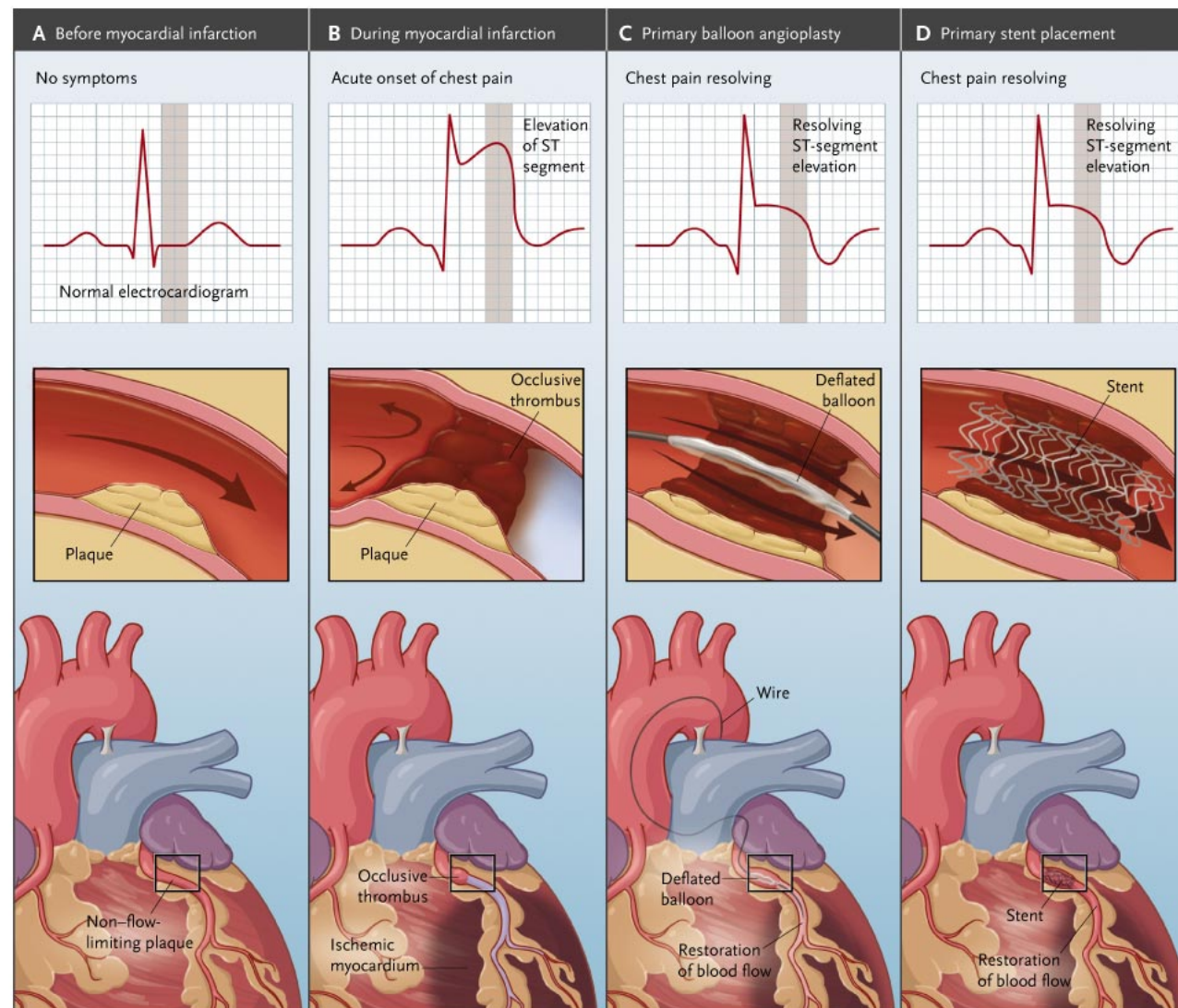
