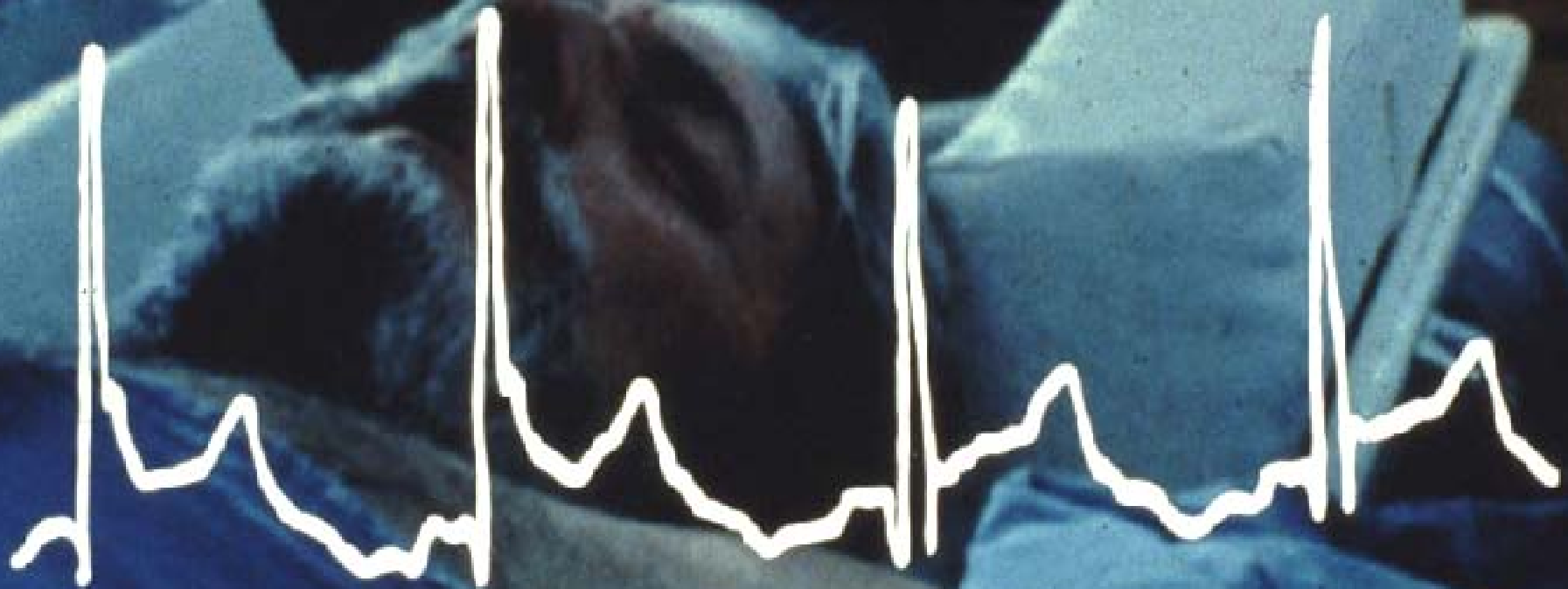
