What is new in the Treatment of STEMI?

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October 2011

DISCLOSURE

Relevant Financial Relationship(s)

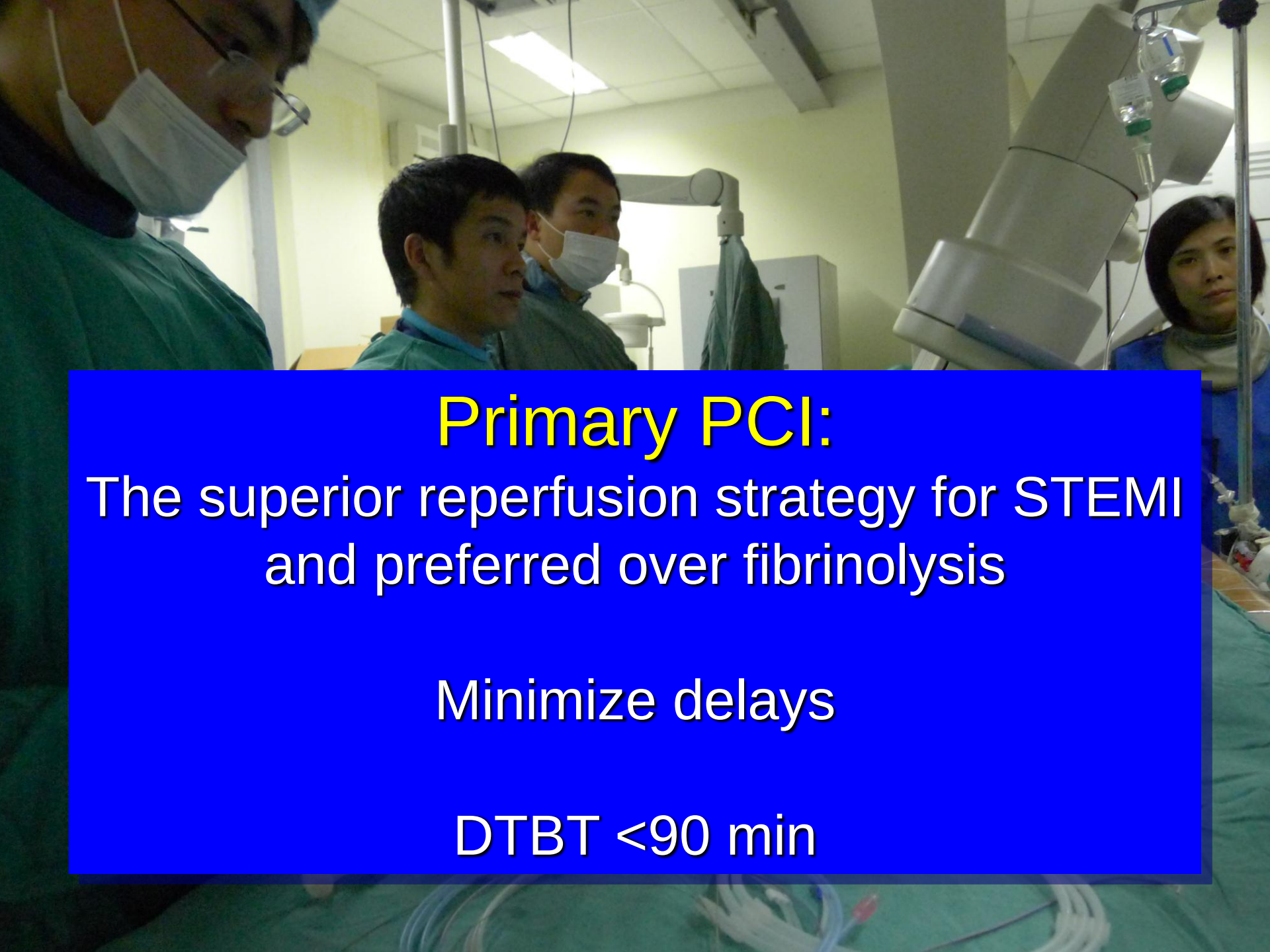
None

Off Label Usage

None

Part 1

- Treatment delays at non PCI hospitals
  - Magnitude of problem
  - Alternatives
- Non PCI hospitals in Europe
  - New ESC/EACTS guidelines



Primary PCI:

