



***"Niculae Stăncioiu" Heart
Institute, Cluj-Napoca***



***Cardiovascular Disease Institute,
Timișoara***



***Emergency County
Hospital, Oradea***

Heart Failure Prevention: the Romanian Registry for Left Ventricular Remodeling in Acute Myocardial Infarction Survivors



***University Hospital of North
Norway, Tromsø***

Iceland
Liechtenstein
Norway grants



***Haukeland University Hospital,
Bergen***

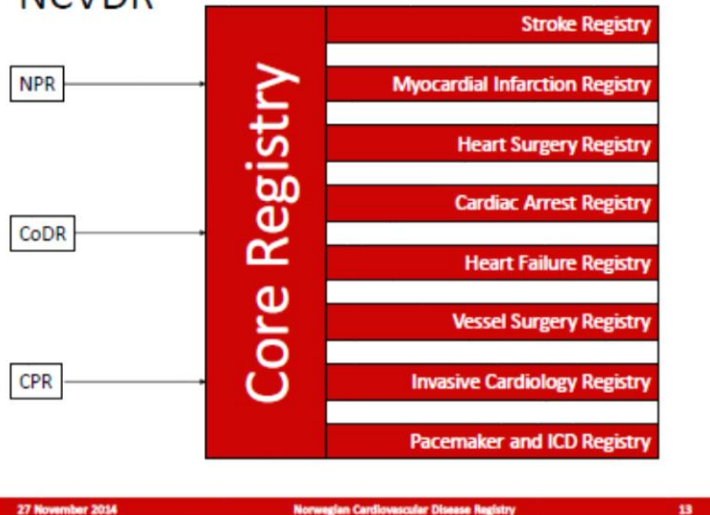
Heart failure in Romania

- It is estimated that 4.7% of the Romanian citizens over 35 years of age (560.000 persons) have developed heart failure
- Ischemic heart disease and acute myocardial infarction represent the main determinants of heart failure
- Each hour, five new cases of heart failure are being diagnosed (45.000 new cases/year)
- About 344.000 patients are hospitalized every year with the diagnosis of heart failure
- Concerning survivors, 15% of them will be readmitted to hospital with the same diagnosis in the first 30 days following discharge

Our World
in Data

Source: IHME, Global Burden of Disease (GBD)





Trends in incident acute myocardial infarction in Norway: An updated analysis to 2014 using national data from the CVDNOR project

Gerhard Sulo¹, Jannicke Igland¹, Stein Emil Vollset^{1,2}, Marta Ebbing³, Grace M Egeland^{1,3}, Inger Ariansen⁴ and Grethe S Tell^{1,4}

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RIKS-HIA Registry: Long-Term Outcome of Primary PCI vs Prehospital and In-Hospital Thrombolysis for STEMI