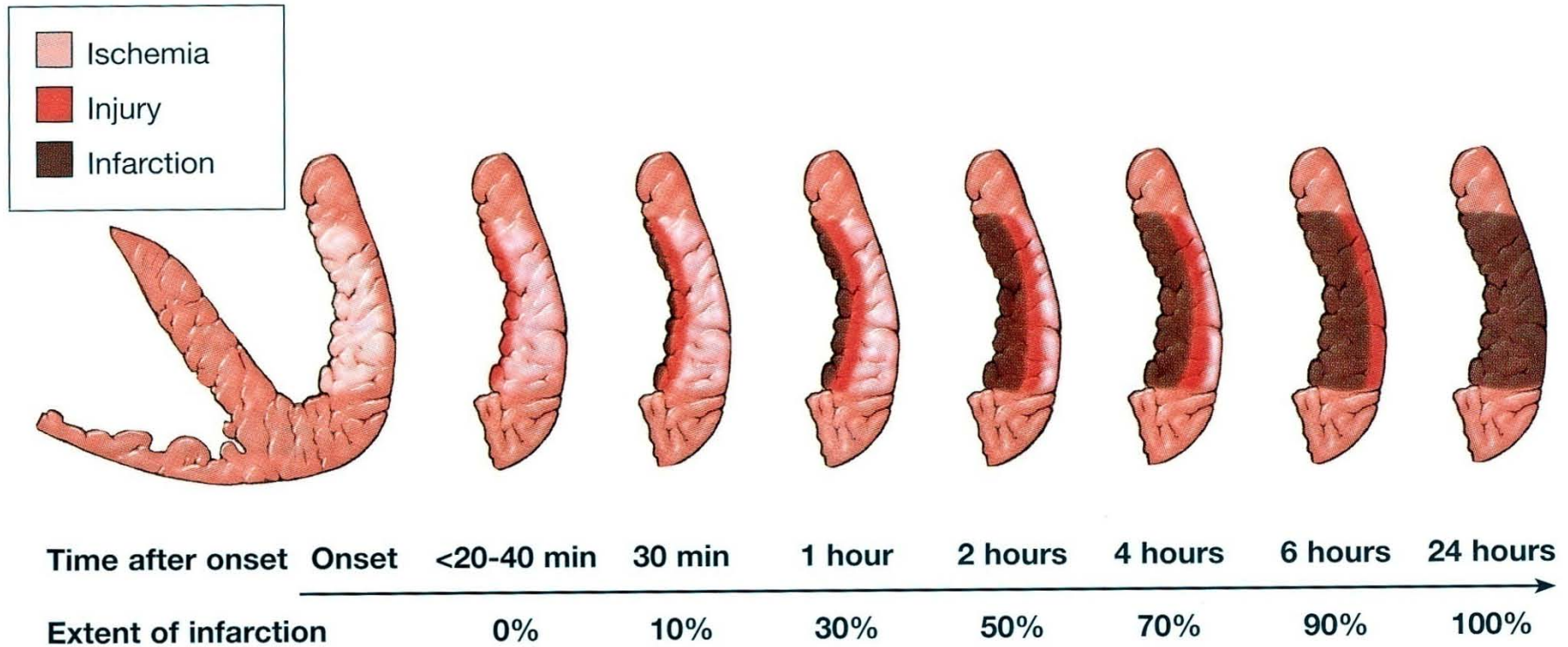