The superior reperfusion strategy for STEMI and preferred over fibrinolysis

Minimize delays

DTBT <90 min

STEMI at Non PCI-capable Hospitals

2009 ACC/AHA Class I Guidelines

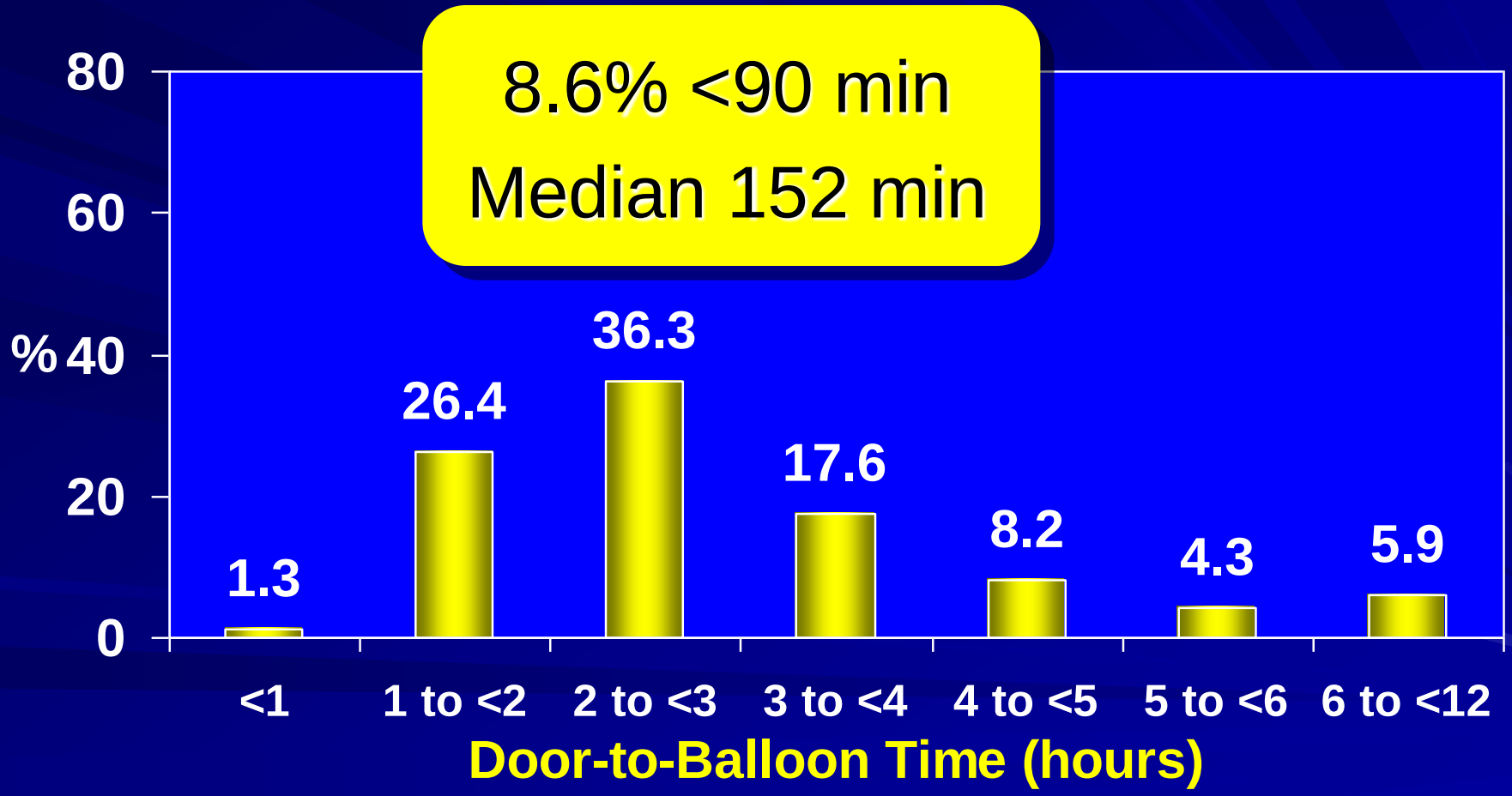
Community should develop STEMI system of care as per “Mission Lifeline”

- Multidisciplinary team meetings + QA data
  - EMS, non PCI (referral) and PCI capable hospitals (receiving)
- Process for prehospital identification and activation
- Destination protocols for receiving hospitals
- Protocol: shock patients at non PCI hospitals

