



**Can Lysis be Eliminated ?
Lessons from the Berlin Registry**

Helmut Schühlen, MD, FESC, FACC
Vivantes Auguste-Viktoria-Klinikum Berlin, Germany

Berlin Myocardial Infarction Registry (BMIR)



Berlin MI Registry

- initiative of Cardiology Departments at Berlin hospitals
- up to 25 hospitals participated
- data collected of ~15,000 patients since 1999
- data analysis center at Tech. Universität Berlin

Inclusion criteria

- STEMI and NSTEMI with onset of pain <48h

Goal of the BMIR

- to assess the type & quality of hospital care of AMI pts.
- to compare these data of routine practise with data from registries and controlled clinical trials

Data Collected for BMIR



Berlin MI Registry

The screenshot shows a detailed data collection form for the Berlin MI Registry. The form is organized into several sections, each with a title and a list of data points to be recorded. A large, diagonal watermark reading 'STRACT' is overlaid on the form. The sections include:

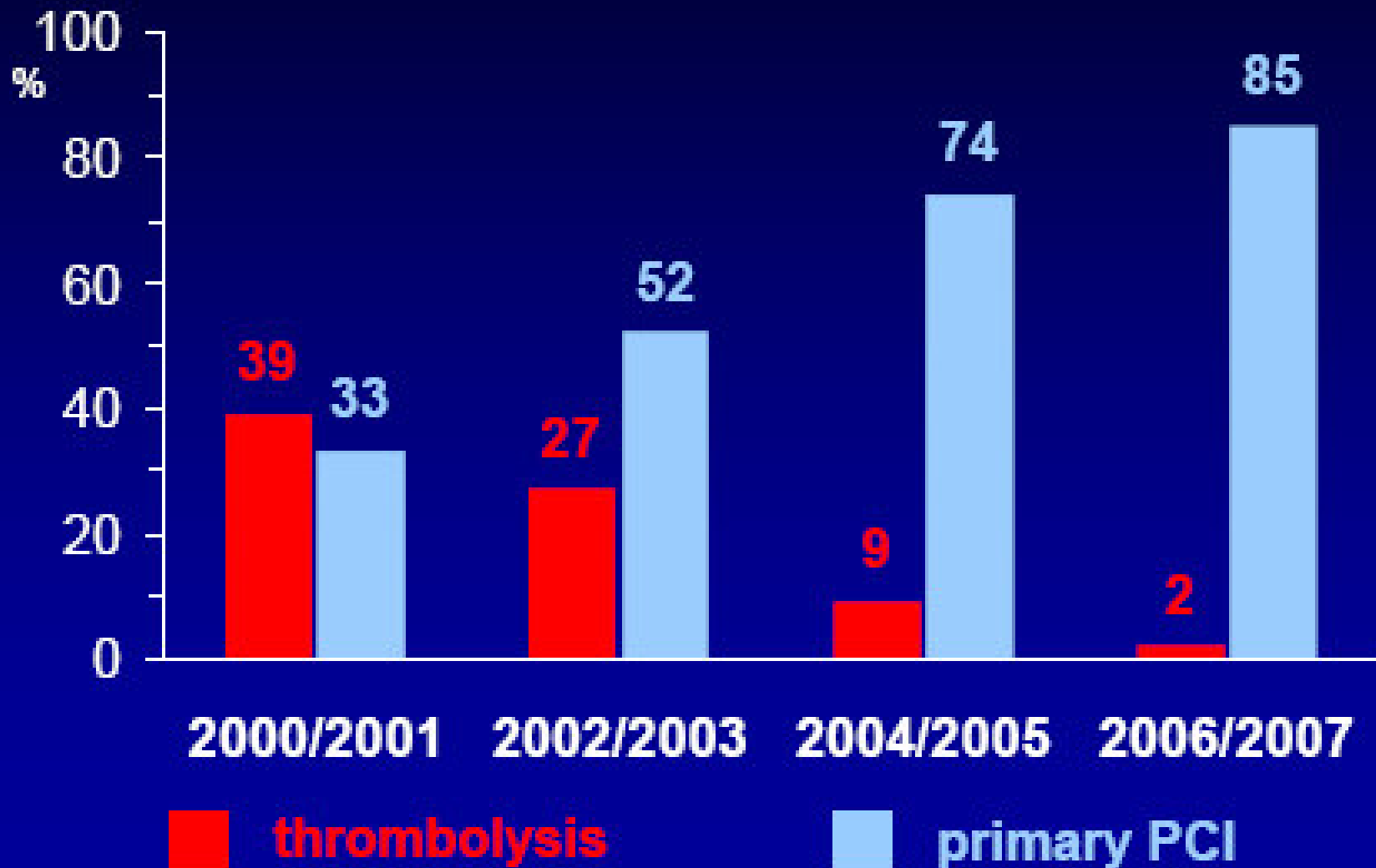
- 1. Anamnese:** Patient name, date of birth, gender, and other identifying information.
- 2. Anamnese:** Medical history, including previous MI, angina pectoris, and other cardiovascular conditions.
- 3. Anamnese:** Risk factors such as smoking, diabetes, and hypertension.
- 4. Anamnese:** Details of the current MI event, including symptoms, duration, and initial treatment.
- 5. Anamnese:** Information about the primary care provider and the patient's access to care.
- 6. Anamnese:** Details of the reperfusion procedure, including the type of intervention and the time to treatment.
- 7. Anamnese:** Information about adjunctive therapies, such as aspirin, beta-blockers, and statins.
- 8. Anamnese:** Medication at discharge, including the type and dose of drugs.
- 9. Anamnese:** Clinical course until discharge, including vital signs, laboratory results, and patient status.

- patient characteristics
- patient history
- risk factors
- **MI characteristics**
- **primary care process**
- **reperfusion procedure**
- **adjunctive therapy**
- **medication at discharge**
- **clinical course until discharge**

