Improving emergency care for chest pain patients

Process redesign and optimization. PRO.

Better processes. Extraordinary potential.
We work with hospital administration leaders and care teams to identify, prioritize, and implement changes that can transform patient care pathways and establish operational excellence that endures.

Whether it's building a new program or improving an existing one, we're here to help.
Identify challenges at your hospital or clinic that our guided solutions may be able to help you solve.
A medical center on the East Coast has one of the largest emergency departments (EDs) in the state and treats a substantial number of patients complaining of chest pain. The center’s leadership set a goal to become a Cardiology Center of Excellence and work toward chest pain accreditation from the American College of Cardiology (ACC). In preparation for this accreditation, they partnered with Medtronic process improvement and change management experts to improve efficiencies and standardize care for chest pain patients.

**The challenge**

Rapid troponin testing is an important ED practice, enabling healthcare providers to quickly diagnose myocardial infarction in chest pain patients. To achieve chest pain accreditation, hospitals must document a door-to-result turnaround time of less than 60 minutes for ED patients. When the project began, the medical center’s median turnaround time was 99 minutes. Together with Medtronic, they set out to meet the ACC’s benchmark within three months.

Medtronic worked with hospital staff to identify key strategies to improve efficiency and collaborative care among specialties: redesign workflow, standardize care using nurse-driven protocols, enhance multidisciplinary communication, and adjust staff modeling to improve lab efficiency.

“Our partnership with Medtronic exceeded our expectations and helped us achieve significant results in a very short period of time.”

- Senior Vice President, Management Services
The medical center reduced troponin turnaround time by a median of 56 minutes per patient, saving a total of over 12 patient hours in a typical day.

Medical center achieved ACC chest pain accreditation and shortened ED length of stay for chest pain patients by 30%.

59% improvement in troponin turnaround time, improving door-to-result time from a median of 99 minutes to 43 minutes

59% improvement in compliance, from 13% to 72%

95% improvement in door-to-order time, from a median of 42 minutes down to one minute

22% improvement in order-to-result lab performance, from a median of 53 minutes to 38 minutes

Troponin turnaround time and compliance

Key opportunity

<table>
<thead>
<tr>
<th>Workflow redesign</th>
<th>Improvements</th>
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| Streamline EMS field ambulatory and emergency department workflow for patients arriving at the ED with chest pain | • Developed a system to flag and prioritize chest pain patients  
• Prioritized troponin testing orders immediately after EKG rather than later  
• Added prehospital blood draws for all suspected acute coronary syndrome (ACS) patients  
• Moved blood draw location to directly behind ED arrival desk for ease of accessibility  
• Positioned laboratory tubing system nearby to process blood faster |

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<tr>
<th>Standardized care</th>
<th>Improvements</th>
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| Increase consistency of care for chest pain patients | • Implemented standardized nurse-driven protocols and order sets across the ED  
• Created a checklist tool for ED staff with common and atypical ACS symptoms for awareness  
• Developed a process for communicating positive troponin results more quickly |

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<tr>
<th>Enhanced communications</th>
<th>Improvements</th>
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| Provide cross-discipline training on symptoms and treatment modalities | • Implemented cross-discipline training on new protocols, order sets, and workflows  
• Created a dashboard to monitor performance  
• Developed multidisciplinary education on importance of early recognition, treatment, and disposition of ACS  
• Deployed new practice communication plan |

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<th>Staff modeling</th>
<th>Improvements</th>
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| Adjust staffing to ensure optimal coverage | • Revised laboratory staffing schedule  
• Dedicated a lab resource in triage at the central location |

The results

Within three months, the team made significant improvements in turnaround time and compliance that resulted in ACC chest pain accreditation and shortened average ED length of stay for chest pain patients by 30%.

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The solution

A multidisciplinary team from the hospital’s administration, EMS, ED, cath lab, and laboratory collaborated with Medtronic to identify opportunities to improve the point-of-care workflow model and reduce troponin door-to-result turnaround time.

By standardizing care for chest pain patients, the medical center improved patient care, created workflow efficiencies, and achieved the ACC Center of Excellence accreditation.
Optimize your care experience
Don’t allow operational variation to hold back efficient and quality care. We can help transform workflow and improve care delivery in your health system to:
• Optimize costs
• Reduce variability
• Increase access
• Eliminate overuse, underuse, and misuse of care

Our approach
We customize our solutions to your operational and clinical challenges. Uniquely, the PRO process:
• Keeps the focus on the patient experience
• Ensures collaborative problem-solving across the care pathway
• Uses data to identify focus areas unique to your environment
• Provides a plan for long-term sustainability

We are here to help.
Contact us at HealthcareConsulting@medtronic.com medtronic.com/healthcareconsulting

References

Important:
Process Redesign and Optimization Healthcare Consulting is a fee-based service. This case study is provided for general information purposes only. Your institution’s results will vary. At all times, it is the professional responsibility of the practice to exercise independent clinical judgment in a particular situation. Medtronic does not make any representations or warranties in connection with the information presented herein.

Collaborative problem-solving, intensive analysis, and deep expertise can convert goals into lasting results.

Why partner with PRO?
50+ years of experience in the cardiovascular space
90+ years of process improvement experience
120+ engagements across 50+ systems
9.5 average customer satisfaction rating (scale of 1-10)