Kushner FG: JACC 2009

Time-to-Reperfusion with Inter hospital Transfer

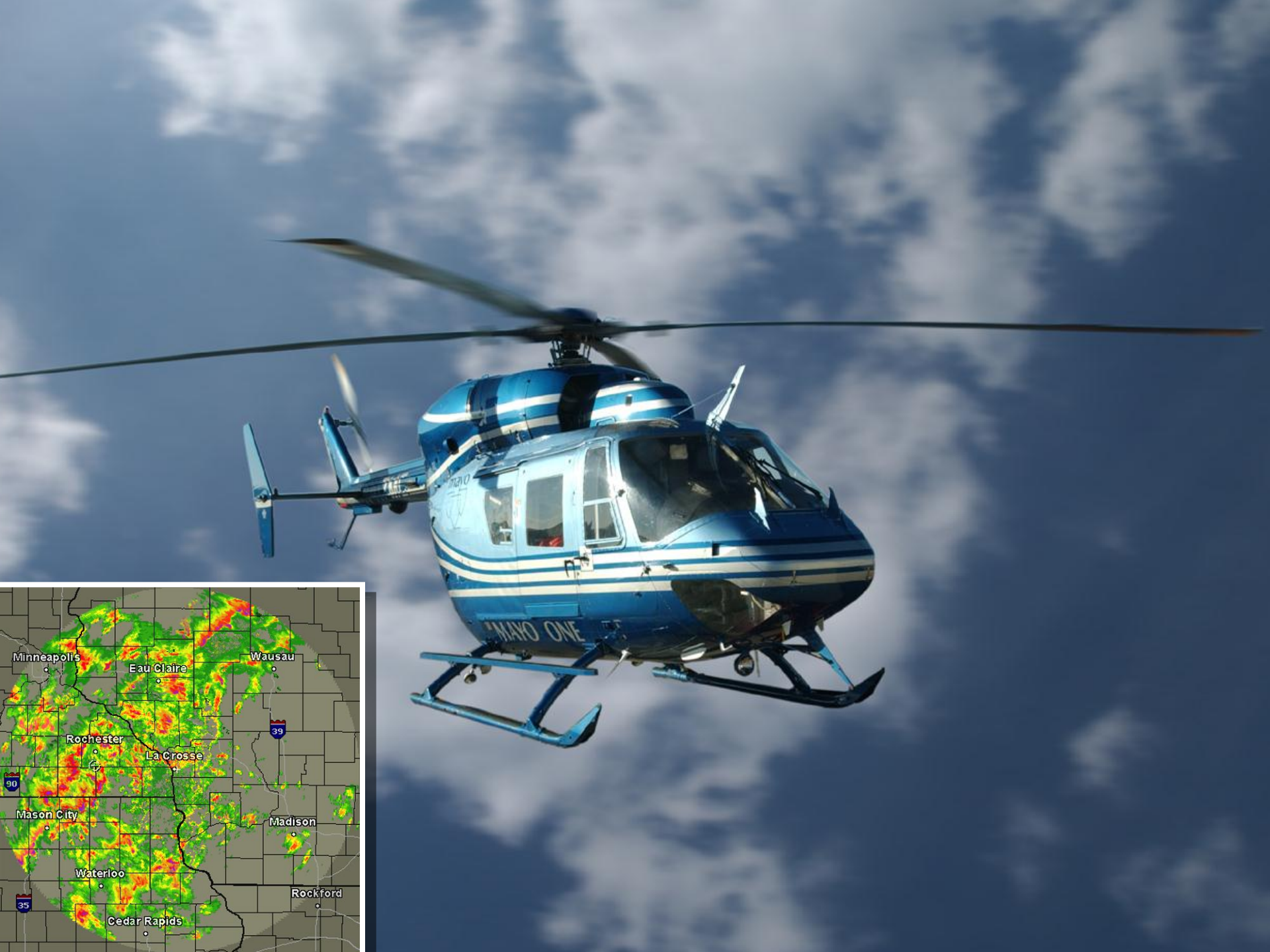
ACC National CV Data Registry



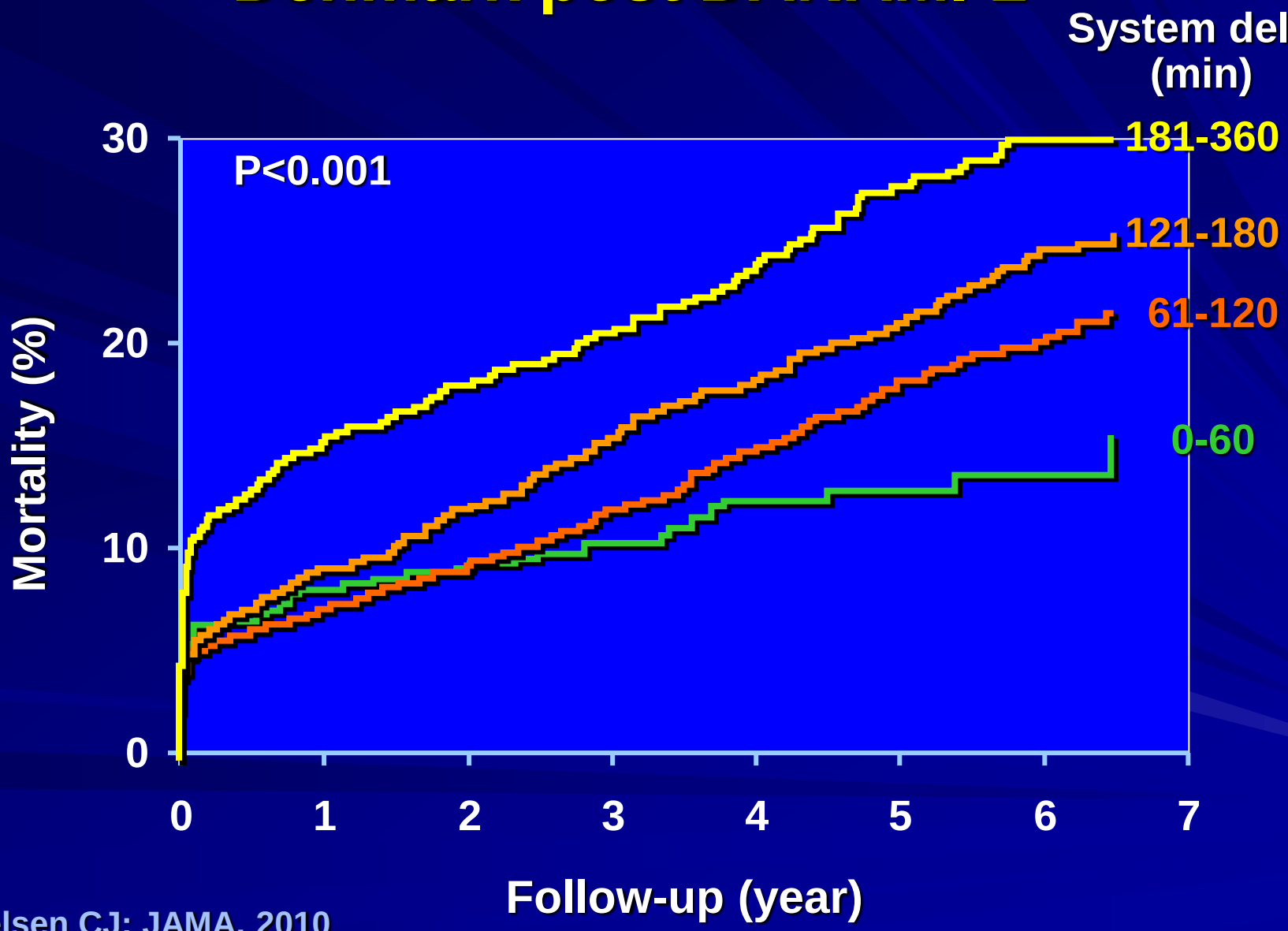
Chakrabarti A: JACC 2008

Rochester, Minnesota – December and January and February and March and April….

An Icy Road to Mayo Clinic


MAYO ONE
Minneapolis
Eau Claire
Wausau
Rochester
La Crosse
39
90
Mason City
Madison
Waterloo
Rockford
35
Cedar Rapids

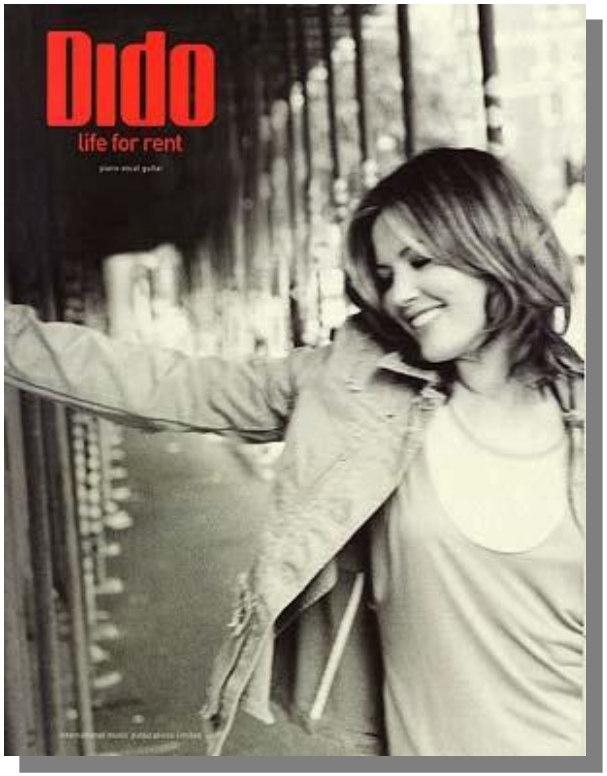
System Delays and Mortality
Denmark post DANAMI-2



Terkelsen CJ: JAMA, 2010

What…or who…is DIDO?