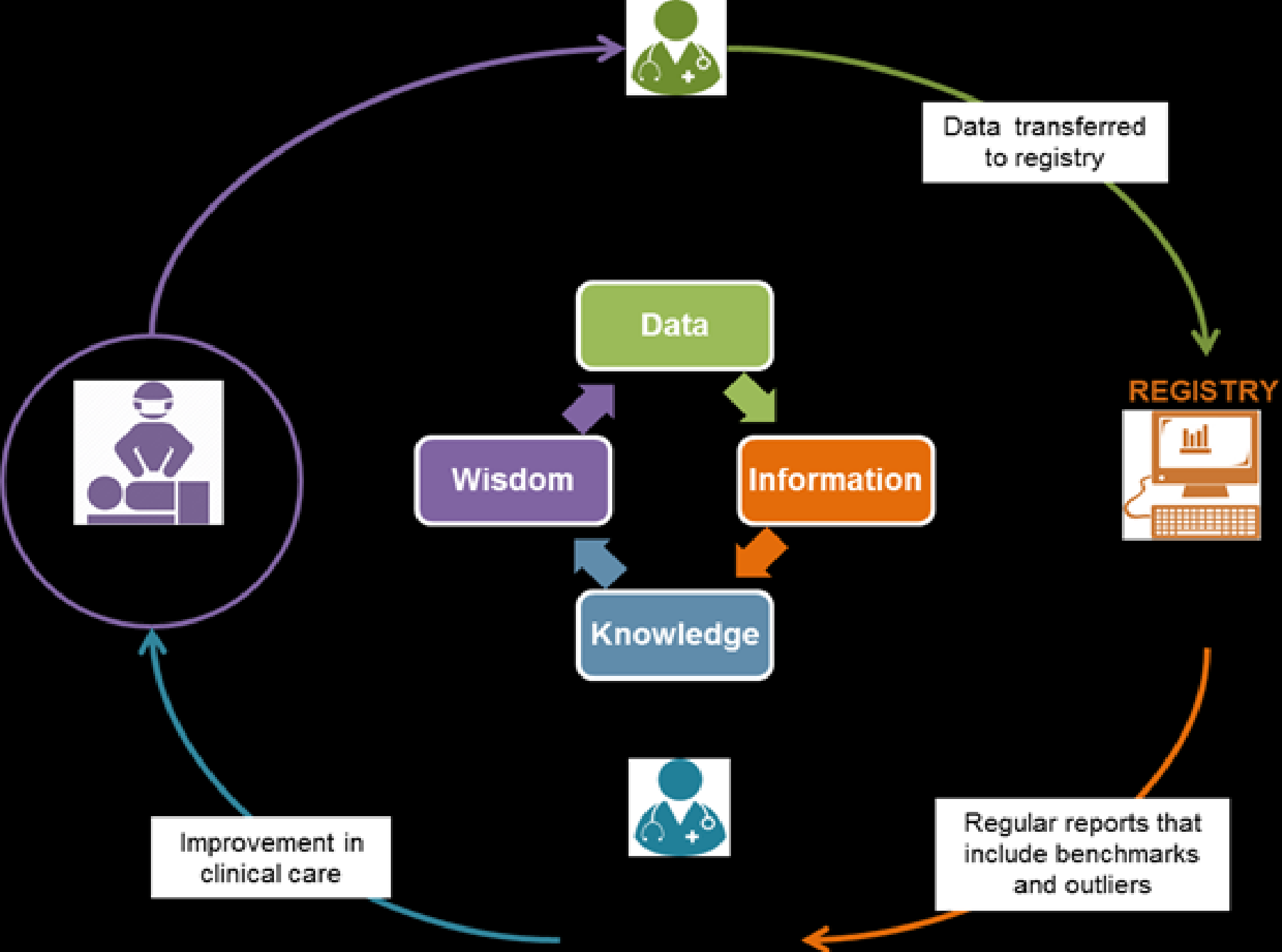
- Register of Information and Knowledge about Swedish Heart Intensive Care Admissions (RIKS-HIA): prospective, observational cohort study of 26,205 consecutive STEMI patients who received reperfusion therapy within 15 hours of onset