Type of Reperfusion Therapy



Berlin MI Registry





City of Berlin








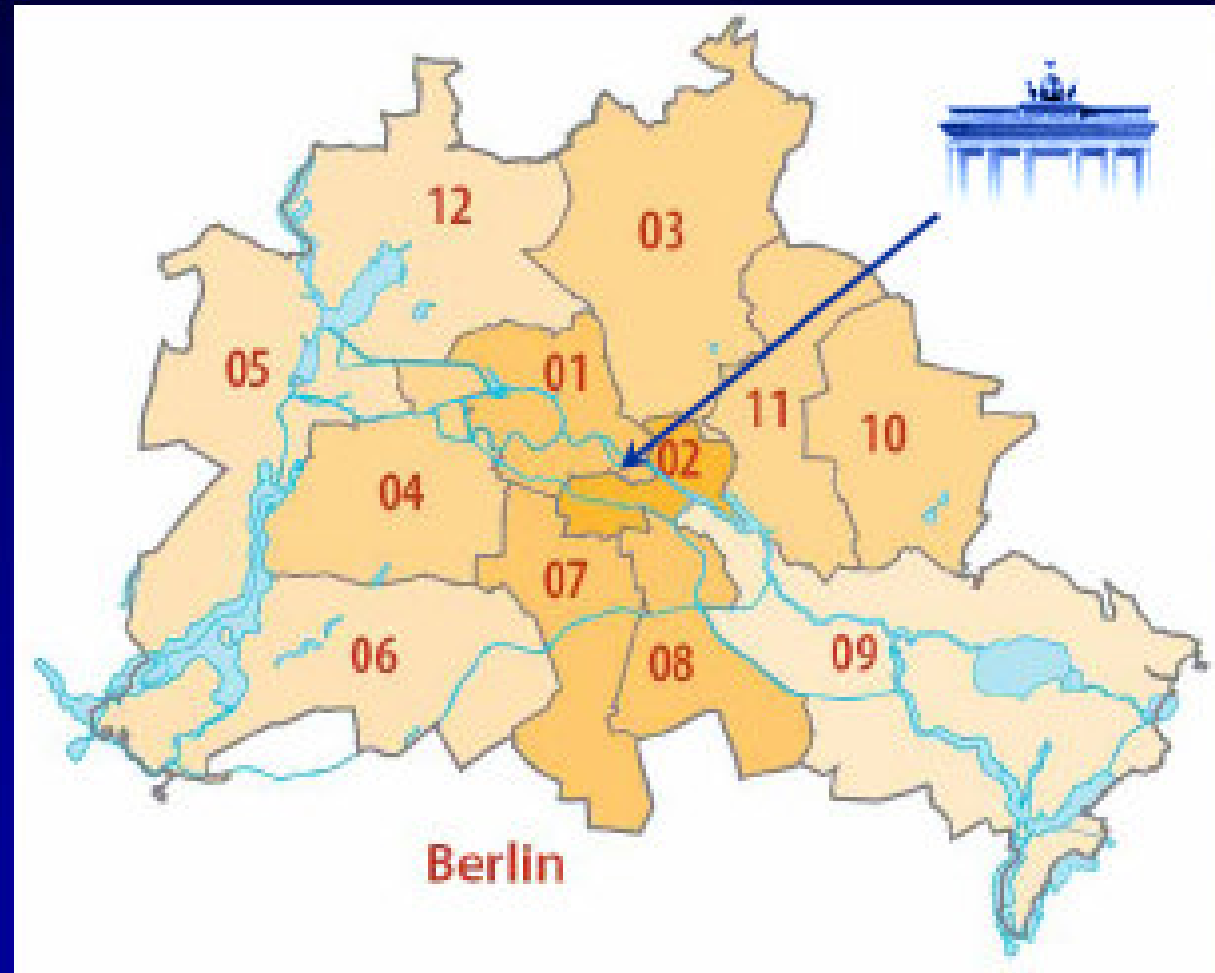
Berlin MI Registry

Population
3,416 Mio

Area 891 km²

Population/km²

-  < 2000
-  2000 - <3000
-  3000 - <5000
-  5000 - <10000
-  >10000



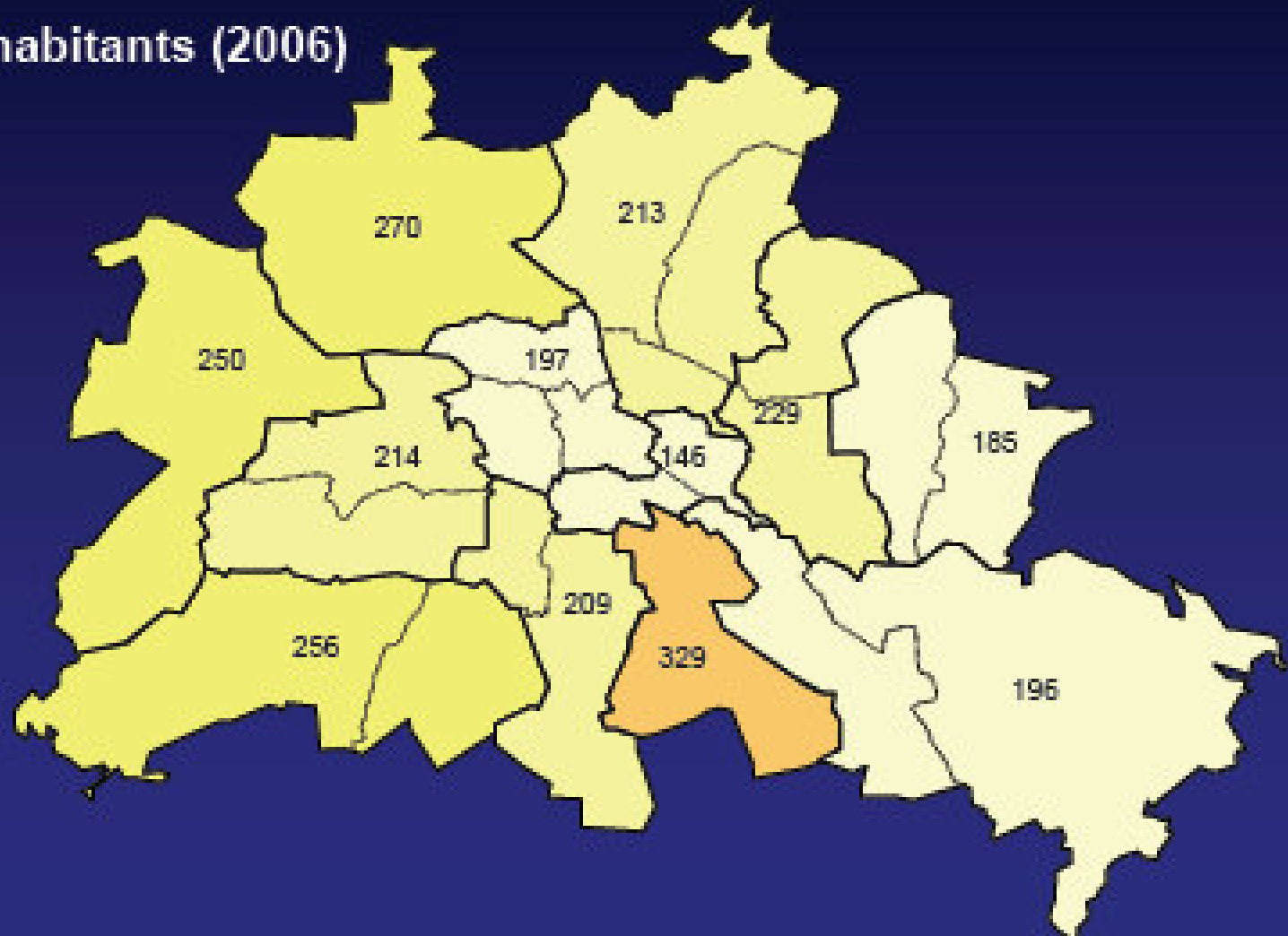
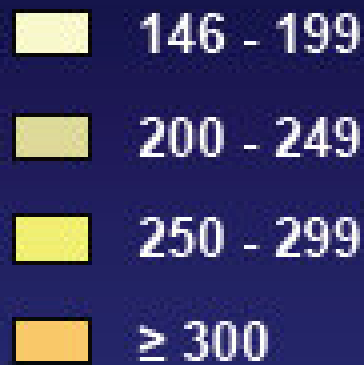


City of Berlin: Incidence of MI



Berlin MI Registry

per 100,000 inhabitants (2006)



Source: City of Berlin (Senatsverwaltung für Gesundheit)

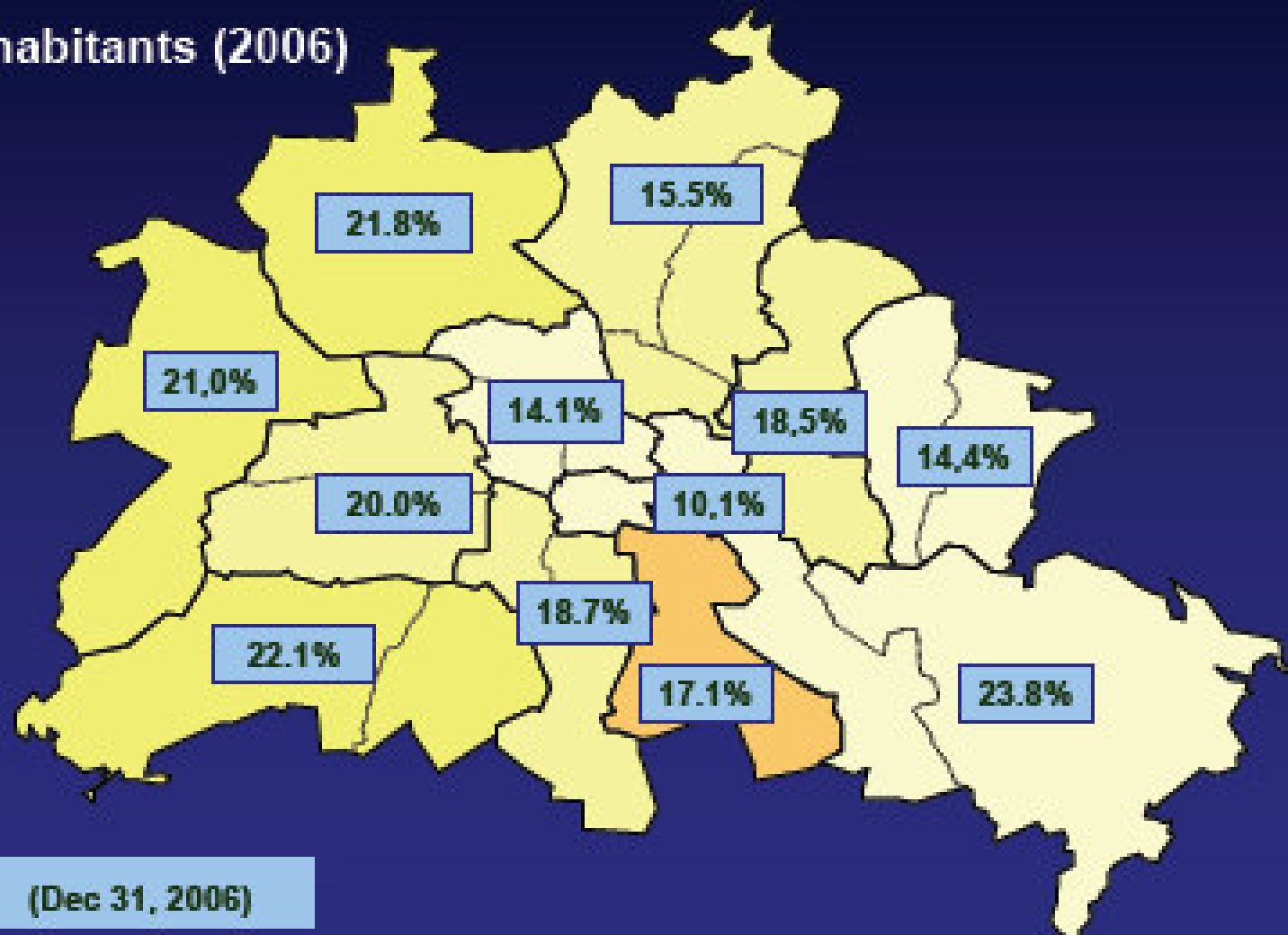
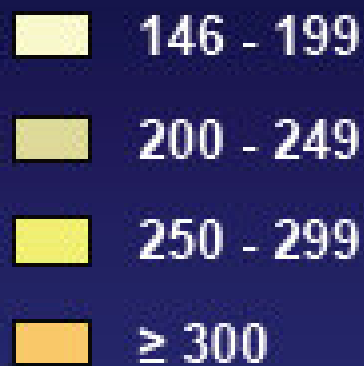