A. The first Queen of Carthage
   "La Regina Cartagine" (*It.*)
B. A female pop singer
C. A CMS (Medicare) performance metric for AMI
D. All of the above


Dido
life for rent

"DIDO"
Door-In to Door-Out (time)

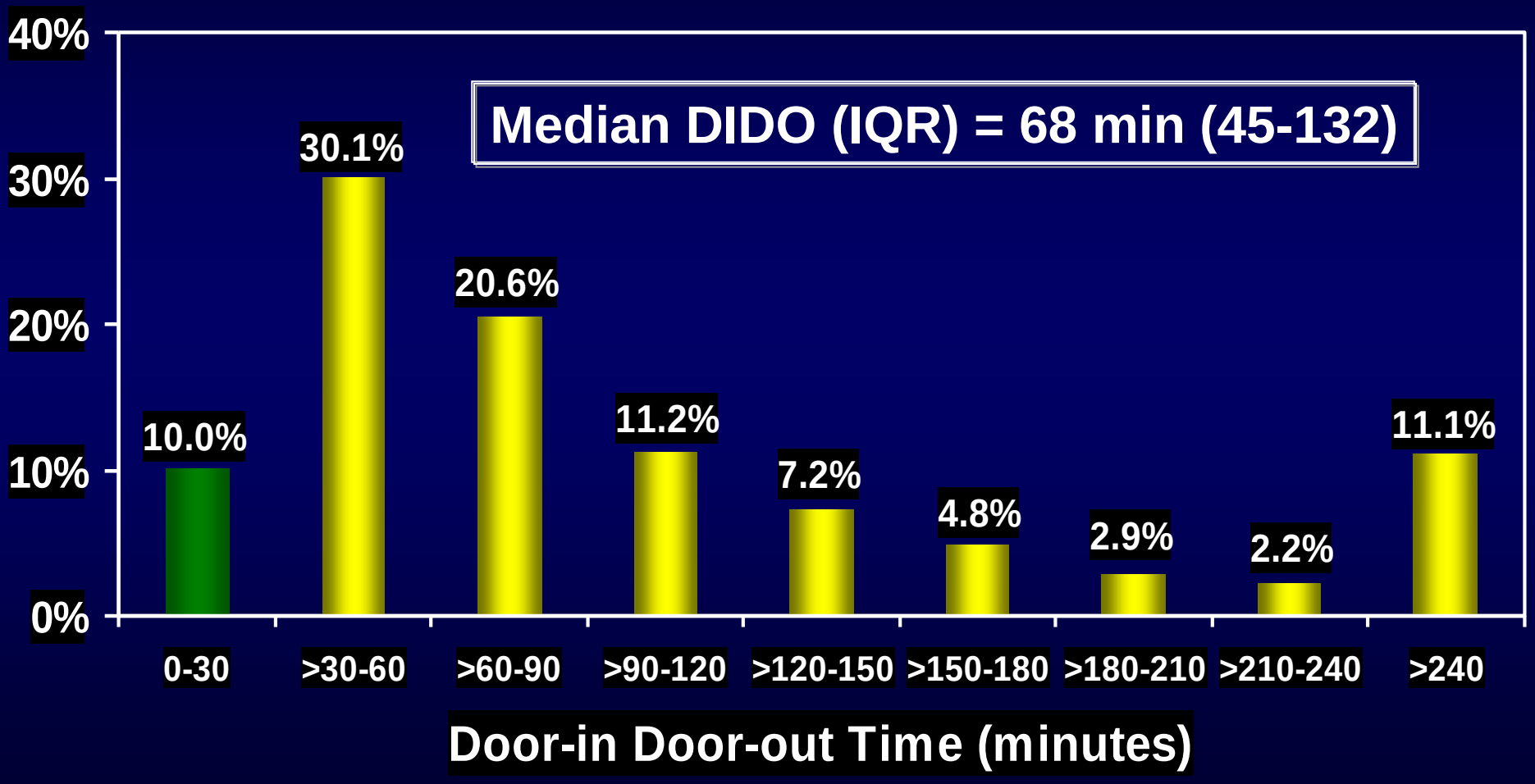
New performance measure for STEMI referral facilities transferring patients for PPCI:

"Door-in to door-out" time: <30 minutes

CMS and Hospital Compare already collecting these data!

