

# Earlier Sepsis Identification in EMS

How point-of-care lactate testing improved prehospital recognition and ED readiness

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Speculative Portfolio Sample



# Sample Context



**Audience:** EMS leaders, hospital stakeholders, MedTech marketers  
**Asset Type:** Case study  
**Objective:** Show how content supports adoption and sales conversations  
**Scenario:** Speculative sample based on realistic field conditions  
**What This Demonstrates:** Messaging strategy, operational fluency, proof use



**34%**

increase in  
prehospital sepsis  
identification



**18-minute**

reduction in  
time to antibiotics



**94%**

of transports  
delivered results  
before arrival



**SEP-1**

compliance improved  
by 11 points

| Challenge                                                                                                                                                                                                   | Solution                                                                                                                                                                                                            | Result                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sepsis can progress rapidly, yet early signs are often non-specific in the field. Traditional markers lacked sensitivity, leading to under-recognition and delayed treatment after ED arrival. <sup>1</sup> | EMS crews used a point-of-care lactate test to identify patients at risk. A predefined lactate threshold triggered an ED alert, enabling earlier sepsis pathway activation and resource preparation. <sup>1,2</sup> | Earlier identification and communication led to faster treatment, improved workflow alignment, and measurable gains in sepsis outcomes and quality performance. |



Assessment



Lactate Test



Threshold Met



ED Alert



Sepsis Pathway  
Activated

“The pilot gave crews an objective trigger and helped the ED prepare sooner.”

## Why This Sample Works

- Connects a clinical action to operational impact.
- Uses clear metrics that matter to stakeholders.
- Shows workflow integration, not just a device.
- Built to support adoption and sales conversations.

# How One Regional EMS System Identified 34% More Sepsis Cases - Before the Patients Reached the ED

18 Minutes Earlier to Definitive Care Using a Point-of-Care Lactate Device

The email from the CMO arrived at 6:47 on a Tuesday morning. Subject line: Q3 Sepsis Outcomes. Urgent Review.

By the time Dr. McGrew arrived that afternoon, the CMO and CFO were already waiting in the conference room. Quality outcomes were now tied directly to financial exposure.

### Q3 Sepsis Outcomes Review

**Mortality:** +14% vs regional benchmark

**SEP-1 compliance:** within acceptable range

**Field identification rate:** low (~12%)

**Overall Assessment:** Significant concern. Elevated mortality and low field identification require immediate operational review and intervention planning.

Dr. Richard McGrew had seen difficult numbers before. In 11 years as Medical Director for Tri-County EMS, he had navigated staffing shortfalls, protocol revisions, and two federal audits.

What he had not seen was a gap this wide.

His system was running 14% above the regional sepsis mortality benchmark, with no clear explanation in the protocols themselves.

Each sepsis case that deteriorated to septic shock added an average of four additional ICU days. Roughly \$14,000 in avoidable cost. The CMO needed answers. The CFO needed numbers he could defend to the board.

It was now McGrew's job to provide both.

## The Investigation

The protocol review took three days.

He started where the data pointed: the ED. Physicians were following protocol. Antibiotics were administered on time, and fluid resuscitation was appropriate. SEP-1 bundle compliance at the receiving hospitals was within the acceptable range.<sup>2</sup>

### The gap was not in the hospital.

McGrew shifted his focus to the prehospital data.

He pulled three months of prehospital run reports, CAD logs, and crew documentation across all 42 units. Sepsis identification rates in the field were as low as 12%.

Identification relied on the medic's judgment based on vital signs and physical assessment. If the patient did not meet classic SIRS criteria, the clock did not start until arrival at the triage desk.

*"Our medics are the best in the state, but we were asking them to identify a systemic metabolic crisis using tools designed in the 1970s."*

# The Solution: Moving the Objective Trigger Upstream

McGrew recognized that the necessary intervention was prehospital. He needed a tool that would hold up under field conditions - something that could deliver an objective metabolic number without requiring a full laboratory setup.<sup>1</sup>

Preliminary device evaluations surfaced problems quickly.

One system required a narrow temperature range that could not be guaranteed in field conditions. Two competing systems required a manual handoff of results. That meant delay, or worse, miscommunication, which introduced both time loss and documentation risk.