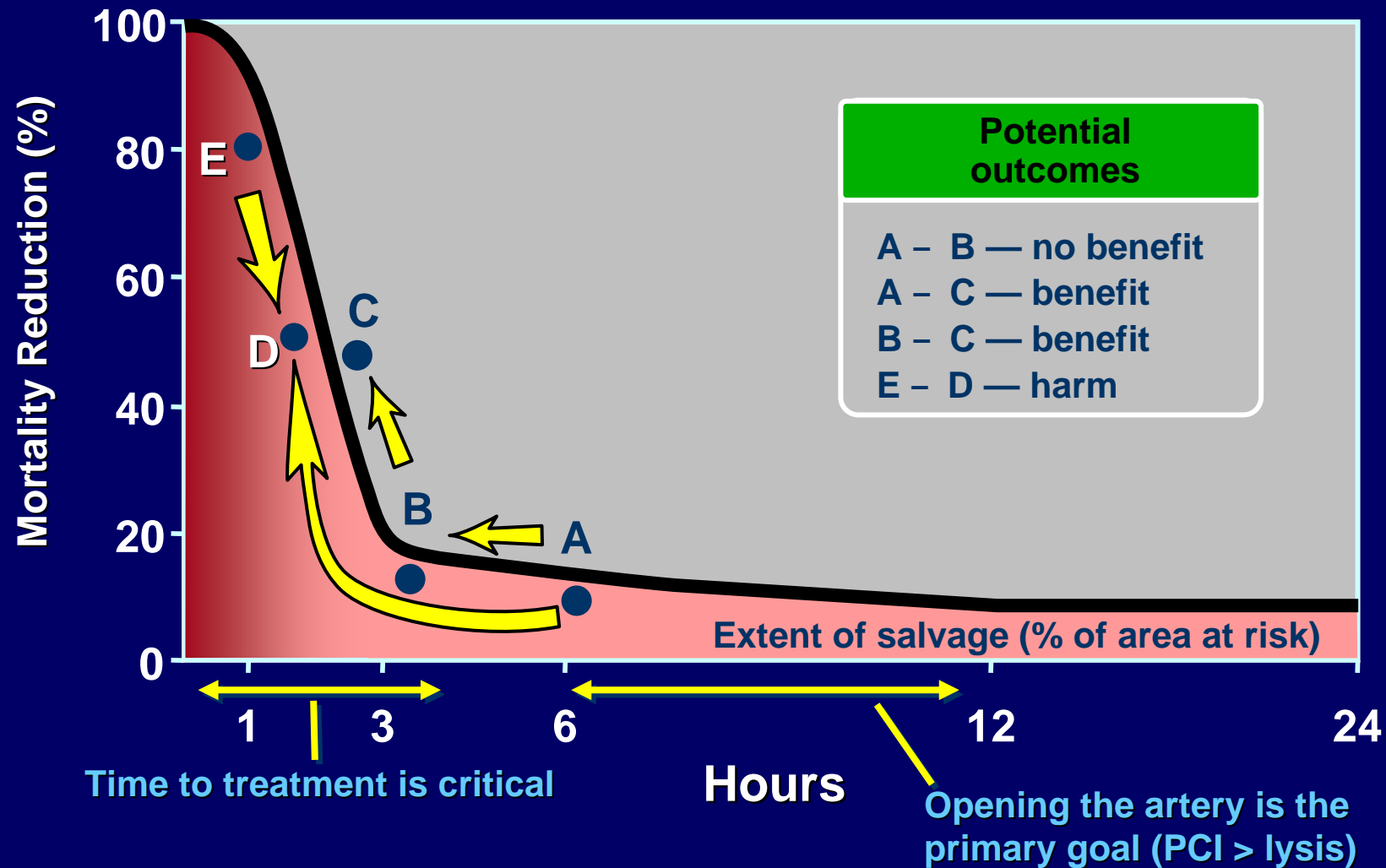