Incidence of MI and Age of Population



Berlin MI Registry

per 100,000 inhabitants (2006)



age >65 y. (Dec 31, 2006)

Source: City of Berlin (Senatsverwaltung für Gesundheit)

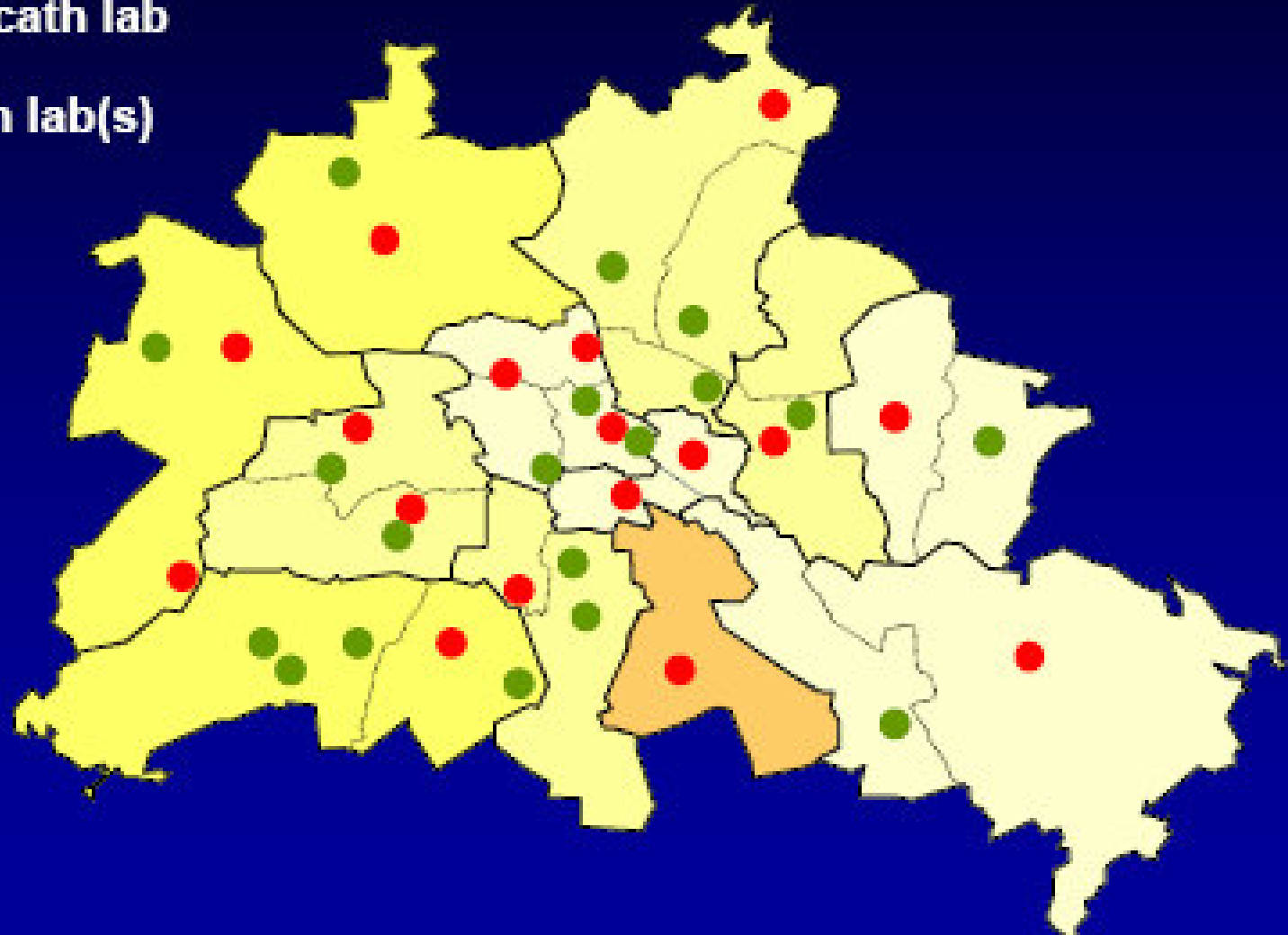


Hospitals in Berlin



Berlin MI Registry

- 20 without cath lab
- 18 with cath lab(s)



Source: City of Berlin (Senatsverwaltung für Gesundheit)



Emergency Medical System (EMS)