Krumholz HM: Circ 2008

Door-in Door-out Time at Referring Hospital



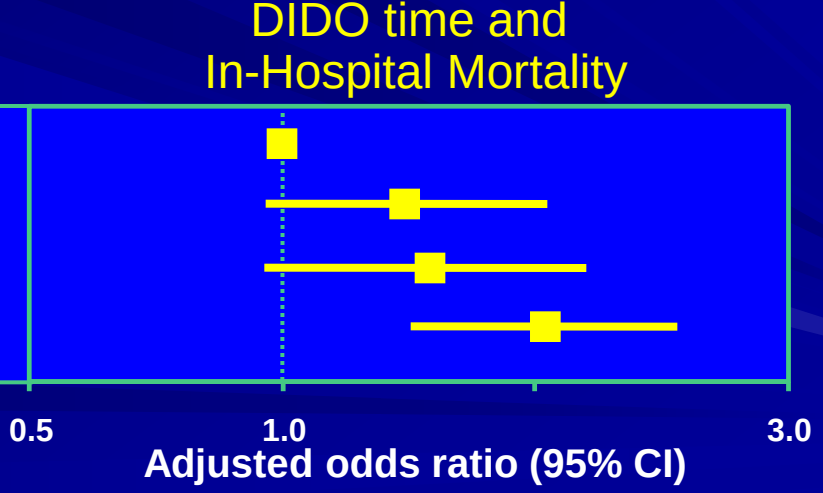
DIDO and In Hospital Mortality

NCDR ACTION Registry-GWTG

DIDO ≤30 min
2.7% mortality

DIDO >30 min
5.9% mortality

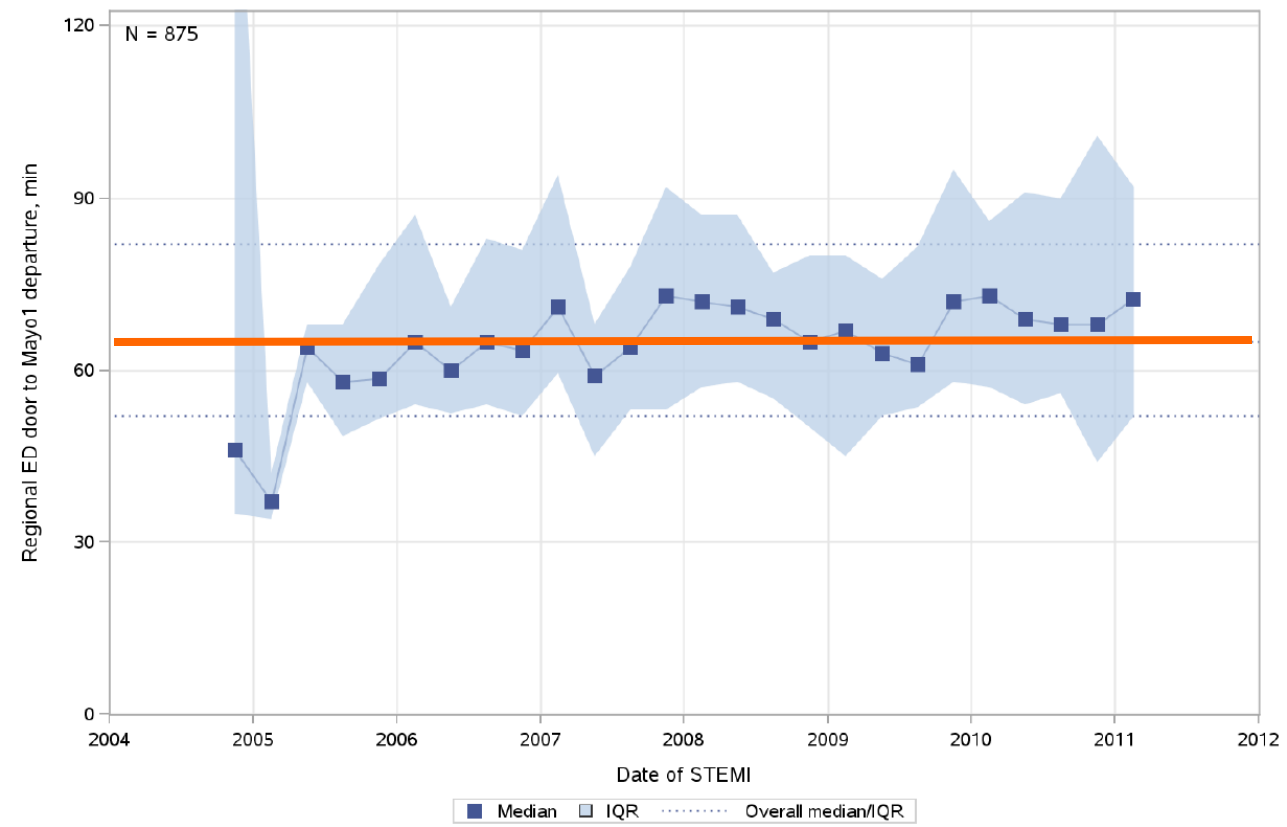
DIDO (min)	Mortality (%)	Adjusted OR (95% CI)
≤30	2.7	1.0 (reference)
31-60	4.0	1.34 (0.96-1.86)
61-90	4.9	1.41 (0.96-2.06)
>90	8.3	1.86 (1.36-2.54)



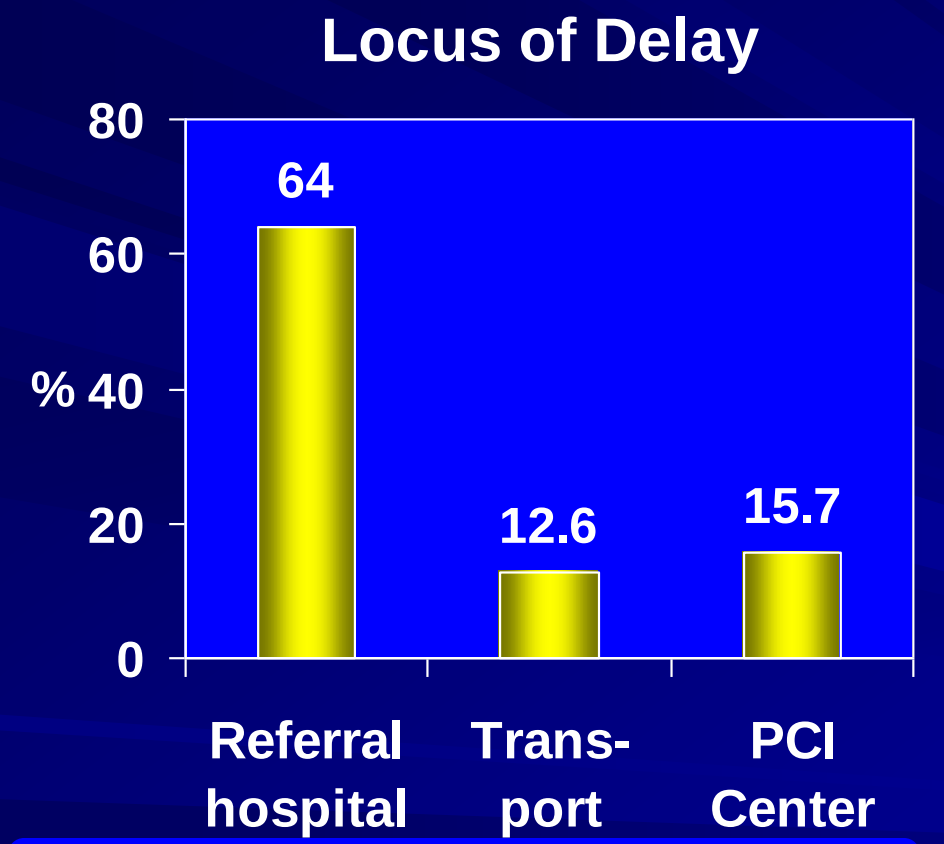
Wang TW: JAMA 2011

DIDO Times for Mayo Regional Sites:

Median = 65 minutes



Transfer Delays for PPCI
Minneapolis Heart Institute



Referral hospital

Awaiting transport	26%
Emergency Dept.	22%
Longest delays:	
Diagnostic dilemma	96 min
Non diagnostic ECG	81 min

Transport

Distance and weather
(Zone-dependent)

PCI Center

Cath team delay	45%
Complex procedure	37%
Longest delays:	
Diagnostic dilemma	95 min

