impact

A quality improvement assessment reviewed alerts generated from 15 SLED-RCA machines over a six month time frame. The system recorded 11,896 alerts during the study period, averaging nearly 600 alerts per week. During one selected high-alarm week involving nearly 1,000 alarms, average **alarm correction time was approximately five minutes**.

Faster correction	More direct escalation
Supported approximately five-minute average correction time during a selected high-alarm week and helped reduce the time treatment could remain interrupted or compromised.	Connected treatment alarms to dialysis expertise through role-based notification with machine-specific and patient-specific context.
Improved oversight	Data for improvement
Enabled staff awareness across ICU areas located on four floors and in two buildings, reducing dependence on local alarm recognition alone.	Time-stamped and stored alarm events, enabling retrospective review of alarm patterns and response performance.

Dialysis technician feedback

100%

reported faster response
to major SLED alarms

90%

agreed or strongly agreed
workflow improved patient safety

100%

agreed machine-specific
identification was helpful

What this means for healthcare organizations

Stakeholder	Value of the workflow
Clinical leaders	Improved responsiveness around therapy administration.
Nursing leaders	Reduced dependency on nurses as the sole communication bridge for technical dialysis alarms.
Dialysis teams	Faster access to contextual information required for troubleshooting and response.
IT leaders	A practical example of connecting device-generated events to caregiver action through role-based workflows.

In conclusion



Critical treatment alarm
machine-generated event



Actionable alert
patient, room and
alarm context



Right responder
role-based workflow



Faster coordinated response
approximately five-minute
correction

Henry Ford Health System transformed treatment-related alarms into coordinated clinical action by connecting machine-generated events directly to the appropriate responder with the context required for rapid intervention. The primary measurable outcome was an average alarm correction time of approximately five minutes during a selected week that included nearly 1,000 SLED-RCA alarms. SLED-RCA remains the treatment. The Ascom-enabled workflow serves as the monitoring and communication layer that helps ensure treatment-related issues reach the right caregiver, with the right information, at the right time. By strengthening alarm recognition, escalation and response processes, the organization improved visibility around a critical therapy, supported treatment continuity and reinforced patient safety throughout a complex ICU environment.

References

Gerard A. Zasuwa, Jerry Yee, Karla D. Passalacqua, Stanley Frinak. Remote Monitoring of Sustained Low-Efficiency Dialysis (SLED) Machines in Intensive Care Unit. Published by Elsevier Inc. on behalf of the National Kidney Foundation, Inc., 2022. Open access under CC BY license.
Henry Ford Health System | Ascom-enabled SLED-RCA alerting workflow.
Henry Ford Health System identified an opportunity to strengthen alarm recognition, escalation and response around SLED-RCA administration.



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We are a global provider of communication and collaboration solutions for the acute care, long-term care and enterprise sectors. Our solutions are based on intelligent integrations with software and hardware that are open source and compatible with third party solutions. Every single second, our systems generate large amounts of data, which we then turn into useful and actionable information. This helps us to bring data to life for people in the toughest operational environments, ensuring smooth, complete, and efficient workflows.

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