Reducing Time to Treatment for ST-Segment Elevation Myocardial Infarction (STEMI)

D2B: An Alliance for Quality

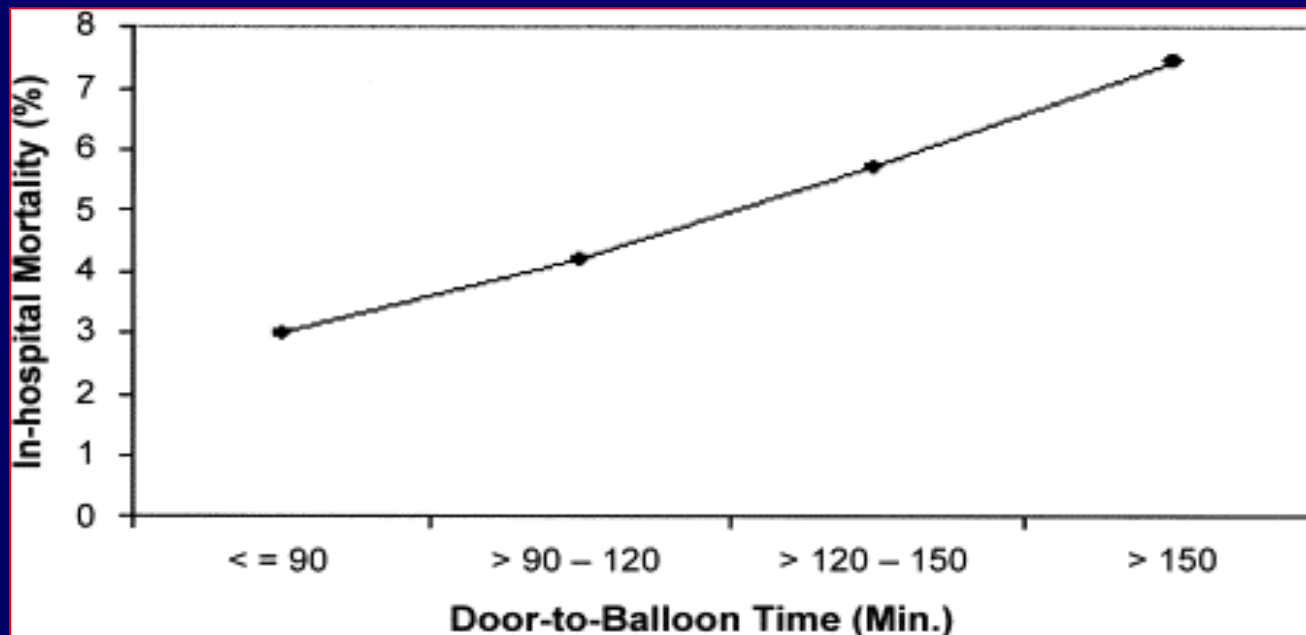


Time and Myocardial Salvage



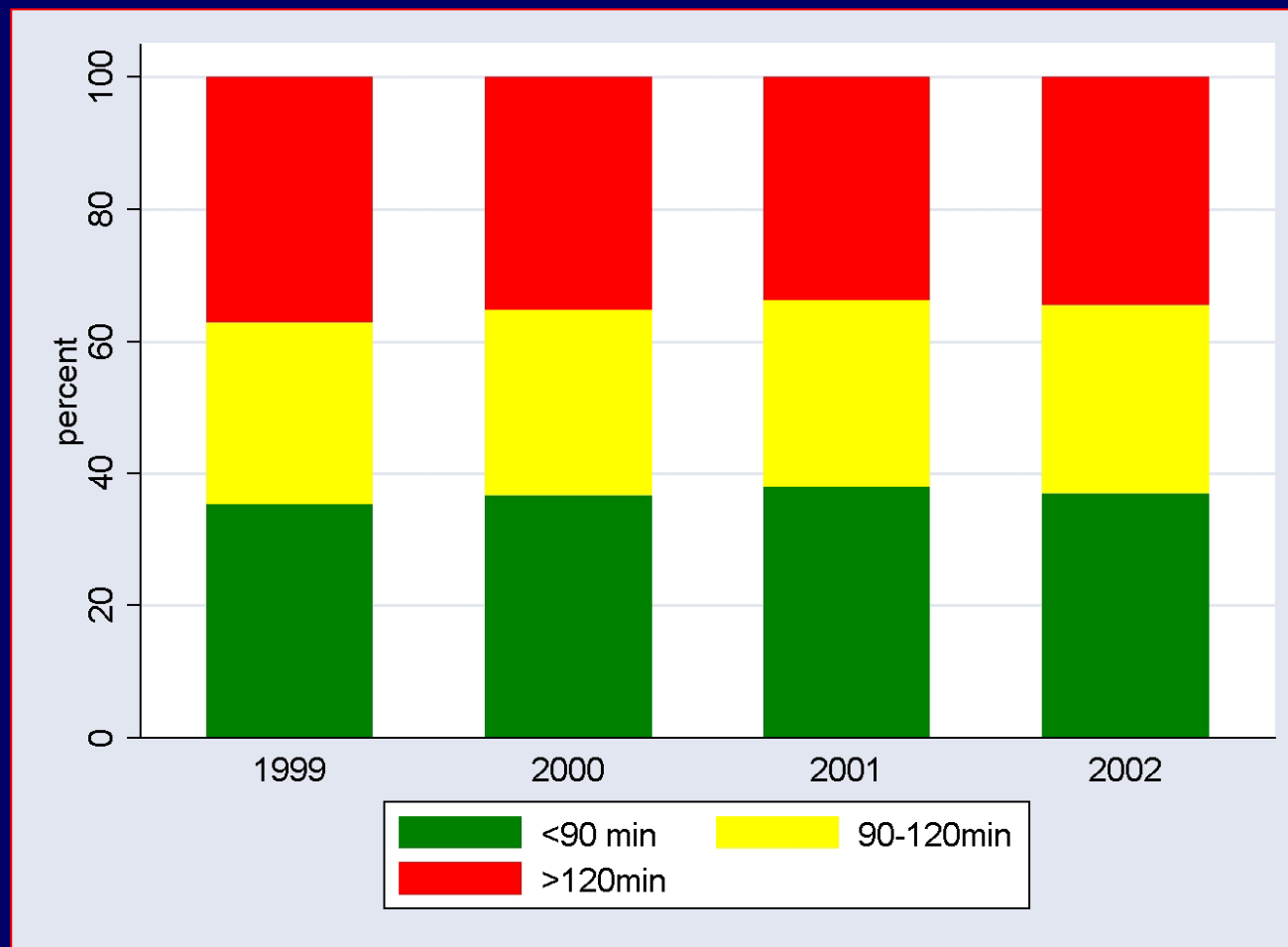
Importance of Prompt Treatment

Prompt treatment increases the likelihood of survival for patients with myocardial infarction with ST-segment elevation (Berger et al., 1999; Cannon et al., 2000, McNamara et al., 2006).