### Field requirements

- Single-button operation
- Glove compatibility
- Automatic transmission to the ED before arrival

### Why transmission mattered

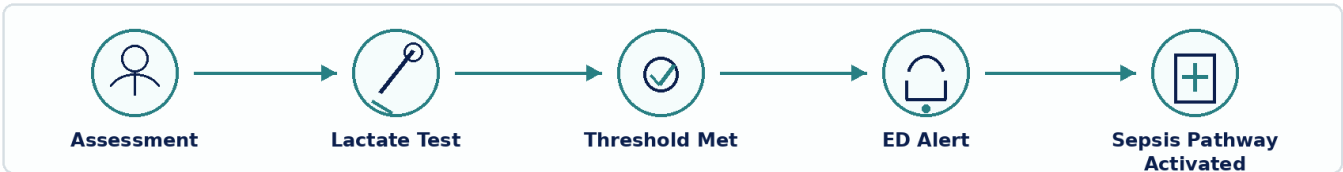
For McGrew, automatic ED transmission was not a feature. It was the difference between protocol and execution.

RapidID was the only system that checked all three.

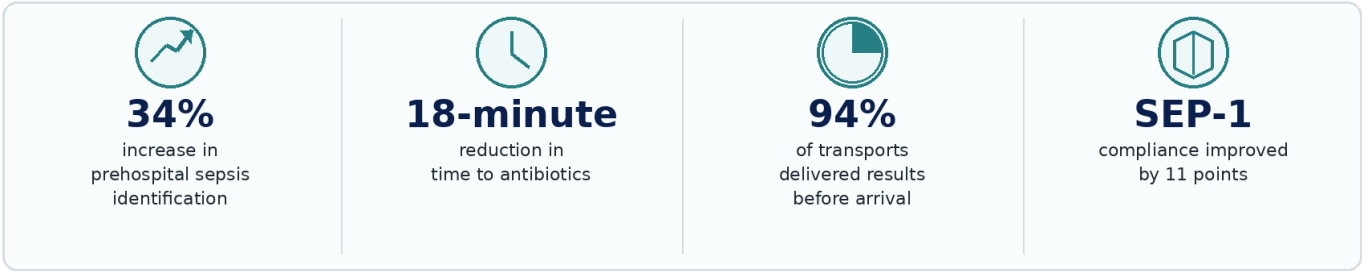
He initiated a 90-day pilot of the RapidID point-of-care lactate analyzer across ten frontline units. The goal was to remove clinical guesswork and replace it with a definitive metabolic trigger.

## The Pilot Protocol

| Who was tested                                                                                                | What changed                                                  | What triggered action                                                                           |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Any patient with suspected infection, or systolic BP <100 mmHg.                                               | Crews performed a 60-second blood lactate check in the field. | Results $\geq 4.0$ mmol/L triggered an immediate Sepsis Alert to the receiving ED. <sup>2</sup> |
| <b>Operational effect:</b> The ED received an actionable metabolic trigger long before the ambulance arrived. |                                                               |                                                                                                 |