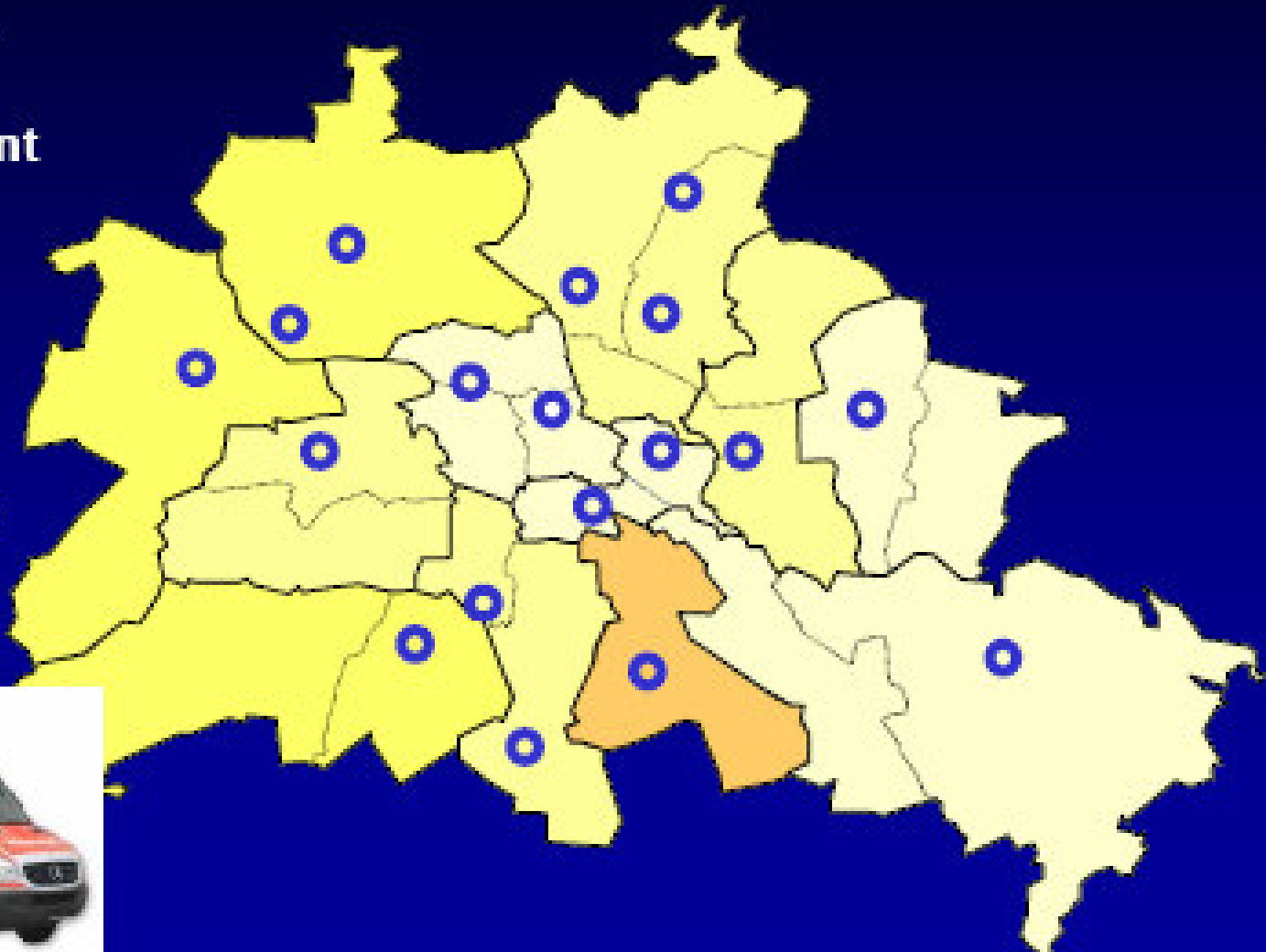


Berlin MI Registry

- 18 EMS bases managed by Fire Department



arrival at patient
< 8 min.
in 75% of calls



Source: City of Berlin (Senatsverwaltung für Gesundheit)

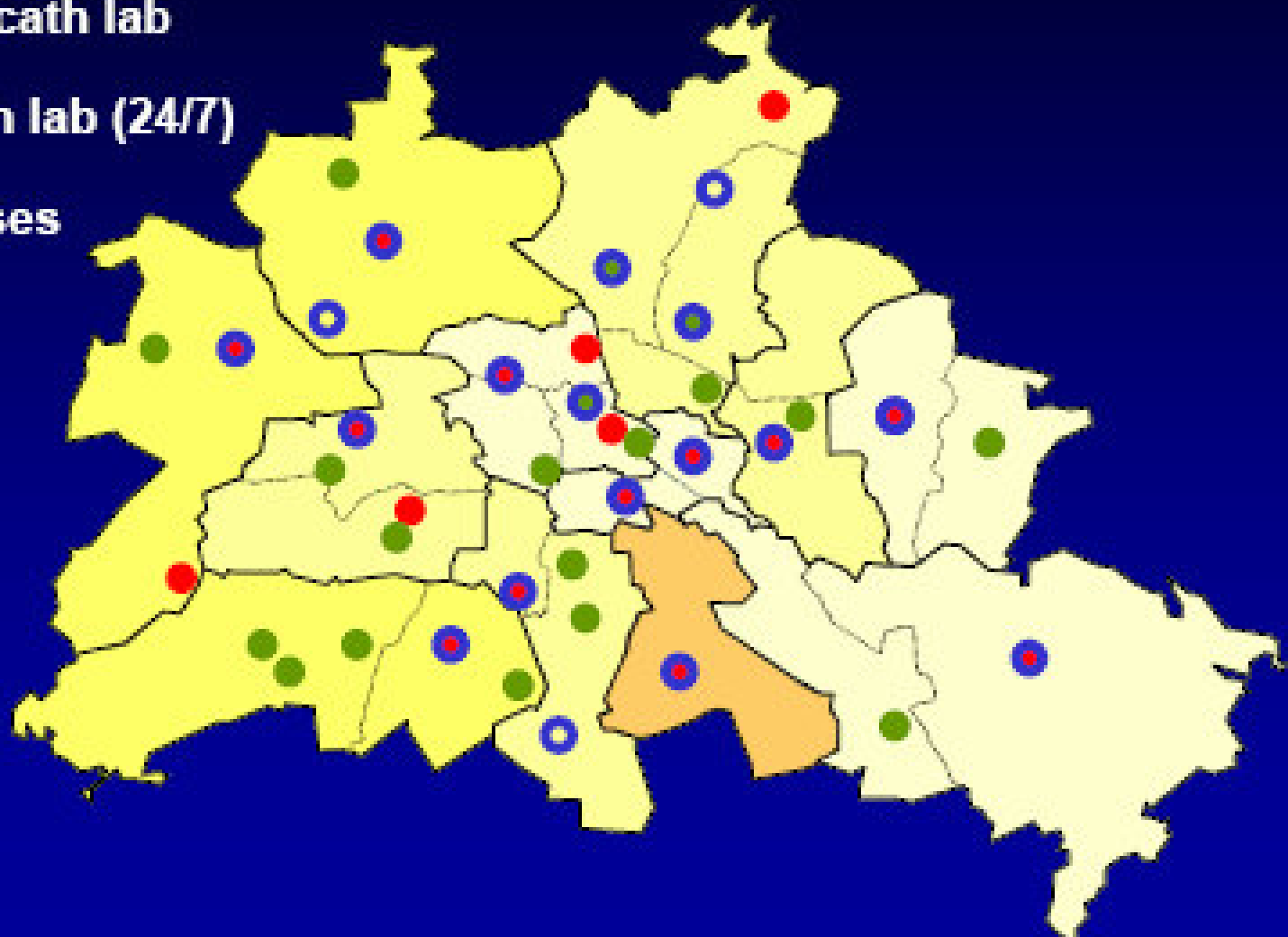


Infrastructure of Emergency Health Care in Berlin



Berlin MI Registry

- 20 without cath lab
- 18 with cath lab (24/7)
- 18 EMS bases

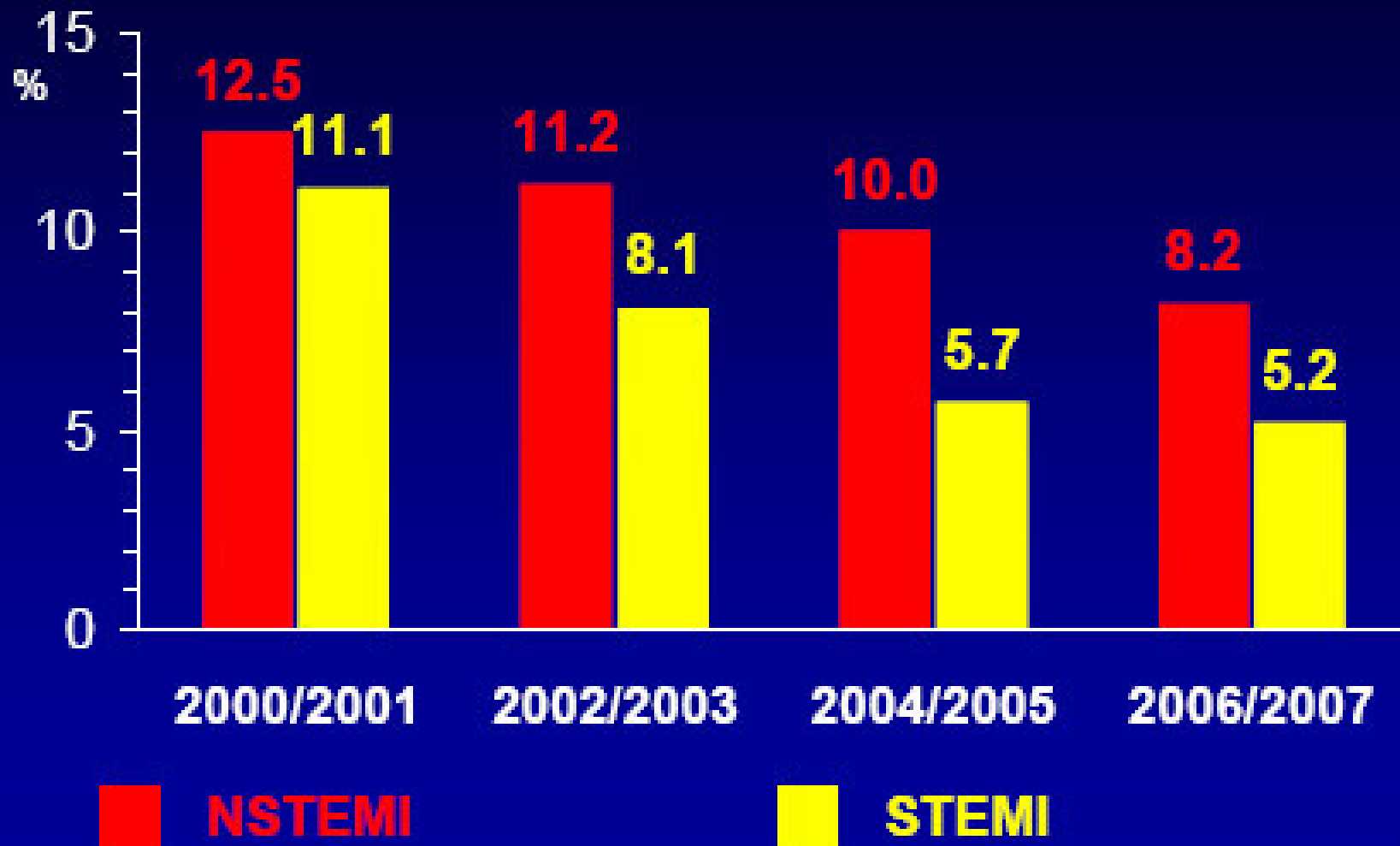


Source: City of Berlin (Senatsverwaltung für Gesundheit)