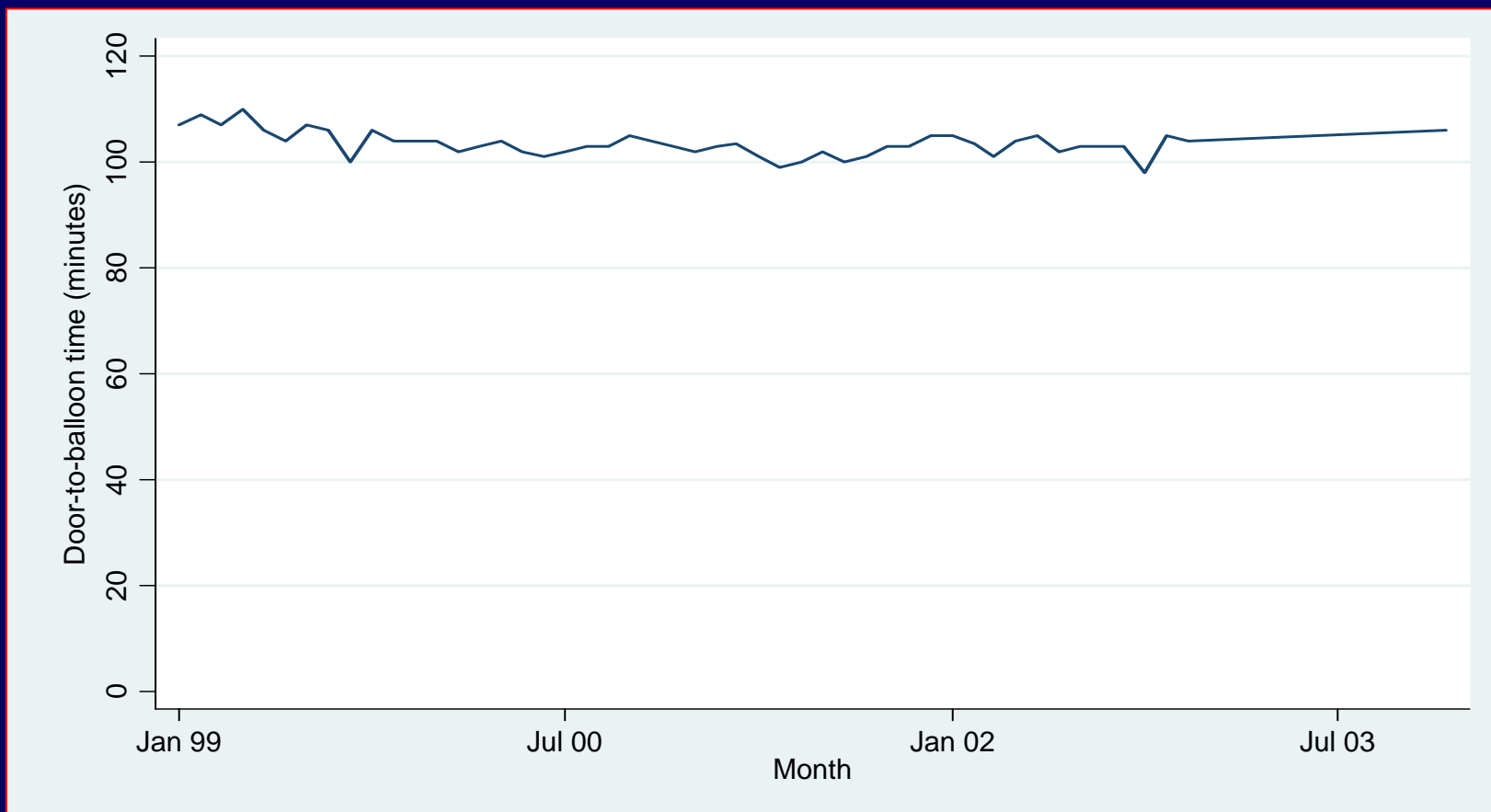


McNamara et al., *JACC*, 2006

Practice does not meet national guidelines, and performance is not improving

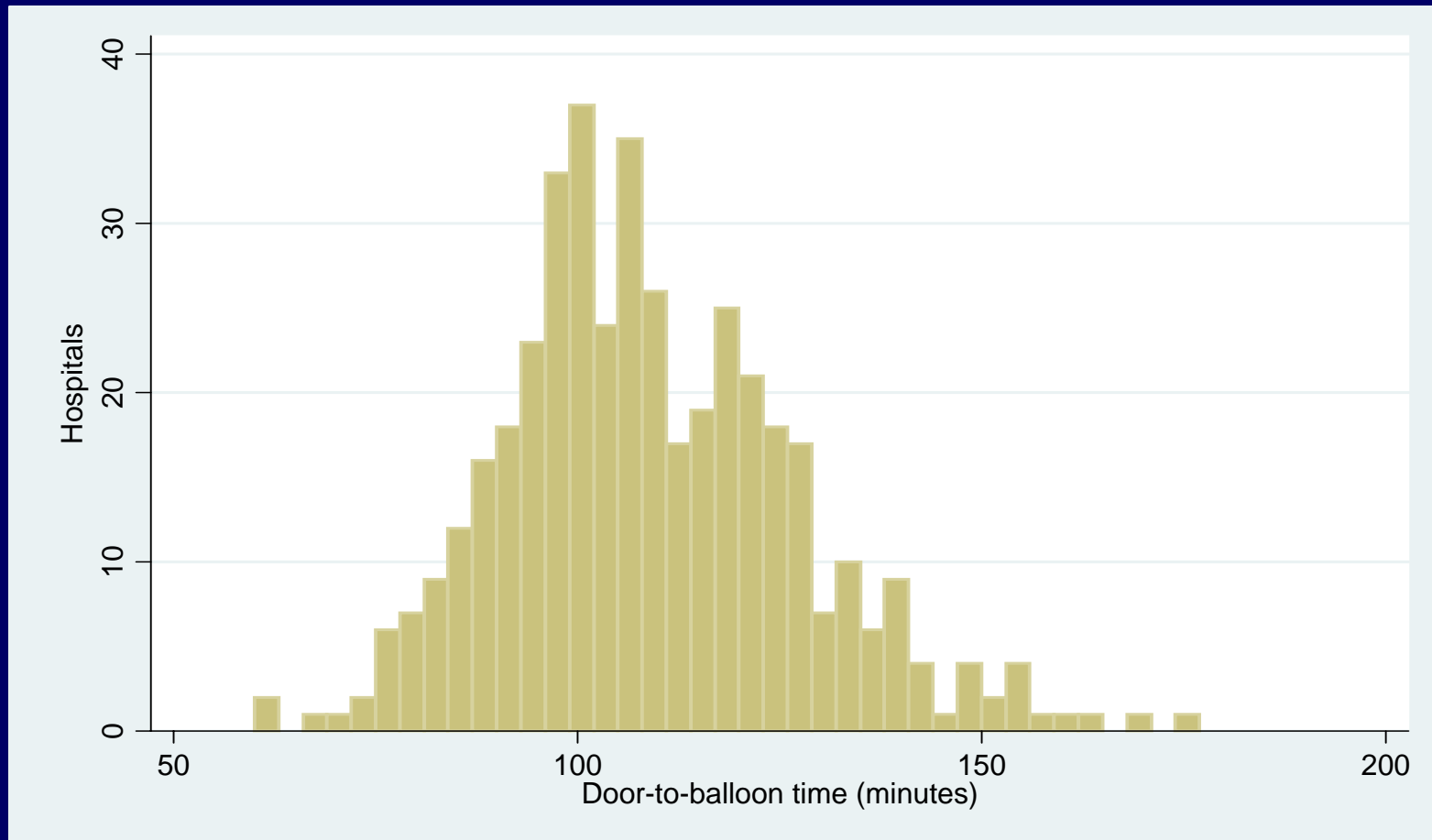


National trend in median door-to-balloon time, 1999-2003