The CHASE for STEMIs



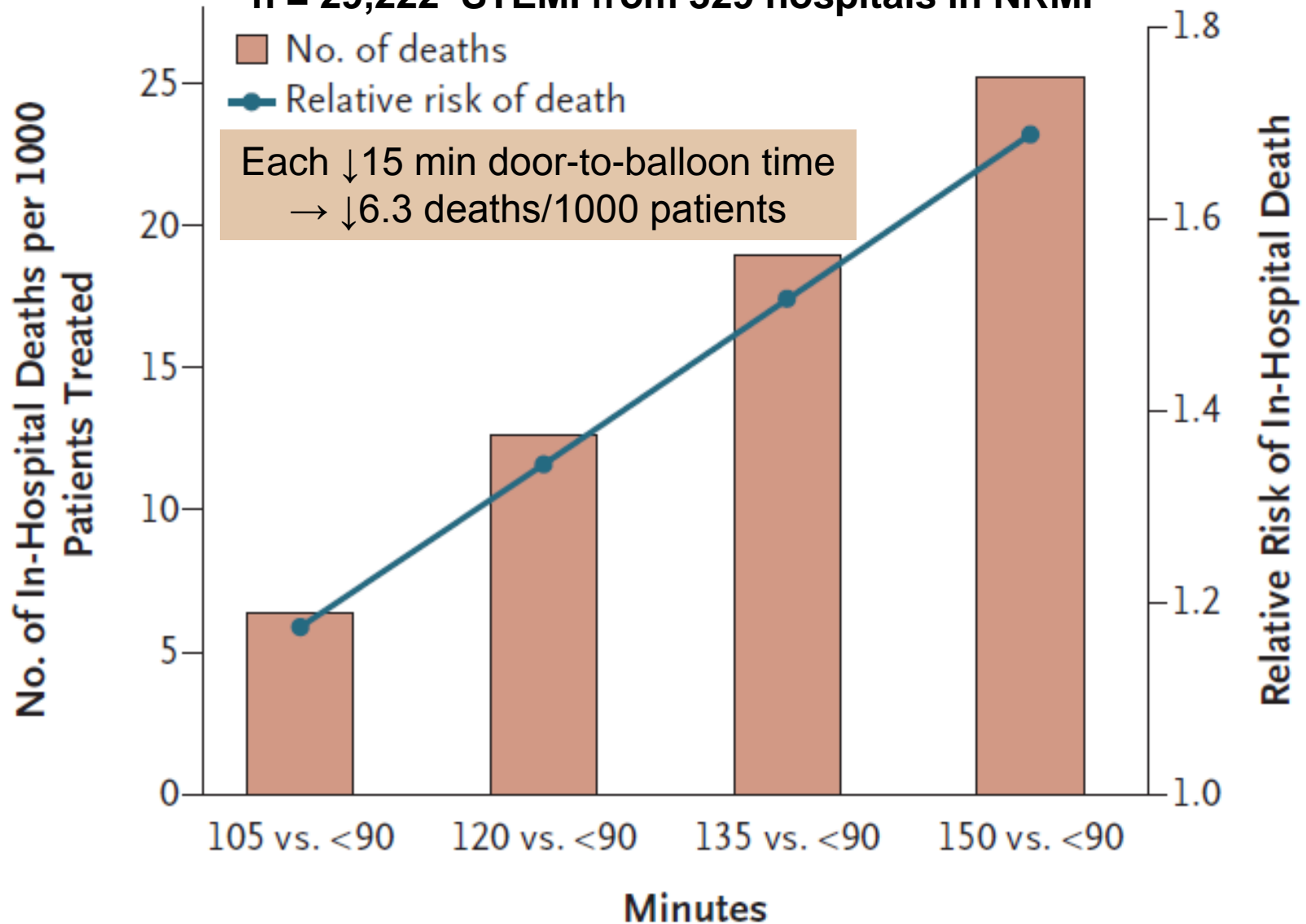
(King County Emergency Medical Services
Comprehensive Heart Attack Surveillance
and Evaluation Program)

