

Emergency Medicine System Reduces Unnecessary Admissions of Chest Pain Patients

Annual ED Visits: 450,000 across 15 EDs

EHR System: Epic

Emergency Care Specialists (ECS) standardizes chest pain management through evidence-based risk stratification



CHALLENGES

- Variability in clinician decision-making regarding chest pain discharges
- Lack of standardized documentation for risk stratification tools in their EHR
- Difficulty tracking [physician adherence to clinical guidelines](#) and identifying opportunities for improvement
- A need for data-driven insights to support quality improvement and value-based care initiatives



IMPACT

- Increased HEART Score documentation across ECS from 32.48% to 75% within a year
- Safe discharge rates for low-risk chest pain patients reached 97%, surpassing the $\geq 88\%$ benchmark by the Michigan Emergency Department Improvement Collaborative (MEDIC)
- ECS contributed to a nearly \$39M in cost savings, benefiting both hospitals and insurers engaged in value-based contracts

Background

[Emergency Care Specialists \(ECS\)](#) is a physician-owned and physician-led emergency medicine group that has been providing high-quality care for 15 emergency departments in Michigan for more than 40 years. ECS treats nearly half a million patients a year with a team of 150 physicians and 85 mid-level providers. Focused on clinical excellence and operational efficiency, ECS seeks innovative solutions to enhance patient outcomes and optimize hospital resources. As part of its quality improvement initiatives, ECS has partnered with d2i to refine its approach to managing low-risk chest pain patients, aiming to reduce unnecessary hospital admissions while maintaining patient safety.

Challenges

In the United States, [chest pain](#) is the second most common presenting complaint in EDs, accounting for about 5.5% of visits overall, yet a significant percentage of these cases are classified as low-risk. Despite this, many patients are admitted for observation due to concerns about missing potential acute coronary events.

ECS recognized an opportunity to standardize chest pain management through evidence-based risk stratification while still ensuring patient safety. However, the organization faced several challenges, including:

- Variability in clinician decision-making regarding chest pain discharges.
- Lack of standardized documentation for risk stratification tools in the electronic health record (EHR)
- Difficulty tracking [physician adherence to clinical guidelines](#) and identifying opportunities for improvement
- A need for data-driven insights to support quality improvement and value-based care initiatives

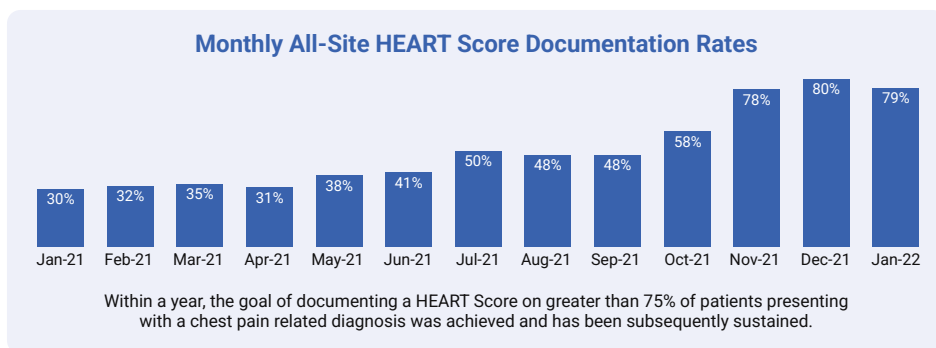
Solution: The HEART Score and Data-Driven Feedback

The HEART Score is a widely validated risk stratification tool designed to assess a patient's likelihood of an acute coronary event. While most ECS clinicians already applied some variation of the HEART Score in their decision-making, there was considerable variability in how individual providers triaged and managed chest pain complaints. Moreover, the score and its associated metrics were not systematically captured within the EHR, making it difficult to track and standardize care.

ECS worked with its EHR provider to create a structured field for HEART Score documentation, ensuring ease of use and integration into clinical workflows. d2i's [Emergency Medicine Performance Analytics](#) provided ECS with customized reports to monitor clinician adherence to HEART Score documentation and utilization.

With d2i's analytics, ECS was able to track physician performance, identify trends, and offer individualized feedback to ensure alignment with best practices. ECS extended the initiative to align with programs like MIPS and other [value-based care agreements](#) with payers and hospital systems, demonstrating measurable improvements in clinical quality and cost efficiency.

Before the intervention, HEART Score documentation across ECS sites stood at just 32.48%. However, after implementing standardized workflows and leveraging d2i's data analytics, documentation rates surged to 72.61% within a year, with the initiative achieving and sustaining a compliance rate exceeding 75%. ECS Chief Medical Officer Chris Port, MD, FACEP, said, "All of our quality initiatives rely on having solid, actionable data. d2i has been a great partner in helping us move our quality program forward – truthfully, it wouldn't be possible without the data we get from them."



More importantly, safe discharge rates for low-risk chest pain patients reached 97%, surpassing the $\geq 88\%$ benchmark established by the Michigan Emergency Department Improvement Collaborative (MEDIC). ECS Senior Director Clinical Operations, Stephanie Mullennix, MSN, RN, AGCNS-BC, CEN, CPHQ, said, "d2i helped us visualize and track our data effectively. We had a perception of what was happening, but access to d2i's reporting allowed us to document, trend, and follow up with individual providers."

Results: From Chief Complaint to Quality in Management

The impact was undeniable. By integrating the HEART Score into both clinical practice and quality improvement initiatives, [ECS achieved significant improvements](#):

- **Increased HEART Score documentation:** ECS saw a marked rise in adherence to HEART score documentation, enabling more consistent risk stratification.
- **Reduction in unnecessary admissions:** With better risk assessment, ECS safely discharged more low-risk chest pain patients, reducing hospitalizations by a measurable percentage.
- **Enhanced provider engagement and decision-making:** Physicians received targeted feedback on their documentation and decision patterns, leading to greater adherence to evidence-based guidelines.
- **Cost savings for hospitals and payers:** By reducing unnecessary admissions, ECS contributed to a nearly \$39 million in cost savings, benefiting both hospitals and insurers engaged in value-based contracts.

ECS President John Throop, MD, MBA, FACEP, concluded, "With powerful analytics to track performance and drive improvement, we strengthen relationships with hospitals and payers while confidently identifying value-based opportunities. This not only boosts profitability but also enhances patient care and solidifies key partnerships."

ECS's partnership with d2i highlights the power of high-quality, [fit-for-purpose data analytics](#) in driving clinical and operational improvements. By standardizing the use of the HEART Score, integrating actionable data insights, and aligning initiatives with value-based care, ECS has successfully optimized patient care while reducing unnecessary costs.

As healthcare continues to evolve, ECS remains committed to leveraging data-driven strategies to enhance emergency medicine performance and patient outcomes.

Learn more about how d2i's [Emergency Medicine Performance Analytics](#) can support your organization's quality improvement efforts

Contact d2i today

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