In-Hospital Mortality



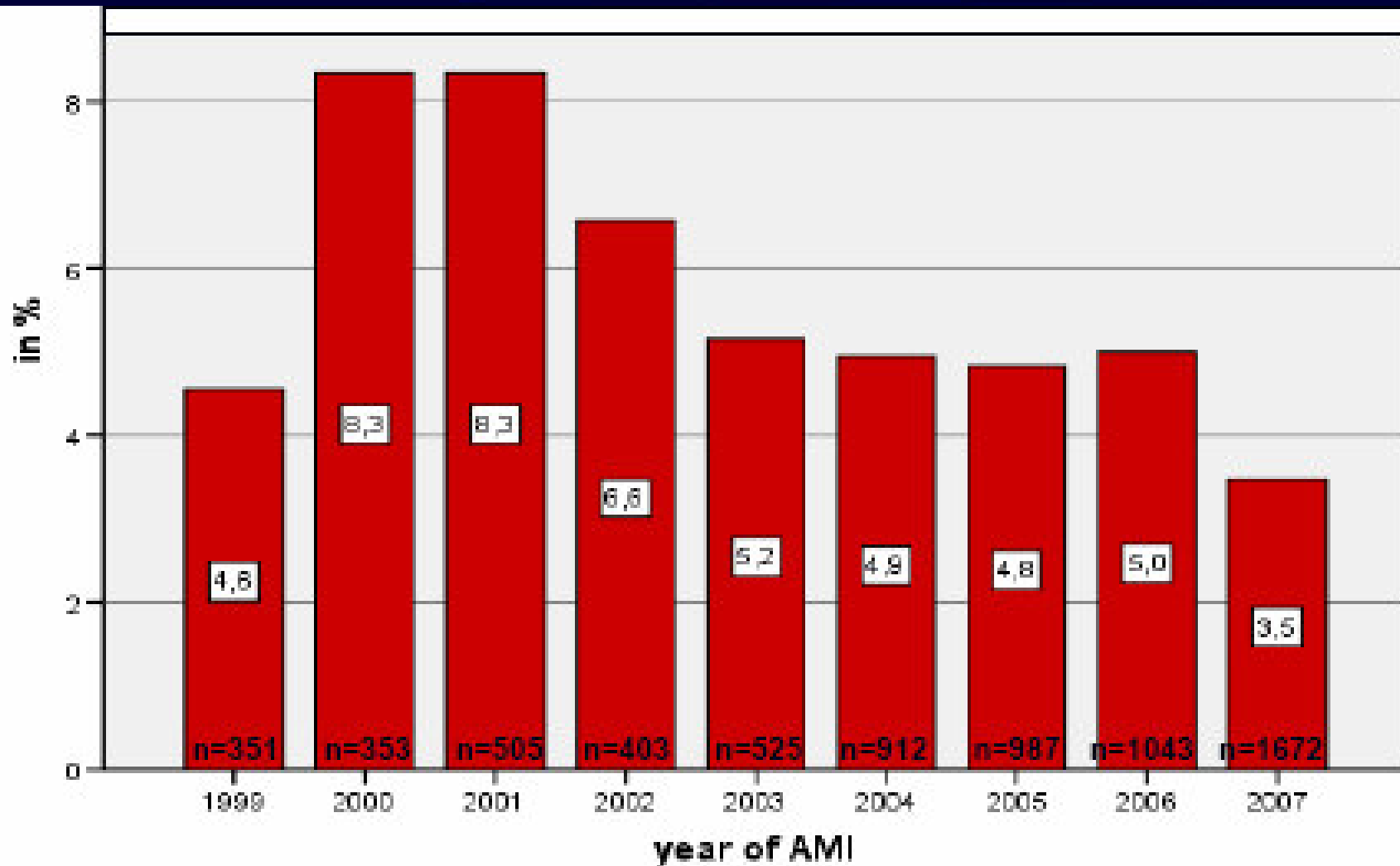
Berlin MI Registry



In-Hospital Mortality in Patients with Primary PCI



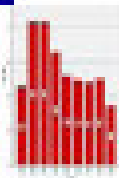
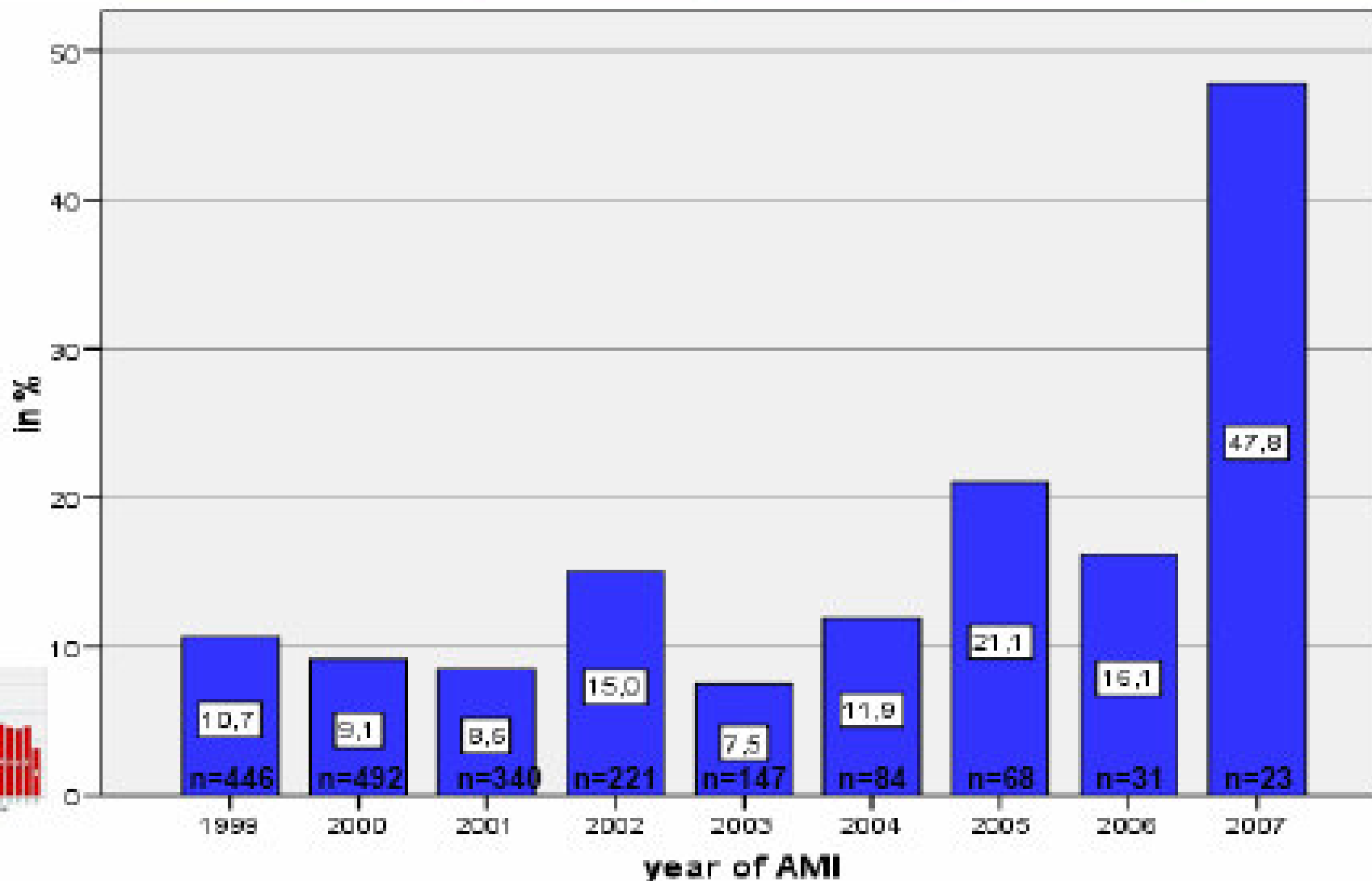
Berlin MI Registry