Time-Dependent Injury → Infarction in STEMI



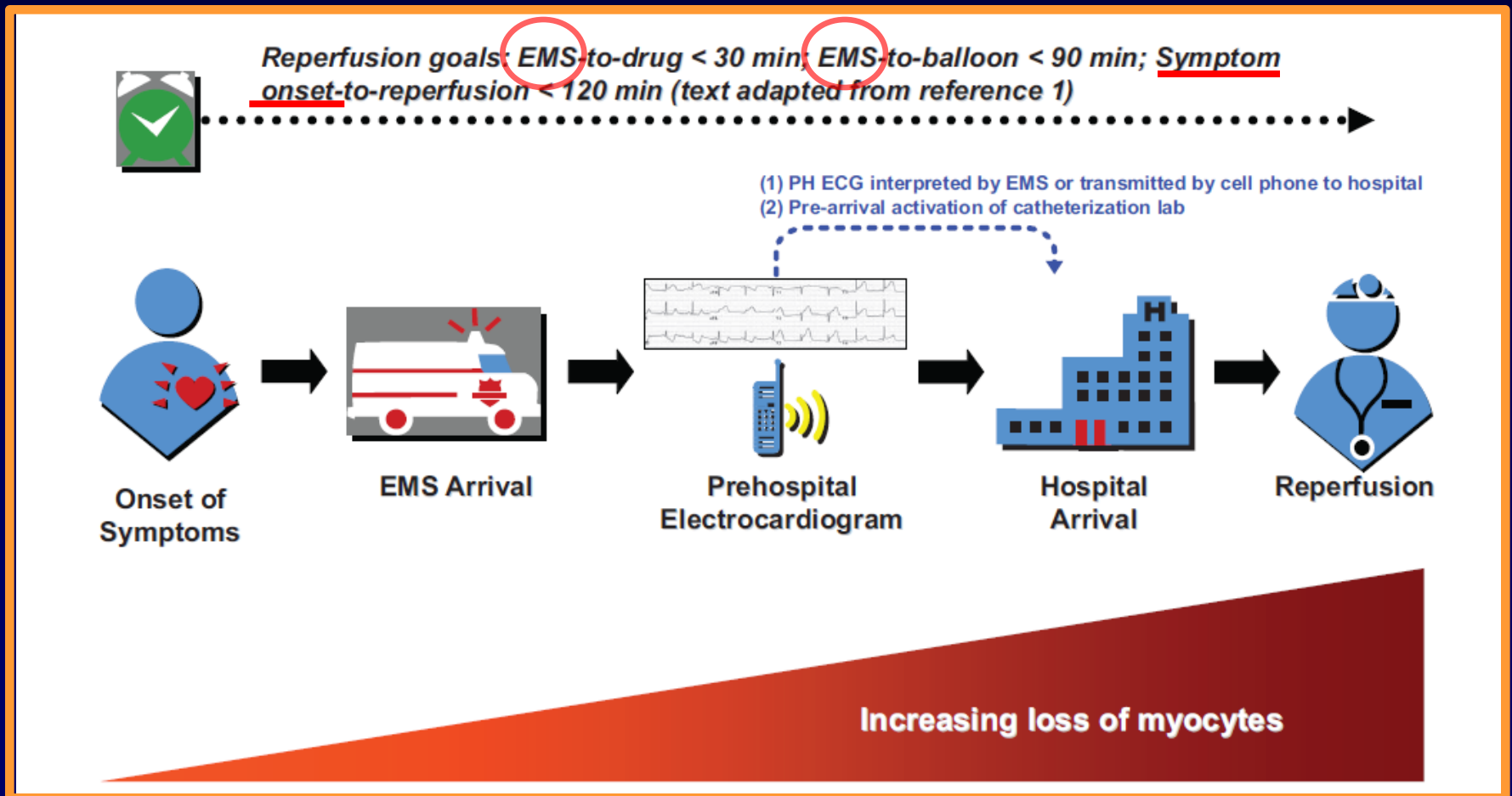
Door-to-Balloon Time and STEMI Mortality

n = 29,222 STEMI from 329 hospitals in NRMI



Implementation and Integration of Prehospital ECGs Into Systems of Care for Acute Coronary Syndrome

A Scientific Statement From the American Heart Association Interdisciplinary Council on Quality of Care and Outcomes Research, Emergency Cardiovascular Care Committee, Council on Cardiovascular Nursing, and Council on Clinical Cardiology