McNamara et al, *JACC*, 2006

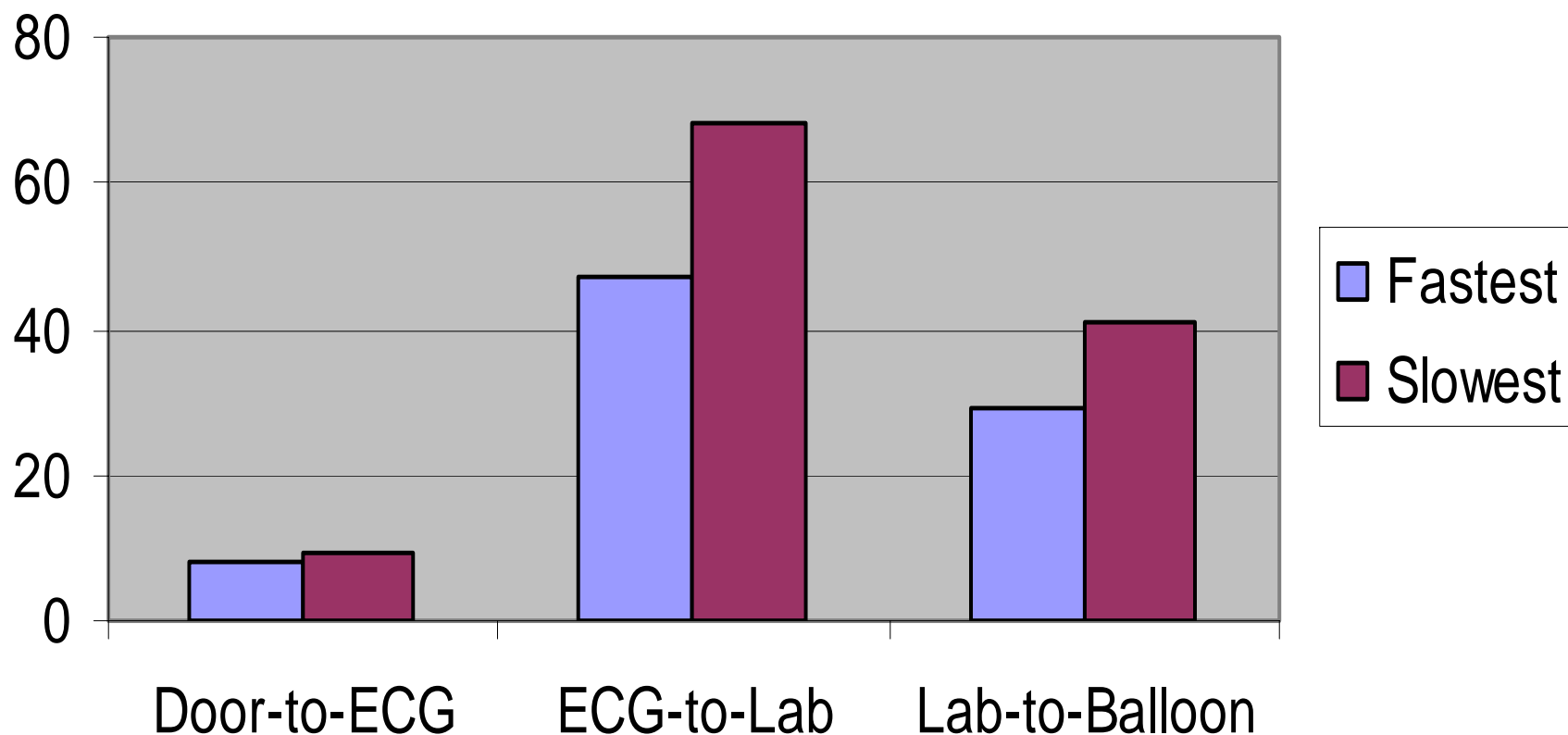
However, there is substantial hospital-level variation in median door-to-balloon times



Key Question

- What is 'it' about the best hospitals?