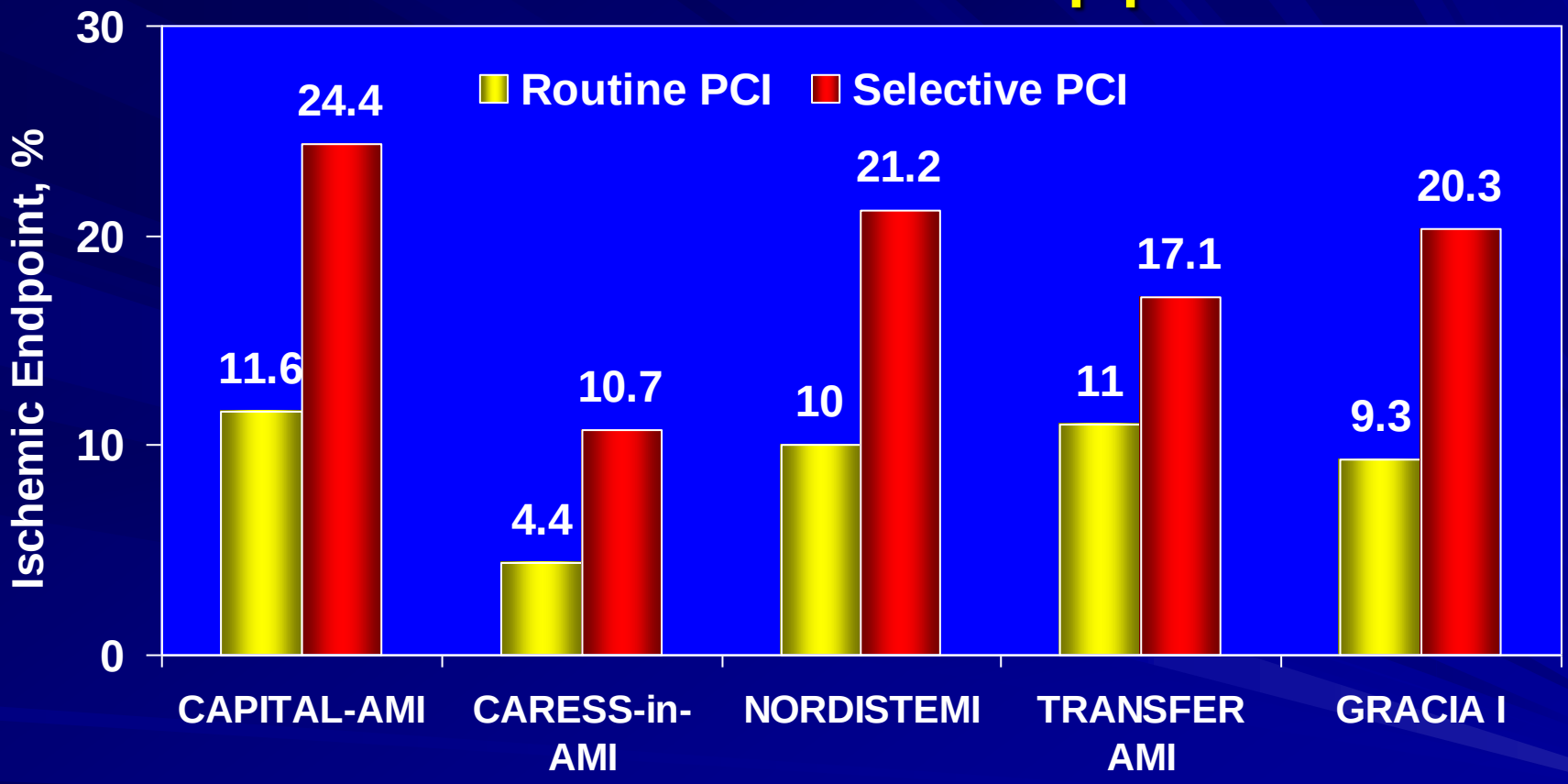
Miedema MD: Circ 2011

Door-in to door-out

- Accountability for hospitals transferring to PCI facility
  - Previously none
  - Opportunity review and improve performance
- Impacts “First door to balloon” time
  - Joint responsibility
- Fibrinolysis as alternative (per guidelines)
  - Majority eligible