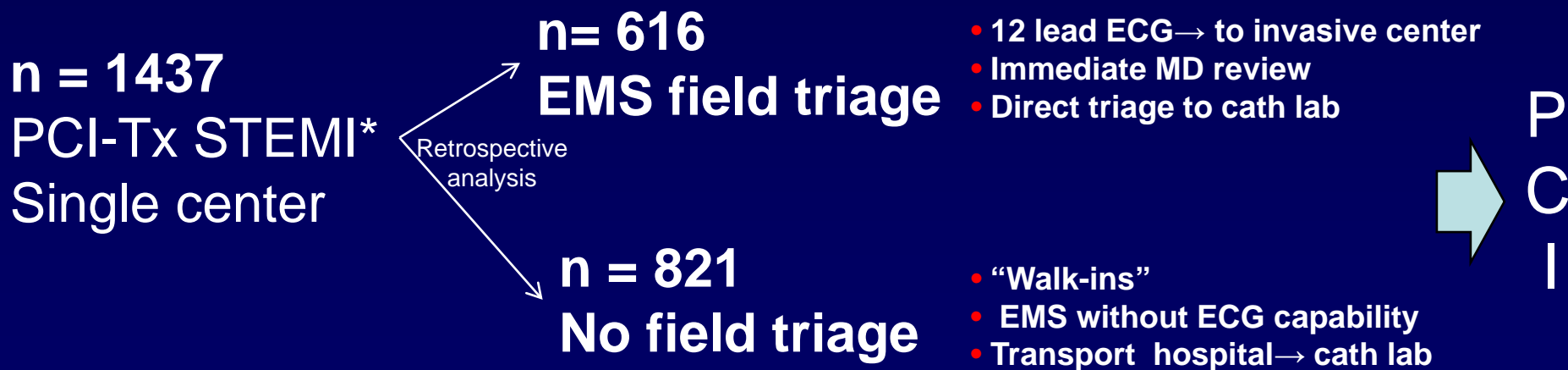


Comprehensive Heart Attack Surveillance and Evaluation (CHASE) Objectives and Goals

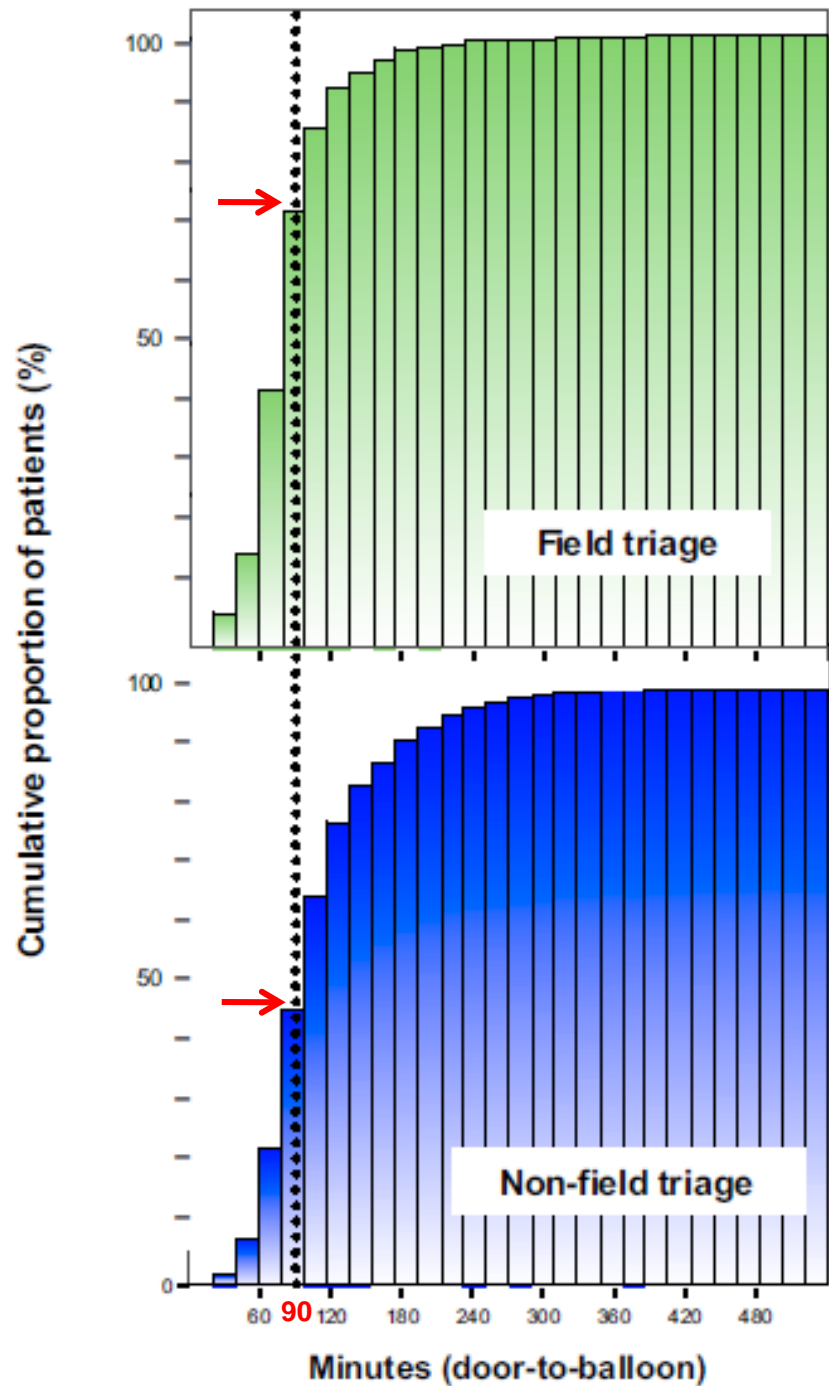
- Characterize system-wide STEMI care
- Track prehospital & hospital interventions, times, outcomes
 - Secular trends
- Improve identification, triage and management of STEMI
- Expand to all ACS

