# Bridging the Gap: Improving ED-to-Cath Lab Flow Through Targeted Education and Collaboration

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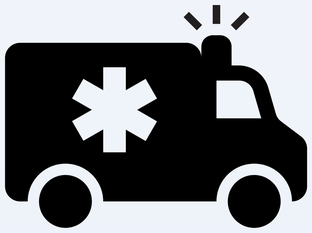
## INTRODUCTION

**Background**
Door-to-balloon (D2B) time continues to serve as a key performance metric for evaluating treatment efficiency. In response to recent delays observed across multiple timing metrics, patient preparation in the emergency department (ED) was identified as a potential area for improvement. As part of a broader quality improvement effort, a targeted educational intervention was developed to explore whether enhanced ED staff education could improve STEMI readiness and reduce delays.

**Purpose**
Assess the impact of enhanced, targeted education for ED staff on improving STEMI patient readiness
- Reduce treatment delays
- Strengthen interdepartmental communication
- Empower frontline staff

**Framework:**
- QI(PDSA)



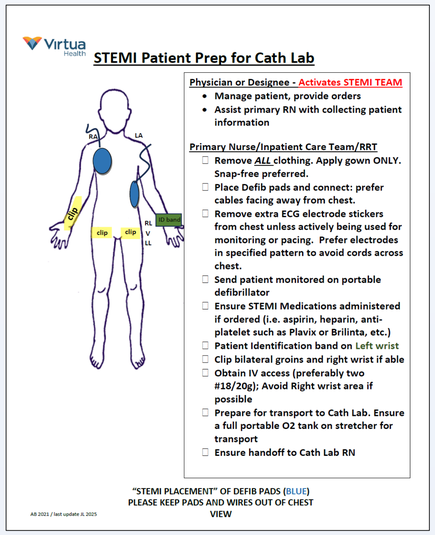
**Objectives of Poster:**
After viewing this poster, the learner will…..

1. Identify two key stakeholders involved in achieving door-to-balloon time targets and their roles in the process.
2. Discuss the role of interdisciplinary collaboration in implementing and sustaining quality improvement initiatives aimed at reducing door-to-balloon times.

## METHODS

**Setting and Participants:**
The project was conducted through collaboration between the Cath Lab and ED professional governance groups. The target population included STEMI patients presenting to the ED. Our intervention was implemented in 2025 and evaluated over a four-month PDSA cycle. Evaluation is still ongoing.

**Intervention/Process:**
A previously developed STEMI-prep pictorial tool (2021) was updated to give clear visual guidance for ED staff. Targeted education was also provided.




**Data Collection and Analysis:**
Quantitative:
- STEMI timing metrics, including door-to-balloon time, alert-to-lab time, and patient transfer intervals. We used pre-intervention QI database records as our baseline.

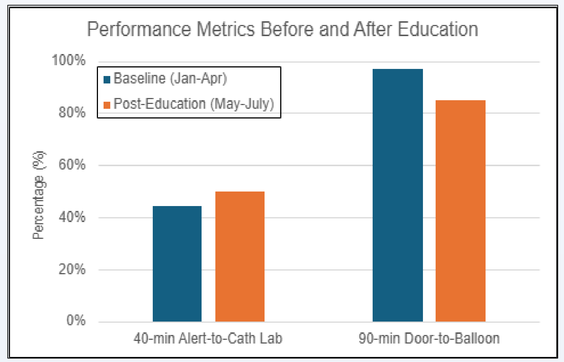
Qualitative:
- Staff perception surveys and feedback sessions to evaluate confidence, clarity, and effectiveness of communication.

## RESULTS

**Key Findings:**
Baseline data (Jan–Apr)
- 40-min Alert-to-Cath Lab: 44%
- 90-min Door-to-Balloon: 97%

Post-Education data (May-July)
- 40-min Alert-to-Cath Lab: 50%
- 90-min Door-to-Balloon: 85%

**Visuals:**




**Actionable Data:**
- The intervention addresses a measurable and clinically significant performance gap in STEMI care.
- Quantitative improvement in 40-min Alert-to-Cath Lab time within a few months post-implementation supports its efficacy.
- Low-cost, scalable design makes it practical for system-wide adoption if sustained.
- Emphasizing role clarity, interprofessional engagement, and ongoing reinforcement is critical for lasting impact.
- This project aligns directly with AHA/ACC guidelines for timely reperfusion (≤90-minute door-to-balloon).
- Strong literature supports that targeted ED training can impact time-critical cardiac care.

## CONCLUSIONS

**Interpretation:**
Although Door-to-Balloon times worsened during the intervention period, early improvement in Alert-to-Cath Lab time suggests that education + pictorial guide can be effective in reducing delays. The short evaluation period post-intervention may have allowed outliers to negatively impact Door-to-Balloon times.

**Relevance:**
- Standardizes critical patient preparation tasks
- Reduces Alert-to-Cath Lab times
- Builds nurse confidence & competence
- Strengthens interdisciplinary communication

**Limitations and Future Directions:**
Results reflect only short-term, single-site data, limiting generalizability. Sustaining improvements may be challenged by staff turnover, inconsistent buy-in, and gaps in awareness of the intervention. Ongoing reinforcement and clear communication are necessary.
Next steps include conducting a longitudinal evaluation of STEMI metrics over 12 months to decrease the likelihood of outliers impacting our data. If improvement in both metrics is noted, then we can consider piloting the intervention across additional Virtua Health campuses to assess adaptability, address site-specific barriers, and enhance system-wide impact.

## REFERENCES

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