Time Intervals in fastest and slowest quintiles of hospitals

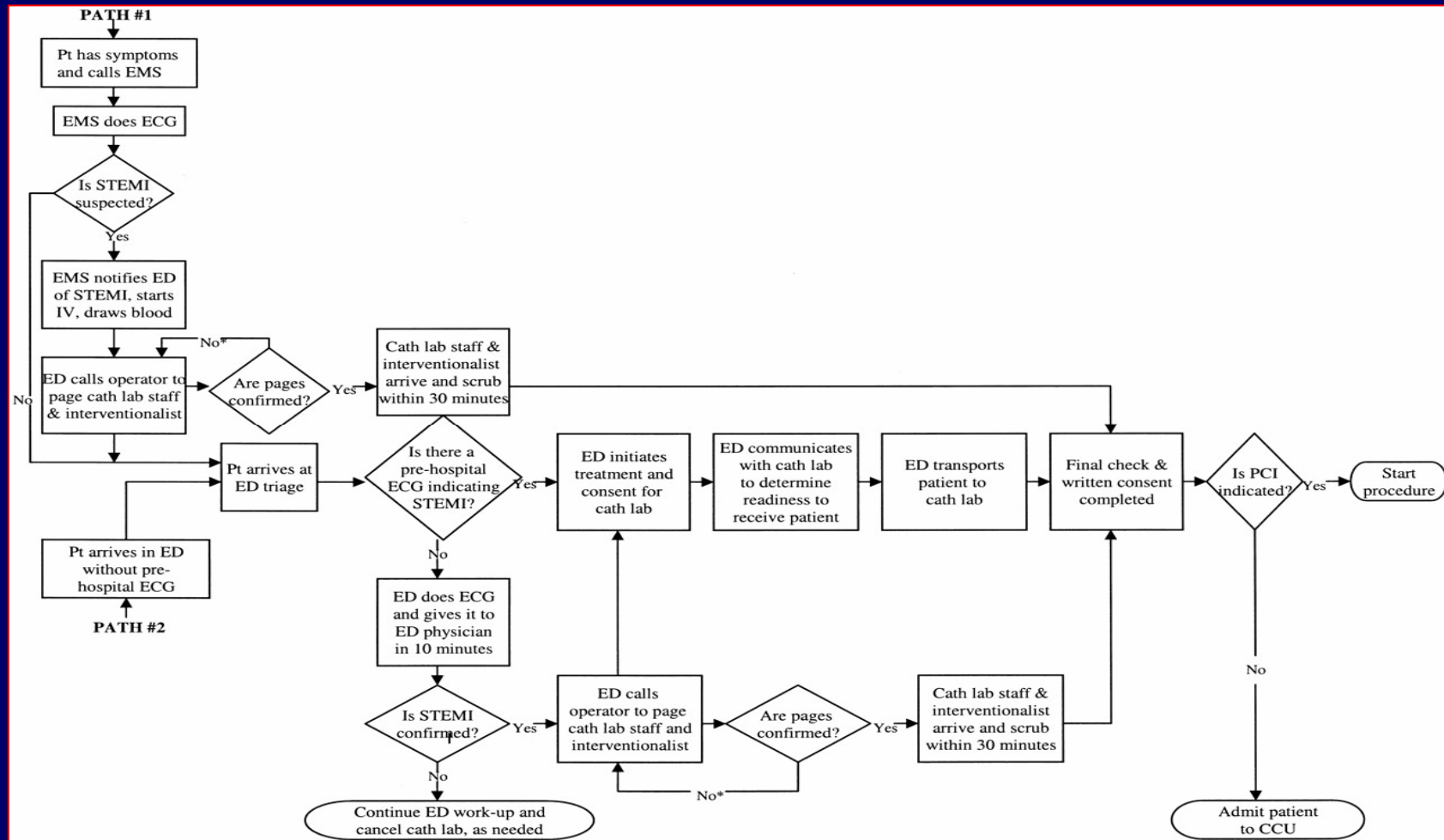


Systems that Work

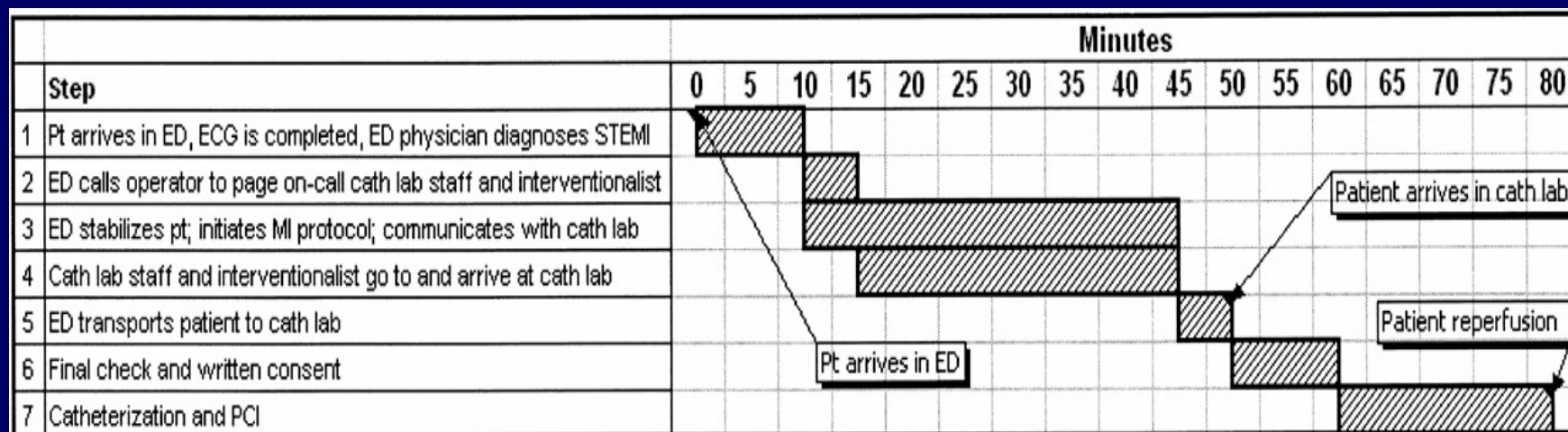
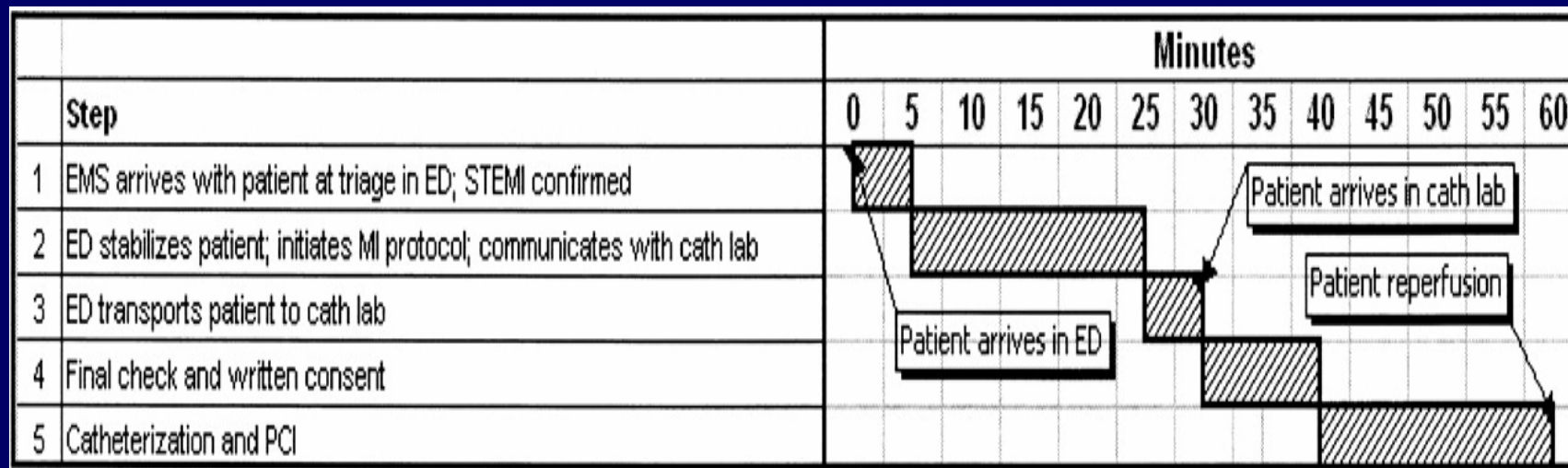
“Strategies” linked to significantly shorter DTB times

- Systems for activating cath lab
- Systems for handoff from ED to cath lab
- Systems for interaction with EMS
- Systems for data feedback & analysis