Field Triage Reduces Treatment Delay and Improves Long-Term Clinical Outcome in Patients With Acute ST-Segment Elevation Myocardial Infarction Treated With Primary Percutaneous Coronary Intervention

Sune H. Pedersen, MD,* Soren Galatius, MD, DMSc,* Peter R. Hansen, MD, PhD, DMSc,* Rasmus Mogelvang, MD, PhD,† Steen Z. Abildstrom, MD, PhD,‡ Rikke Sørensen, MD,* Ulla Davidsen, MD,* Anders Galloe, MD, PhD,* Ulrik Abildgaard, MD, DMSc,* Allan Iversen, MD,* Jan Bech, MD, PhD,* Jan K. Madsen, MD, DMSc,* Jan S. Jensen, MD, PhD, DMSc*
Copenhagen, Holbaek, and Glostrup, Denmark

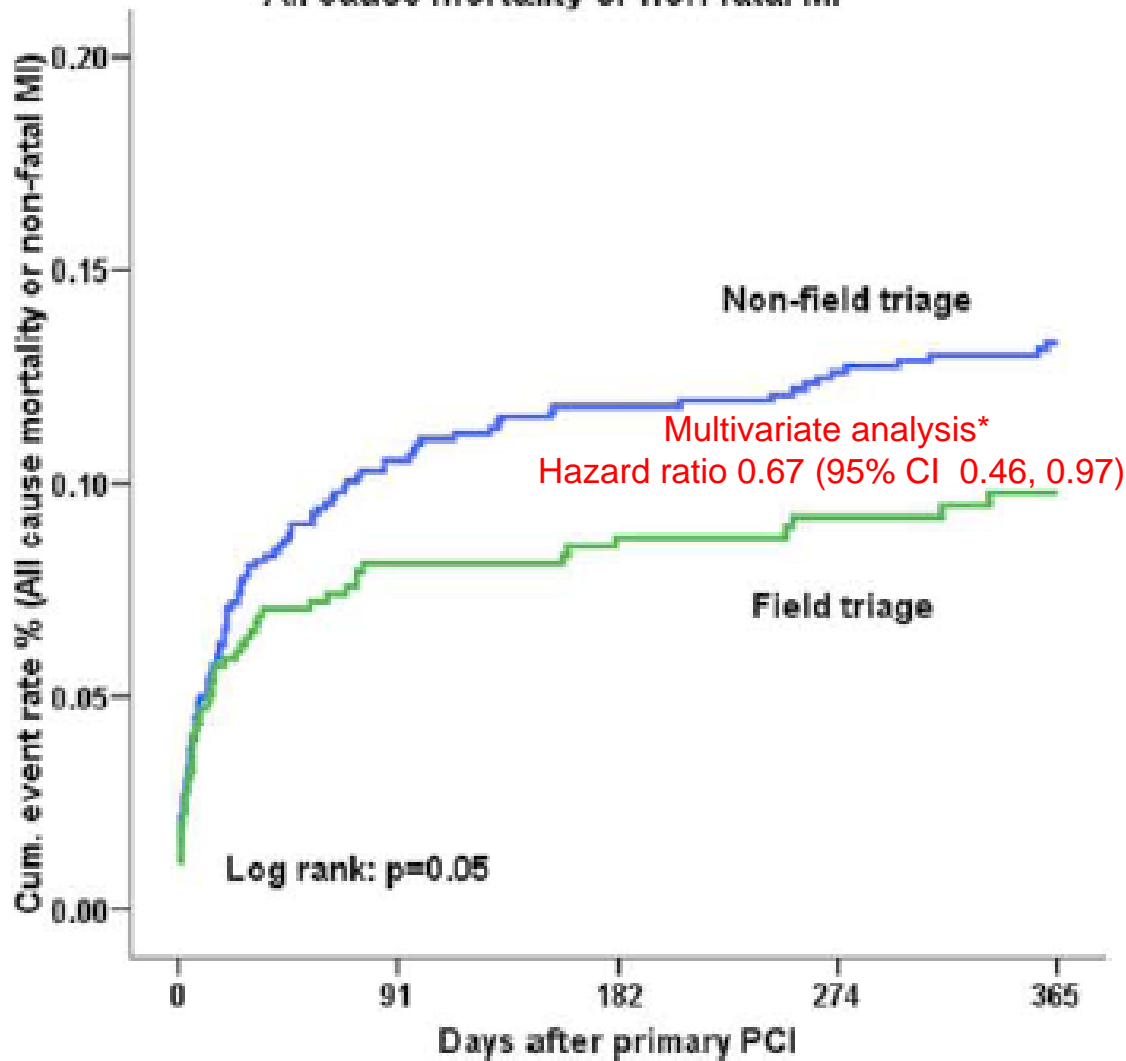


*STEMI= Sx >30' <12 + sum >4 mm STE in ≥2 contiguous precordial leads or >2 mm in ≥2 contiguous limb leads