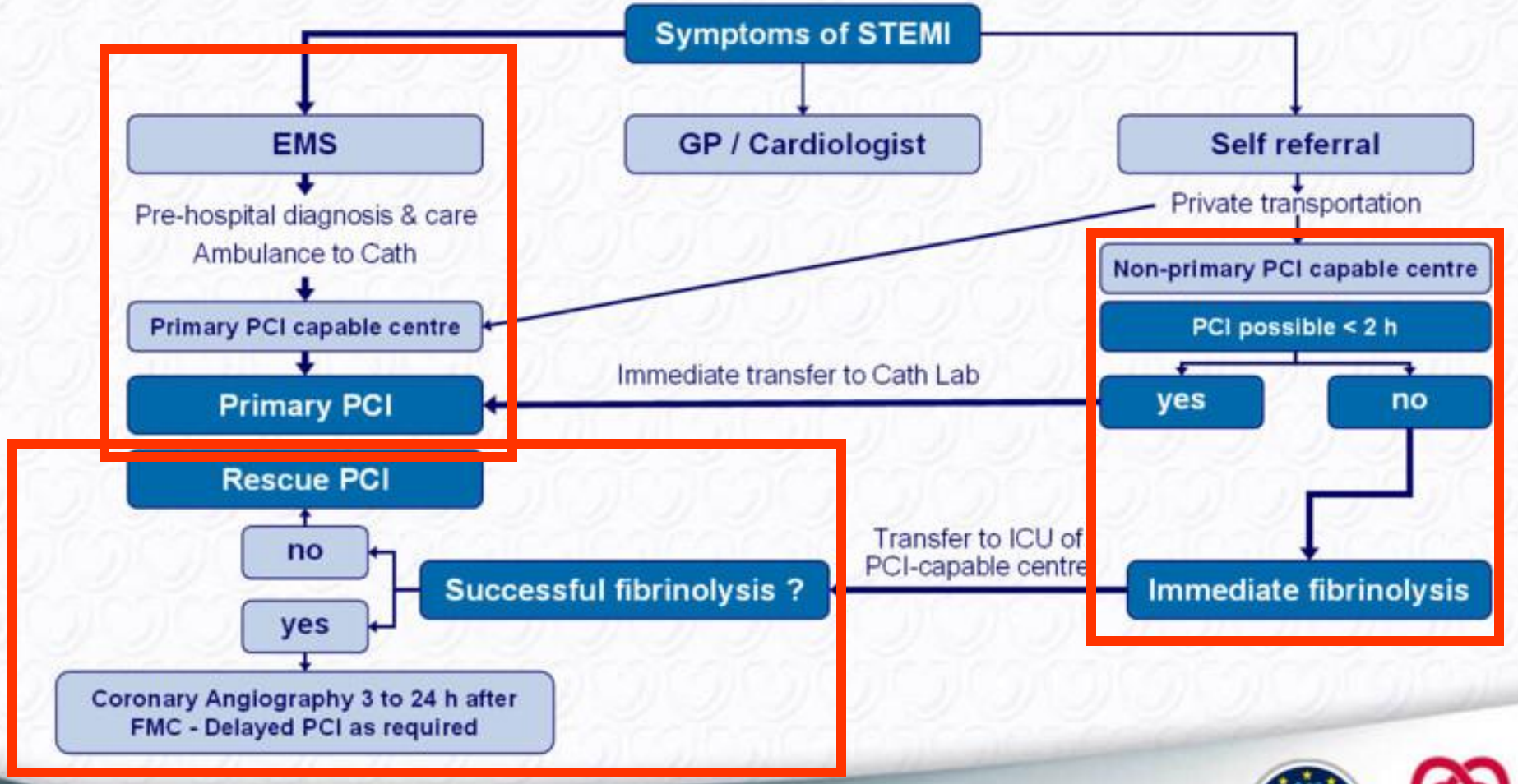
Krumholz HM: Circ 2008

Early PCI after Lysis
Pharmaco-invasive Approach



Adapted from Verheugt FA: NEJM 2009

Organisation of STEMI patient disposal describing pre- and in-hospital management, and reperfusion strategies within 12 h of First Medical Contact (FMC)



New recommendations for PCI in STEMI

Indication	Time from FMC	Class	Level
PCI after fibrinolysis: Routine urgent PCI is indicated after successful fibrinolysis (resolved chest pain/discomfort and ST-segment elevation).	Within 24 h	I	A
Rescue PCI should be considered in patients with failed fibrinolysis.	As soon as possible	IIa	A

- In order to reduce delay for patients with no reperfusion, transfer to PCI center of all post-fibrinolysis patients is recommended.

European Heart Journal (2010) 31, 2501-2555
European Journal of Cardio-thoracic Surgery (2010) 38, S1-S52