# The Results

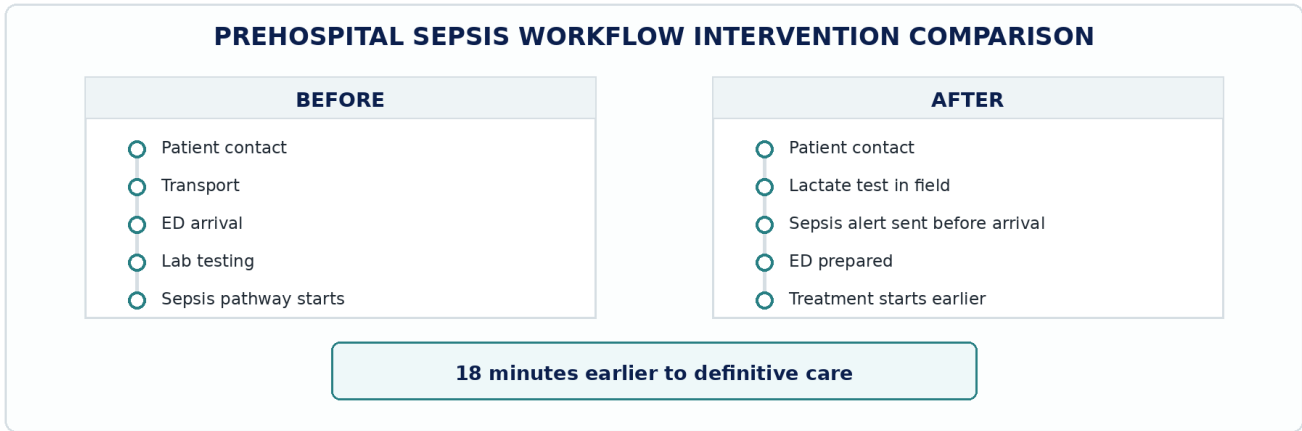


## Identification Accuracy

Prehospital sepsis identification increased by 34% compared to the previous year. Even when vital signs appeared stable, the lactate result provided a definitive trigger for the ED to activate the sepsis pathway. Compared with ED and laboratory assessment, point-of-care lactate testing showed near-perfect agreement ( $\kappa = 0.97$ ).

## Time to Definitive Care

The average time from patient contact to the first dose of antibiotics dropped by 18 minutes. For patients who progress to septic shock, delays in effective antimicrobial therapy are associated with lower survival, making earlier pathway activation clinically meaningful.<sup>3</sup>



## ED Pathway Activation

Receiving EDs had lactate results before arrival in 94% of transports. Sepsis pathway activation shifted from after lab draw to point of entry, reducing the time to actionable data by 38 minutes per patient.

## Financial Impact

Each case prevented from progressing to septic shock avoided roughly four ICU days. Approximately \$14,000. Tri-County identified 6 to 8 such cases during the 90-day period, representing an estimated \$84,000 to \$112,000 in avoided ICU costs in one quarter.

### Estimated financial impact

6-8 cases prevented from progressing to septic shock during the 90-day period.

**Estimated avoided ICU costs: \$84,000-\$112,000 in one quarter.**

Based on roughly four avoided ICU days, approximately \$14,000 per case.

SEP-1 compliance improved by 11 percentage points, reducing quality-reporting exposure tied to CMS sepsis-bundle performance.<sup>2</sup>

*“For the first time, my paramedics had an objective number. They weren’t guessing. They were giving the ED something to act on.”*

McGrew delivered his protocol review to the CMO on Thursday, one day ahead of deadline. The gap was prehospital, and now he had a plan to close it.

For the first time, his paramedics had an objective trigger to act on and the data to support it.

Tri-County integrated the protocol into its standing sepsis procedures. Within two months, the same outcome reports that had triggered the review were beginning to reflect measurable improvement.

### Next Step

Every EMS system has a gap. Most don’t know where it is.

ClearPath Diagnostics will help you find yours with the complimentary Prehospital Sepsis Protocol Review. It is a structured analysis of your system’s identification rates, where your data is benchmarked against regional and national performance.

No device evaluations. No sales conversations. Just your numbers, in context.

Request your complimentary Protocol Review at [URL]

3. Kumar A, Roberts D, Wood KE, et al. Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. Crit Care Med. 2006;34(6):1589-1596. doi:10.1097/01.CCM.0000217961.75225.E9
2. Centers for Medicare & Medicaid Services. Severe Sepsis and Septic Shock: Management Bundle Measure (NQF #0500). BPCI Advanced Alternate Quality Measures Set. Published August 2020. Accessed June 20, 2026. <https://www.cms.gov/priorities/innovation/media/document/bpci-advanced-alt-fs-my4-sepsis>
1. Evans L, Rhodes A, Alhazzani W, et al. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021. Crit Care Med. 2021;49(11):e1063-e1143. doi:10.1097/CCM.0000000000005337

## References

## Portfolio Note

This case study is formatted as a MedTech portfolio sample. It is intended to demonstrate B2B copywriting, messaging strategy, operational fluency, proof handling, and sales-enablement thinking for prehospital and EMS markets.

### What This Sample Demonstrates

- A field problem tied to quality, finance, and hospital-readiness concerns.
- A clear before/after workflow rather than a feature-only device story.
- Metrics that a marketing manager, EMS leader, sales team, or hospital stakeholder can use.
- A practical CTA that frames the next conversation around the buyer's data.

## Disclaimer

This is a speculative portfolio sample created to demonstrate copywriting, messaging, and sales-enablement capabilities in realistic MedTech and prehospital scenarios. It was not produced for, approved by, or published by a real client unless otherwise stated.

Clinical context, workflows, and performance metrics are consistent with industry practices; however, the organization, individuals, and certain data elements have been modified for illustrative purposes and do not represent a specific real-world entity. External references support background clinical and quality-measure context only; they do not validate the fictional organization, personnel, pilot results, or sample-only performance metrics.

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