

## Improving STEMI Care In your Institution- Beyond D2B

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## No Disclosures



# Door to Balloon

## D2B: 2006-2009

- International Success(>1100 Hospitals)
- Reduce D2B time below 90 minutes
- Standardized toolkits
- Systematic processes of care



## D2B Strategies

- ED Activates Cath Lab
- One Call Activates All
- Team ready in <30 minutes
- Data feed back-promptly
- Pre-Hospital ECG(optional)



## D2B: Sustain the Gain (2009-)

- Website created
- Online community
- D2B Alliance
- Where do we go Now?



## State and Regional Systems: 2016

- VHAC 2008-2016 (Virginia Heart Attack Coalition)
- Frequent meetings, CQI
- Pre-Hospital ECG for ALL
- Shorten time from FMC <90 minutes (First Medical Contact)
- ECG Activates the Cath Lab
- International Success with this model



## Core Principles for STEMI System Improvement

- Patient centered, Guideline Drive care  
*(Prehospital 12 leads and immediate activation are Class I Indications!)*
- Goal Setting
- Hardwiring
- Ownership
- Accountability



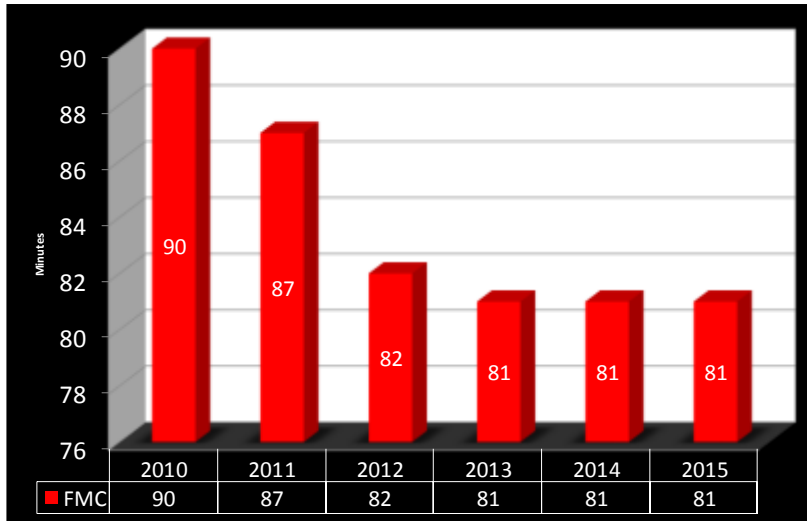
## PHECG's reduce Mortality: VHAC 12 lead Survey

	Prehospital ECG (n = 102,831)	No Prehospital ECG (n = 51,715)	Adjusted OR (95% CI)
All Patients	7.4%	8.2%	0.94 (0.91-0.96)
STEMI Patients	8.6%	11.4%	0.94 (0.90-0.98)
Reperfused STEMI Patients	7.3%	9.4%	0.94 (0.89-1.00)
Non-STEMI Patients	5.9%	6.5%	0.84 (0.81-0.88)

Quinn T, Johnsen S, Gale CP, et al. Effects of prehospital 12-lead ECG on processes of care and mortality in acute coronary syndrome: a linked cohort study from the Myocardial Ischaemia National Audit Project. *Heart*. 2014;Epub ahead of print.



## *FMC to Balloon in Virginia*



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## *...IT'S ALL ABOUT FMC2B*

- Time from first medical contact to balloon inflation in the Cardiac Cath lab
- Goal is 90 minutes or less
- Greatly enhanced if EMS is able to perform prehospital ECG, transmit or call with diagnosis.
- Recognition in the field allows activation of Cardiac Cath lab team and greatly decreases time to an open artery



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## *What the ED/Cardiology Can Do*

- Activate STEMI prior to ED arrival based on 12 lead
- Don't repeat ECG in the ED
- Limit workup to the most necessary elements
- Bypass or Pit stop whenever possible
- Work together to get patient to ED, get lab setup, etc.
- Provide prompt feedback to EMS and ED in spirit of education and collaboration
- Track False Activations, but assume they are going happen





## *Ways to Decrease DiDo*

- PHECG's,
- EMS education,
- Keeping on stretcher,
- Door to ECG < 10 minutes
- Single call to PCI center
- Dedicated team at PCI center
- Hospital Specific reperfusion
- Rec. direct transport to PCI center if < 50 miles away



Glickman SW. Circ Cardiovasc Qual Outcomes. 2011 Jul 1;4(4):382-8







**Acute STEMI Protocol**  
(ST-elevation MI or new LBBB)  
**Centra Southside**

1. Pick up "Purple Phone" to notify CentraOne air transport for emergent transfer to LGH and to activate the CentraOne STEMI Single Call System. (If CentraOne not available, begin immediate search for alternate air or ground transport).
2. The on call Cardiologist will be notified via the Single Call System. (if Cardiologist's call not received within 5 minutes, please call 434-200-3098 or 5252). Please be prepared to provide via phone:
  - Patient's Name
  - Age
  - Weight, Height
  - EKG interpretation
  - Brief report (i.e., treatment to this point, IV, medications)
3. ASA 162 mg chew and swallow.
4. **Plavix** 600 mg, po.
5. **Heparin** per protocol (60U/kg, but not to exceed 4000U).
6. **Metoprolol** 5 MG IV Q 5 minutes for 3 doses if hypertensive and tachycardia.
7. **Metoprolol** 50 mg po (if heart rate, rhythm and blood pressure allow).
8. If air transport not available, evaluate for TNK and discuss with Cardiologist.
9. Complete STEMI packet and CSCH Transfer Packet to send with patient.
10. If times allows, shave groin area prior to transfer

**Goals: DIDO (door-in/door-out) time<45 minutes and a Transfer door to balloon time<90 minutes.**



"STEMI Alert.....  
When time equals muscle, every minute counts!"



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# Summary

- Hardwire protocols
- Pre-Hospital ECG
- FMC Activates Cath Lab
- ED Bypass
- Leaders in Charge
- System works together

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