In-Hospital Mortality in Patients with Thrombolysis



Berlin MI Registry

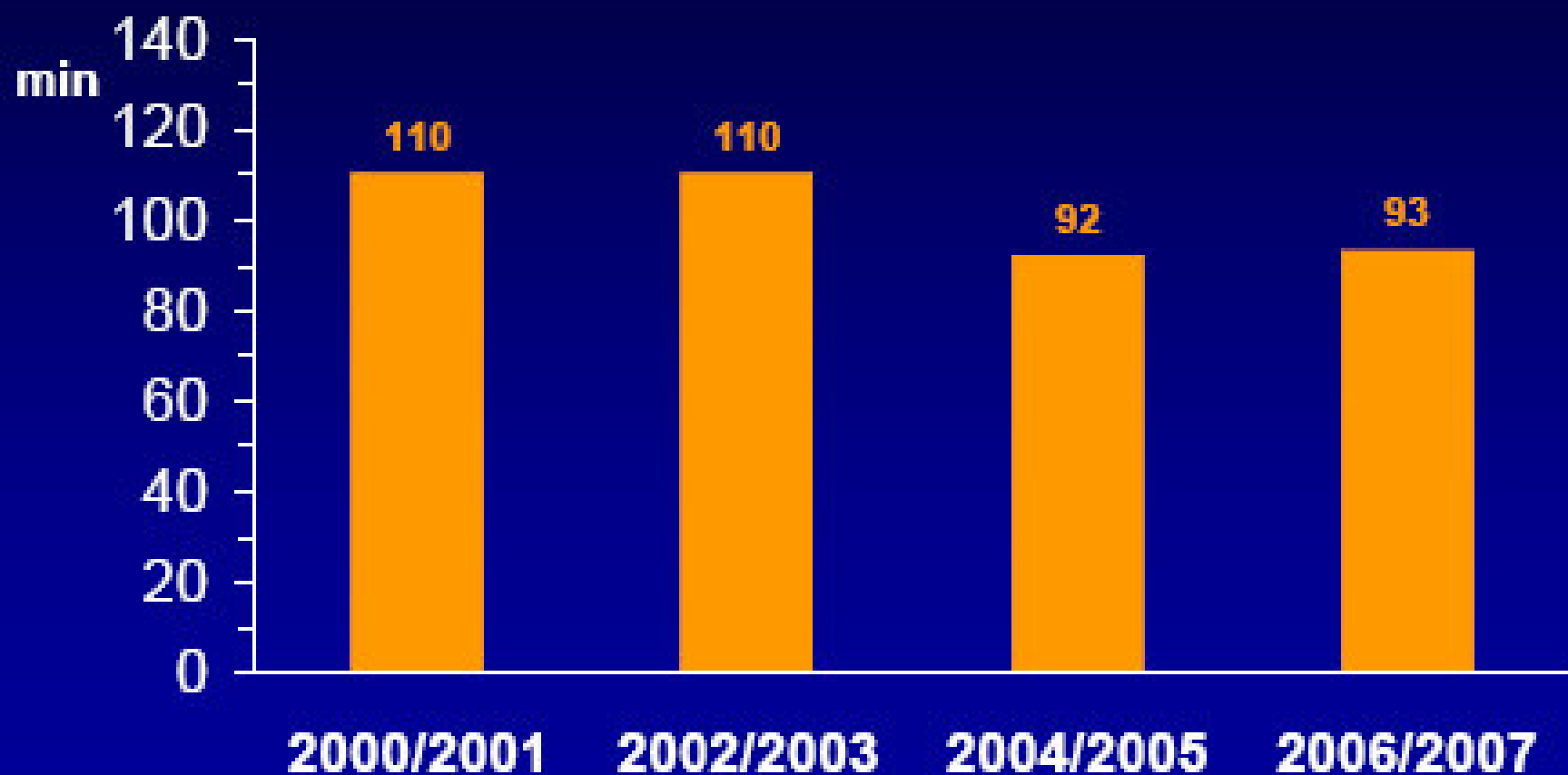


Door-to-Balloon Time

- Median; STEMI patients only -



Berlin MI Registry

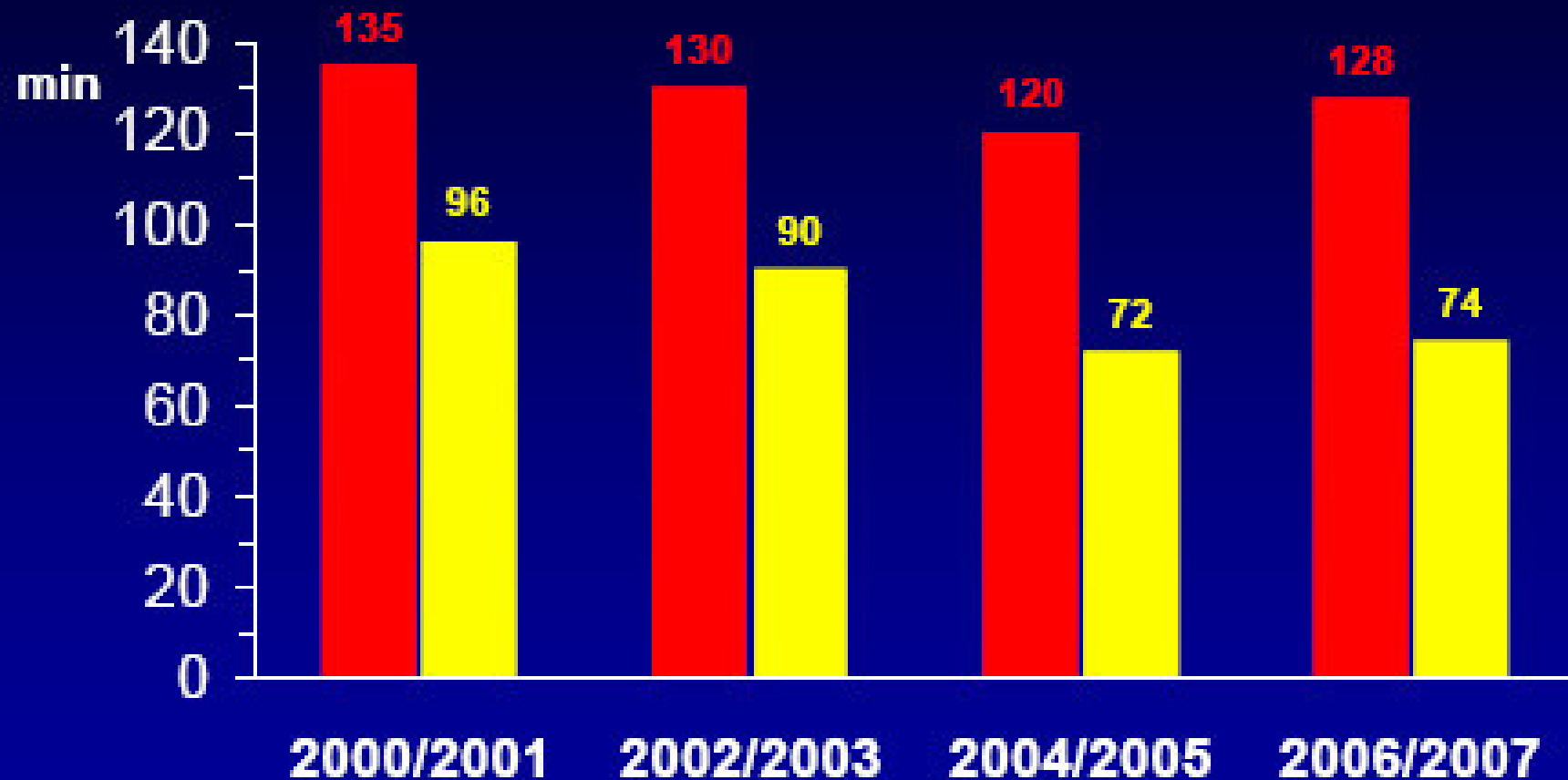


Door-to-Balloon Time

- Median; STEMI patients only -



Berlin MI Registry



 directly admitted by EMS

