

## WP 4: Benchmarking function development. Objective

- To analyse the accuracy of outcome prediction by preliminary benchmarking functions developed in EUPHORIC project, for in-hospital case-fatality after coronary angiography, thrombolysis, percutaneous intervention, and MI-UA management.

# Jobs already done in EUPHORIC

1. Choosing diseases
2. Selecting procedures to assess
3. Selecting suitable outcomes
4. Selecting potential predictors
  1. Individual level
  2. Hospital level
  3. Country Level
5. Population registry data gathering and analyses
6. Testing the functions with administrative data.

# Chosen CVD

- **Acute Coronary Syndrome**
  - ✓ **Q-wave MI**
  - ✓ **Non-Q wave MI**
  - ✓ **Unstable angina**
- Heart Failure
- Stroke
- Valvular disease
- Peripheral artery disease

# ACS procedures

- **Myocardial infarction & UA management**
- **Angiography,**
- **Percutaneous Coronary Interventions**
- **Thrombolysis**
- **Coronary artery bypass grafting.**

# Outcomes in ACS

- **In-hospital**
- 30-day mortality
- 30-day mortality + angina or infarction extension.
- 6-month / one-year readmission for unstable angina, reinfarction, heart failure, severe arrhythmias, or cardiovascular death, other-cause death.

# Adjustment factors

- **Demographic (age, sex)**
- **Comorbidity**
- **Concurrent procedures/conditions.**
- **[Severity]**
  
- **Hospital characteristics**
  
- **Country characteristics**



CSB Consorci Sanitari de Barcelona



Kick-off meeting  
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Barcelona

# Hospital-level characteristics

- 1. Hospital code (random effects)**
2. Total number of acute hospitalization beds
3. Intensive Care Unit alone, Coronary care unit, Both, None
- 4. On-site Catheter Laboratory**
- 5. On-site Cardiovascular Surgery Department**
- 6. University Hospital**

# Country-level characteristics

1. *Population*
2. ***Life expectancy at birth***
3. ***Gross Intern Product***
4. ***Age-standardized CVD mortality rate (per 100,000 inhabitants)***
5. *CHD mortality rate in 45 to 64 age group (per 100,000 men and 100,000 women)*
6. *CHD mortality rate in 65 to 84 age group (per 100,000 men and 100,000 women)*
7. *Number of PCI/10,000 inhabitants*
8. *Number of hospital beds / 10,000 inhabitants*
9. *Medical doctors/10,000 inhabitants,*
10. *Coronary Care Units/10,000 inhabitants*
11. *Cardiologists/10,000 inhabitants*
12. *Admissions for MI/10,000 inhabitants*