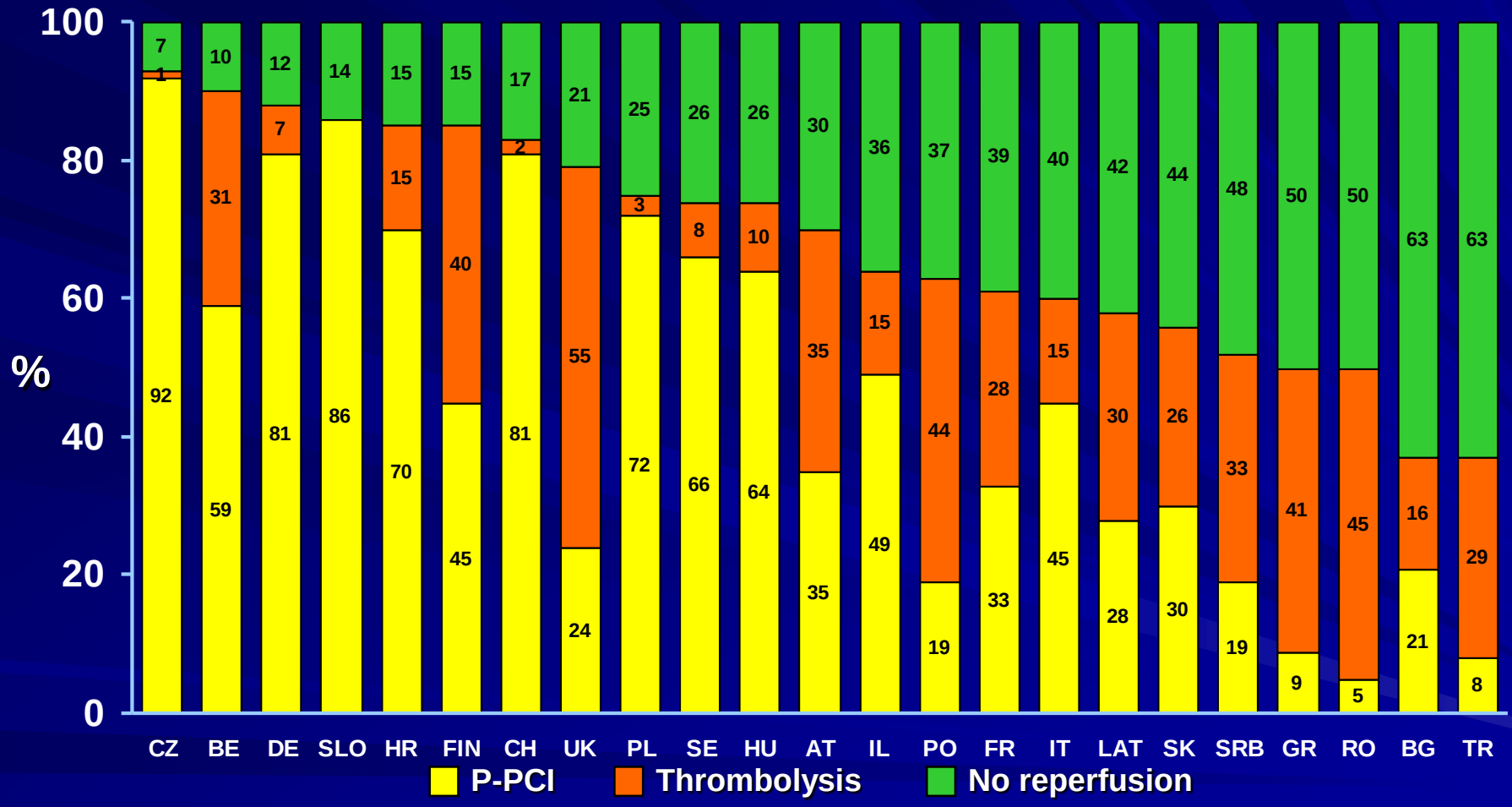
www.escardio.org/guidelines

Joint 2010 ESC - EACTS Guidelines on Myocardial Revascularisation

EACTS

EUROPEAN SOCIETY OF CARDIOLOGY®

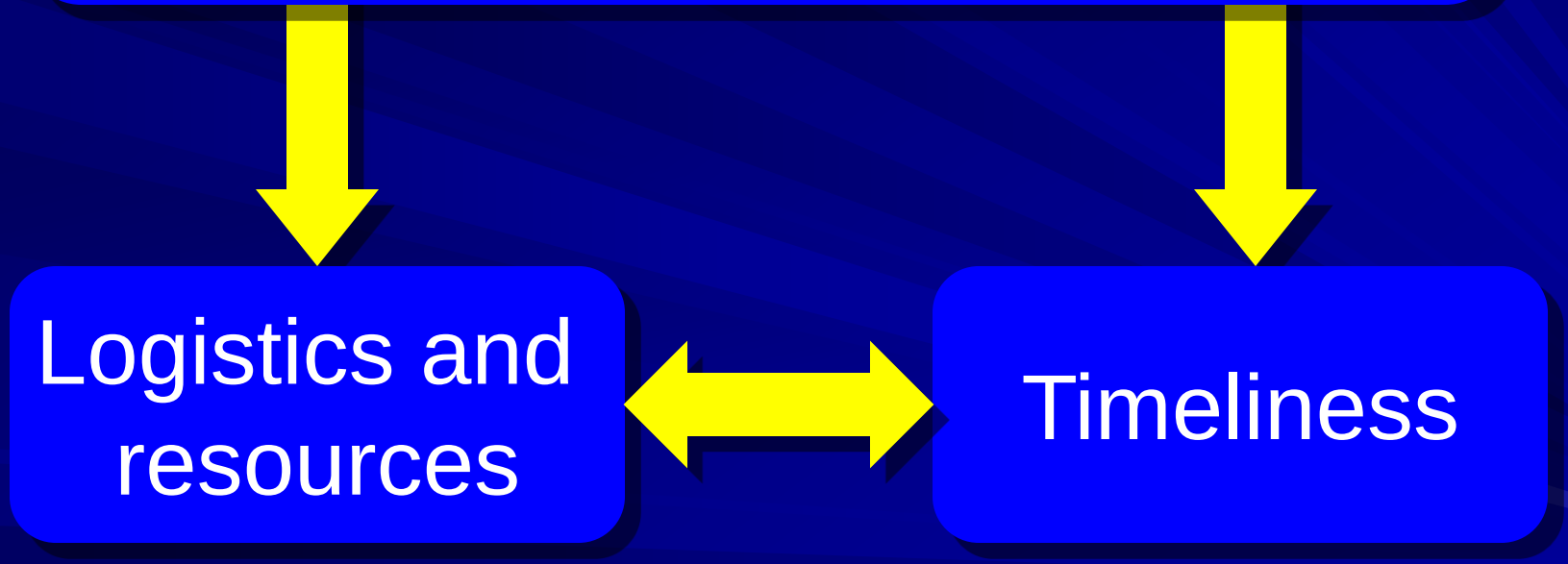
STEMI Treatment Across Europe
2005-2008



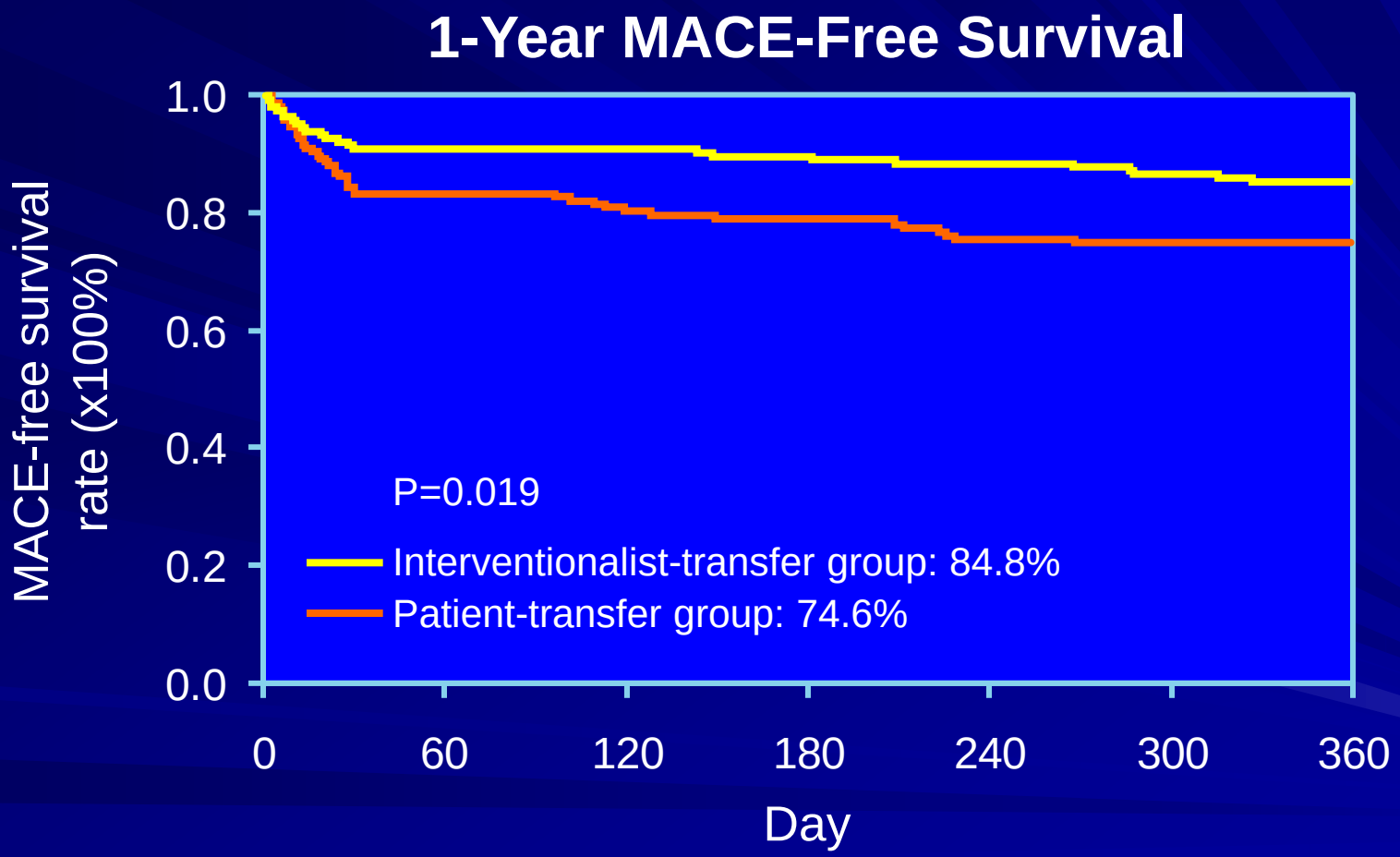
Widimsky P: EHJ 2009

MAYO CLINIC

Universal use of Primary PCI: Constraints



Transferring the Interventionalist …Not the Patient



Zhang: Circ Cardiovasc Qual Outcome, 2011