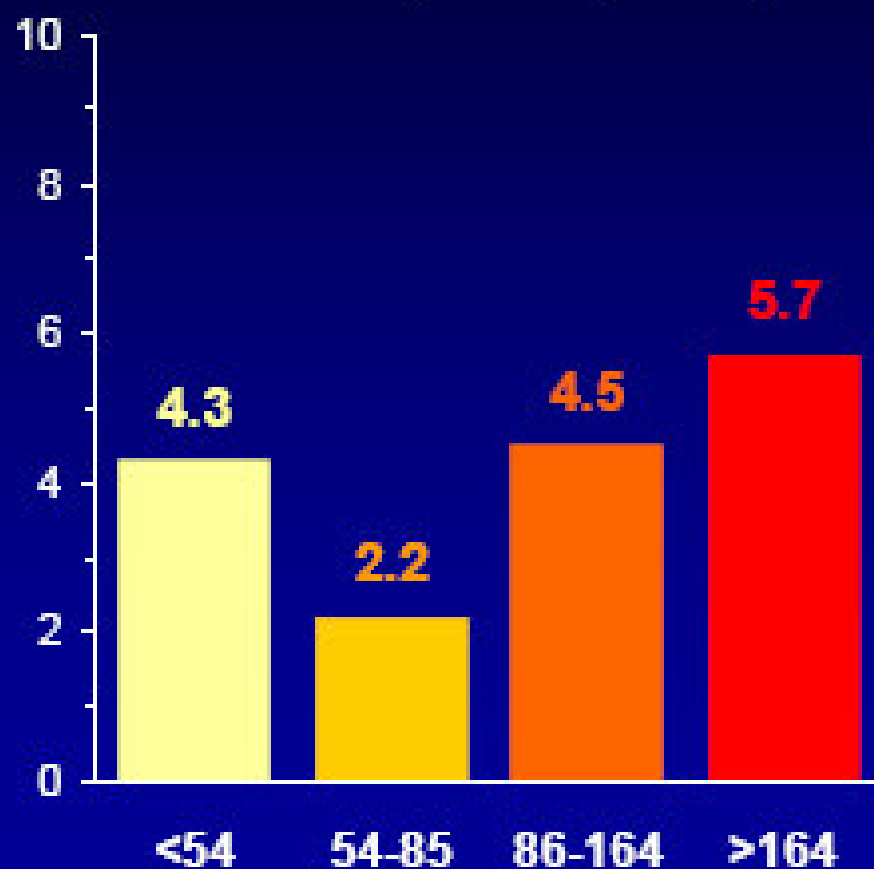
 all other patients

In-Hospital Mortality According to DTB Time

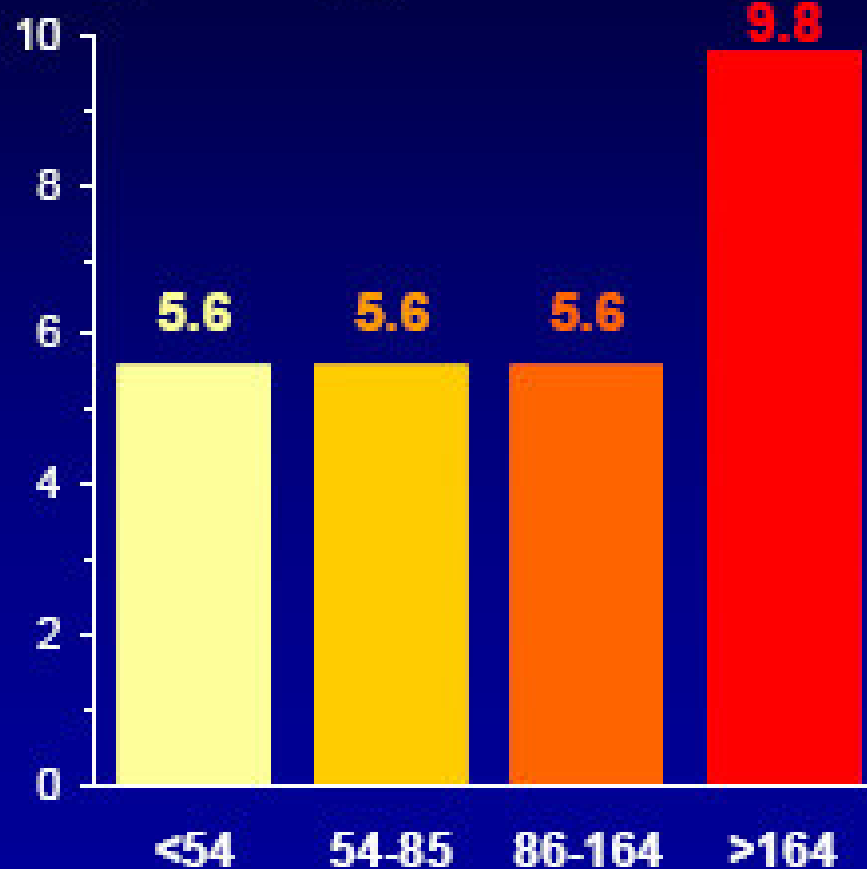


Berlin MI Registry

Patients with primary PCI, including shock, years 2004 - 2007



On-hours (Mo – Fr, 7:30am-4pm)



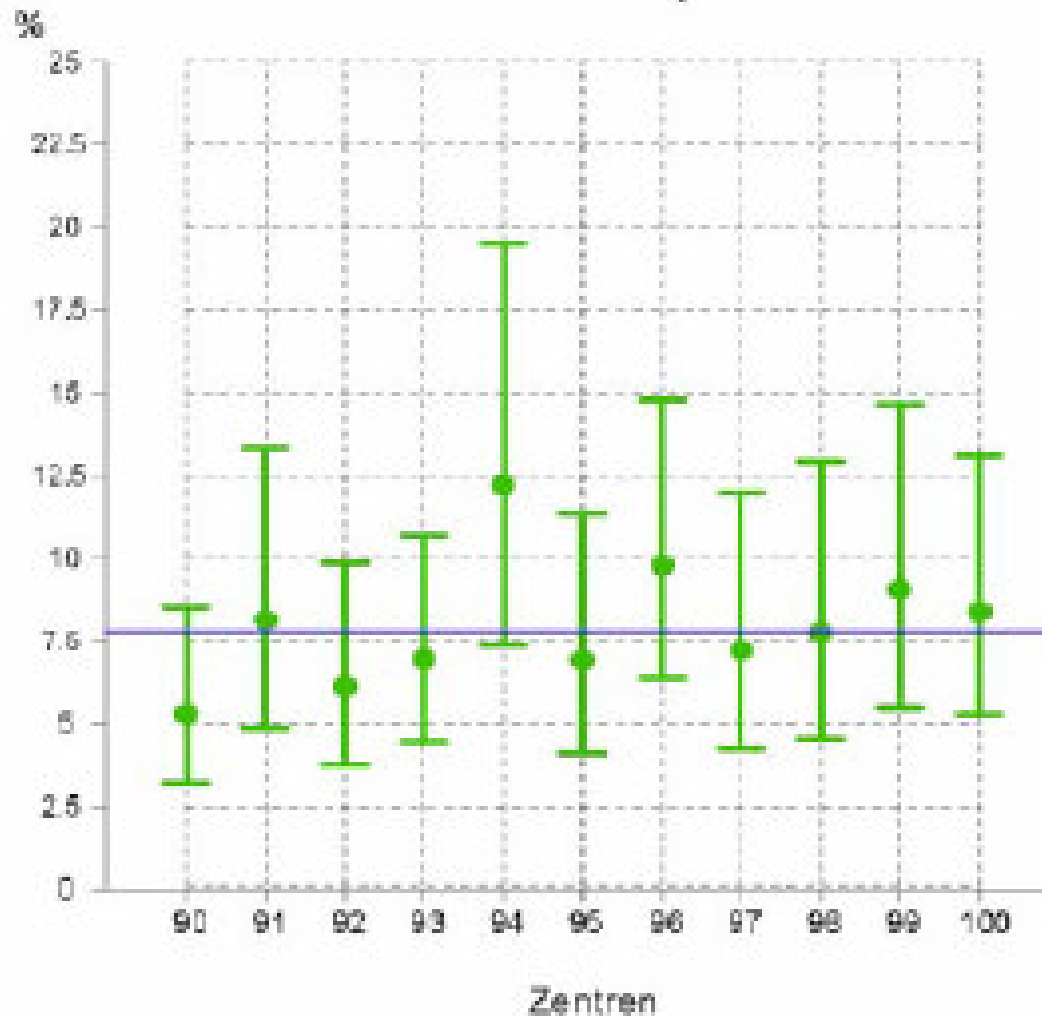
Off-hours (evening, night + weekend)