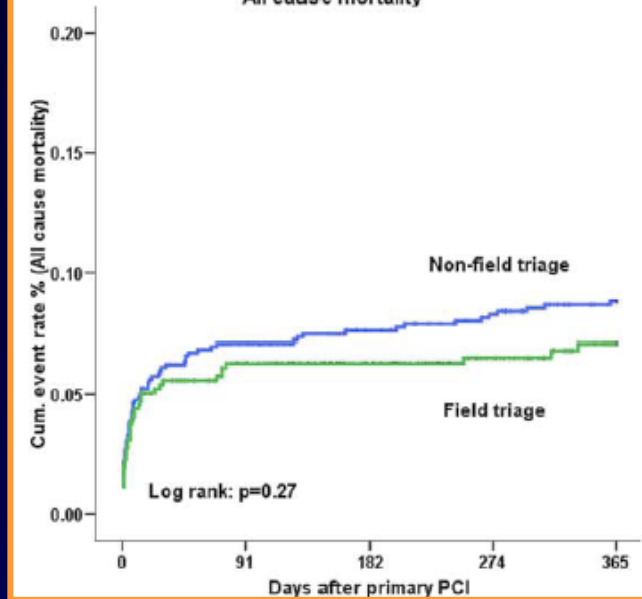


Minutes	Field triage N = 616	Non-Field triage N = 821	P-value
Symptom-to-first contact* Median (IQR)	60 (30-140)	80 (55-170)	<0.001
Ambulance arrival-to- ECG transmission Median (IQR)	10 (7-14)	N/A	
ECG transmission-to- telephone contact Median (IQR)	5 (4-6)	N/A	
First contact*-to-Card. Lab Median (IQR)	57 (40-75)	75 (57-110)	<0.001
Card. Lab-to-first balloon Median (IQR)	24 (15-30)	25 (15-30)	0.11
Door-to-balloon Median (IQR)	83 (67-100)	103 (80-135)	<0.001
Symptom-to-balloon Median (IQR)	150 (110-233)	200 (150-310)	<0.001

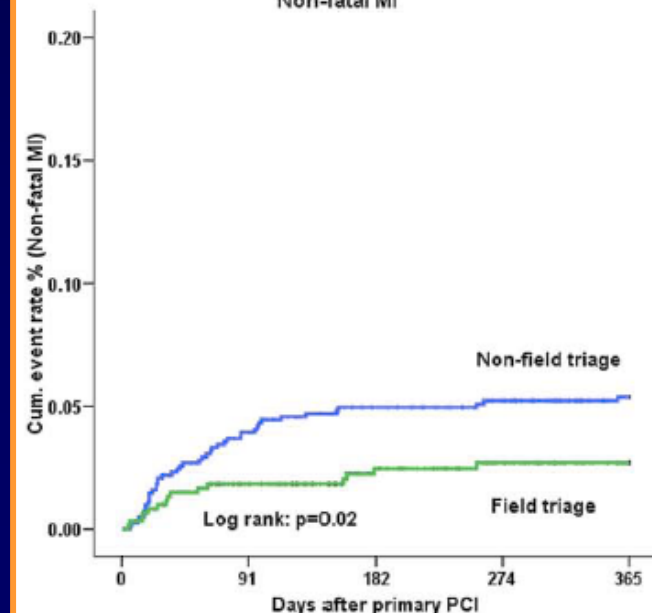
All cause mortality or non-fatal MI



All cause mortality



Non-fatal MI



*Adjusted for age, inclusion year, men, diabetes, hypertension, current smoker, heart failure, hereditary ischemic heart disease, valve disease, previous PCI, body mass index, use of drug-eluting stents, left anterior descending coronary artery versus other, multivessel disease, and complex lesion

Comprehensive Heart Attack Surveillance and Evaluation (CHASE) Components

- “Time consciousness”
- Protocol compliance
 - ACS/STEMI algorithm
 - Notification and activation of hospital
- Documentation (medical record, ECG)
 - Timely & complete
 - Accurately abstracted/archived
- Outcome measures
- Feedback

Record Management System (RMS)
(Diagnosis-coded data on all EMS
encounters from all agencies)

Missed cases

Acute MI (212)
Diagnostic Codes ID by
ALS Agencies



Improve
Care
Quality
and
Outcome



FTP download
Fax or E-record:
dispatch report,
prehospital
record and ECGs



Feedback

**CHASE
DATABASE**

EMS "misses"; walk-ins
(Hospital record or
ACS hospital database)

Case identified

ECG interpreted

Prehospital record
(abstracted)

Hospital record (abstracted)
-or-
ACS hospital database
(Tx times and outcomes)

Comprehensive Heart Attack Surveillance and Evaluation (CHASE)

Critical Information Needed from Hospitals

- EMS vs non-EMS cases
 - EMS transport
- Accurate times (“trust but verify”)
 - Hospital arrival
 - Treatment (PCI)
- Outcomes
 - Procedural success
 - Survival



Summary

*

- Success of STEMI system of care requires
 - Motivation
 - Accurate documentation
 - Effective communication & feedback
- Overcoming HIPAA* concerns
 - HIPAA permits disclosure of protected health information for healthcare operations
 - “Healthcare operations”= CQI, outcomes evaluation, provider performance
 - WA State RCW 70.02.050 permits such disclosures without consent