Identified achievable process



Identified achievable benchmarks

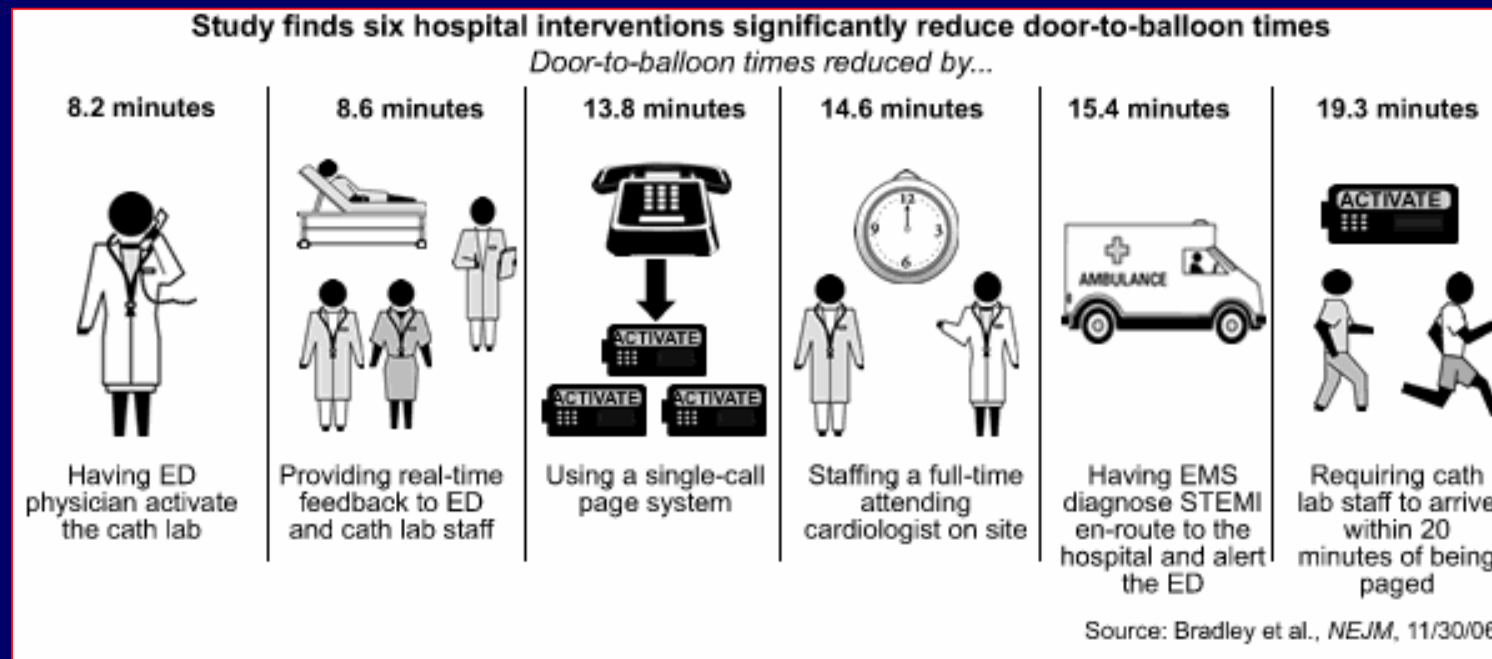


Bradley et al, *JACC*, 2005

Key strategies associated with reduced D2B times

Strategies	Minutes saved
Activate lab with EM physicians (23% do this)	8.2 minutes
Activate w/single call from ED to operator (14%)	13.8 minutes
Activate based on information from pre-hospital ECG while patient is still en route to hospital (9%)	15.4 minutes
Expect cath team to arrive in 20-30 mins (13%)	19.3 minutes
Provide real-time data feedback to ED/lab (42%)	8.6 minutes
Have attending cardiologist always on site (4%)	14.6 minutes

Effective Strategies



DTB Time & No. of Key Strategies Used

<u>Strategies</u>	Hospitals (%)	Median DTB
0	137 (38.8)	110
1	130 (35.9)	100
2	56 (15.5)	88
3	31 (8.6)	88
4	8 (2.2)	79

Overall P value for trend: < .001

Hospital performance

<u>Median door-to-balloon time</u>	<u>% of hospitals</u>
≤ 90 minutes	31%
91 - 120 minutes	50%
121 - 150 minutes	14%
> 150 minutes	5%

Translation into practice

National campaign to enroll hospitals in nationwide “collaborative” to implement evidence-based strategies to reduce door-to-balloon time

→ D2B: An Alliance for Quality

D2B Alliance

<http://www.d2balliance.org/>



American Heart Association (AHA), BlueCross BlueShield Association, Expecting Success, HCA Society of Chest Pain Centers , The Society for Cardiovascular Angiography and Interventions (SCAI), United HealthCare VHA, Inc. , WellPoint,, Aetna American College of Cardiovascular Administrators, Emergency Medicine Cardiac Research and Education Group (EMCREG) , FMQAI (Florida Quality Improvement Organization), Institute for Healthcare Improvement (IHI), Premier, Inc., Agency for Healthcare Research and Quality (AHRQ) ,Alliance for Cardiac Care Excellence (ACE) , American Health Quality Association (AHQA) , Joint Commission on Accreditation of Healthcare Organizations (JCAHO) National Association of EMS Physicians (NAEMSP), National Heart, Lung and Blood Institute, Society for Academic Emergency Medicine (SAEM)

Goal: D2B within 90 minutes in 75% of patients for Alliance hospitals

- Participation
- Intervention
- Impact
- Future

Participation

- 600+ Hospitals
- Community of institutions making a promise to provide timely primary PCI

Intervention

- Administrative support
- 6 processes
- Survey: diagnosis/prescription
- Products
- Partnerships

D2B Alliance recommendations to achieve goal of 75% within 90 minutes

- Evidenced-based strategies:
 - ED physician activates the catheterization lab
 - One call activates the catheterization lab
 - Catheterization team ready in 20 – 30 minutes
 - Prompt data feedback
 - Senior hospital management commitment
 - Team-based approach
 - *Optional:* Activate based on pre-hospital ECG

Impact

- Evaluation
 - Survey
 - Registries
 - HQA
 - Interviews

Other Objectives

- Develop QI network
- Develop template for future QI initiatives
- Create opportunities for volunteers
- Intergrate ABIM PIM and CME into QI
- Bring research into practice

References

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