Mortality in Different Hospitals

- adjusted for baseline variables -



Berlin MI Registry



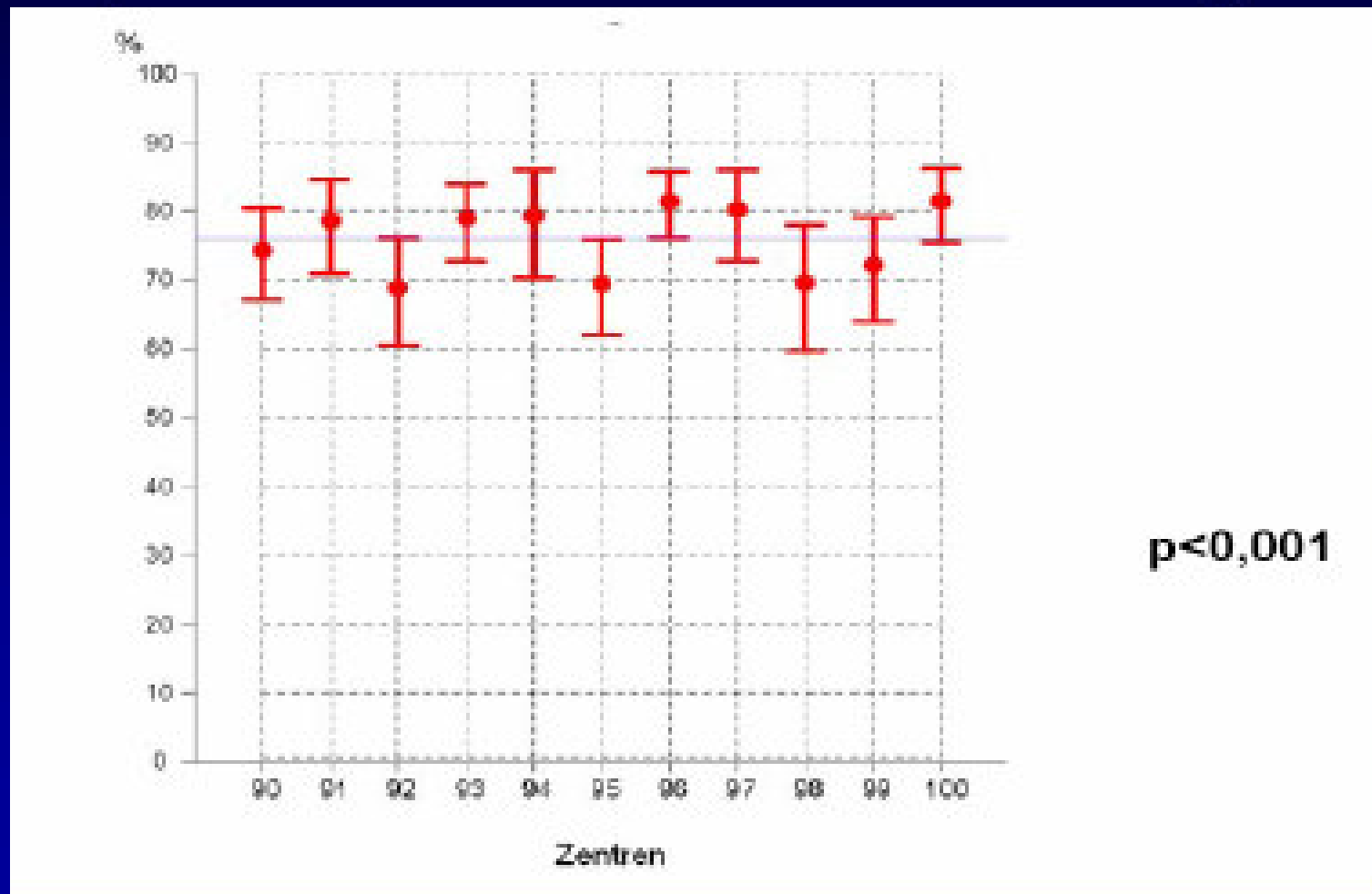
$p=0,091$

Comparing Medication at Discharge in Different Hospitals



Berlin MI Registry

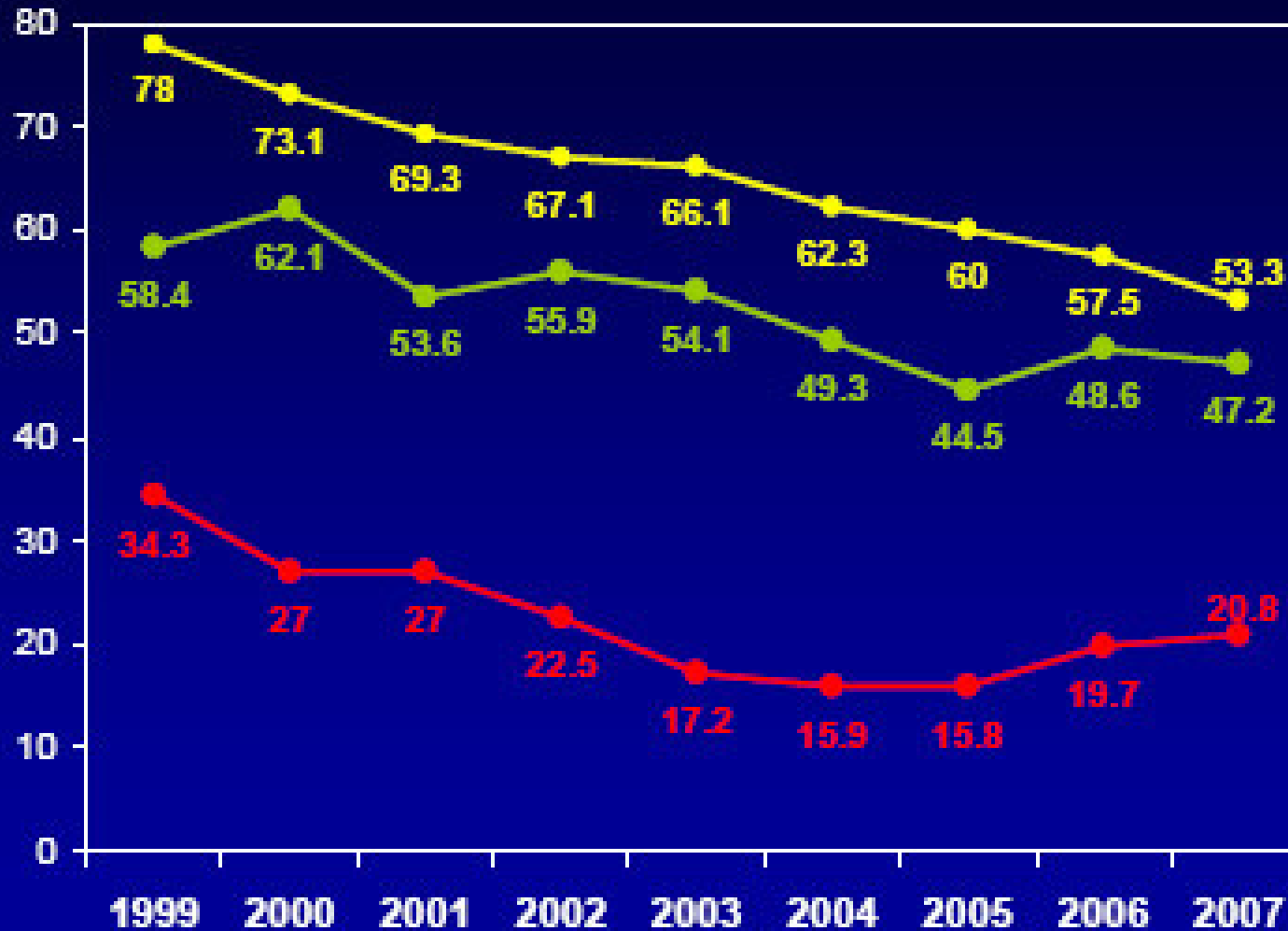
Pts. on β -blockers + ACE inhib's + statins + antiplatelet Rx



Age-Adjusted Incidence of Death by MI per 100,000 Inhabitants



Berlin MI Registry



Germany

Hamburg

Berlin



Thank you!