Årsrapport SWEDHEART 2010

Utgiven 2011

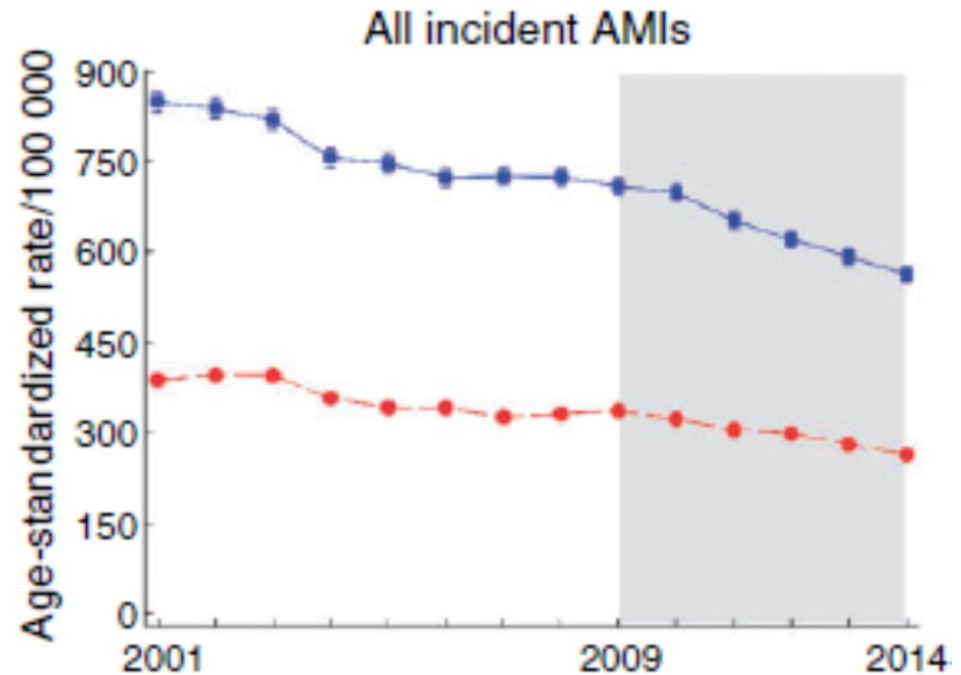
REDAKTÖRER: Magnus Carlsson, Thomas Jernberg, Olav Hvalby, och Per Jönasson
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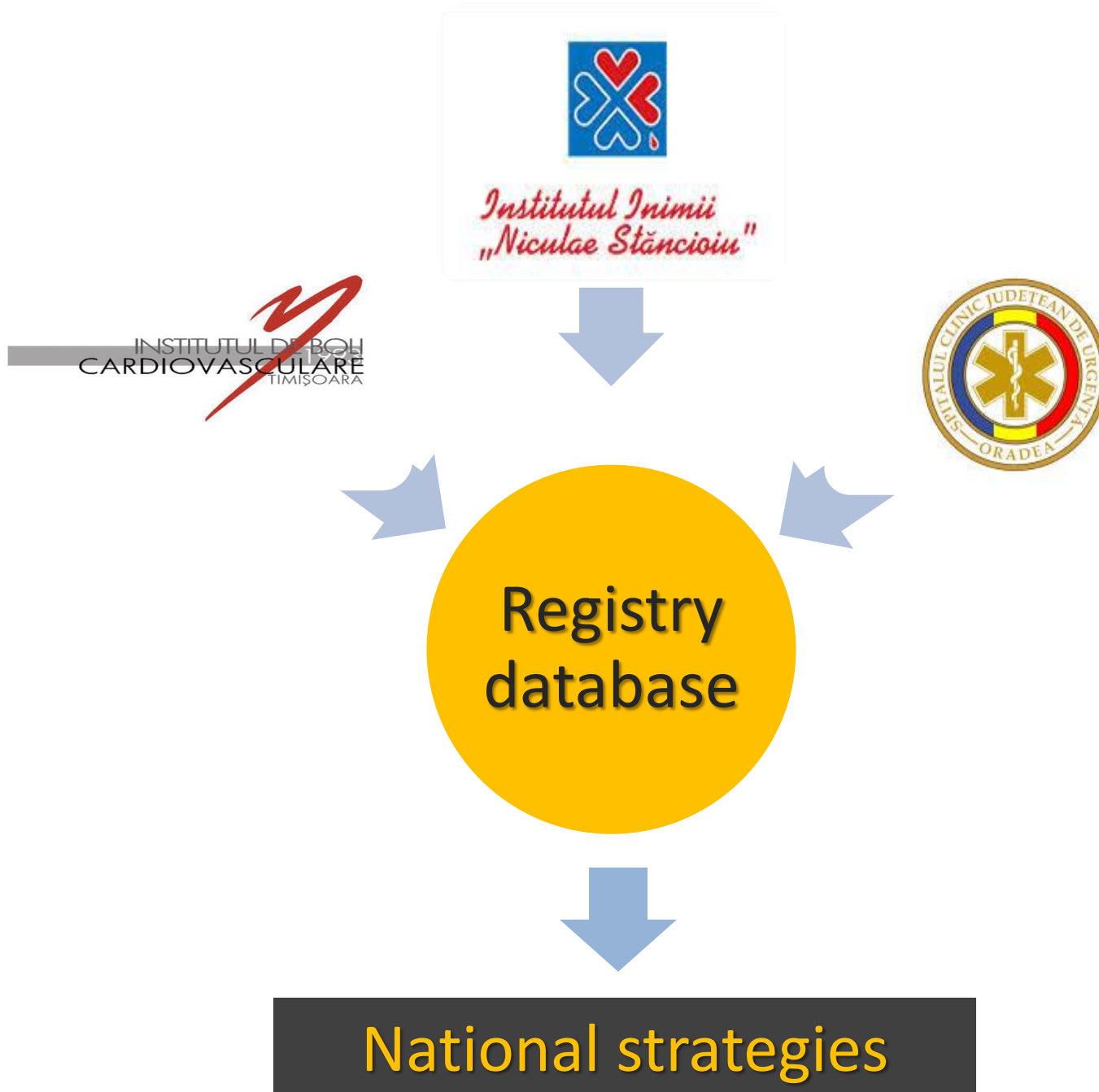


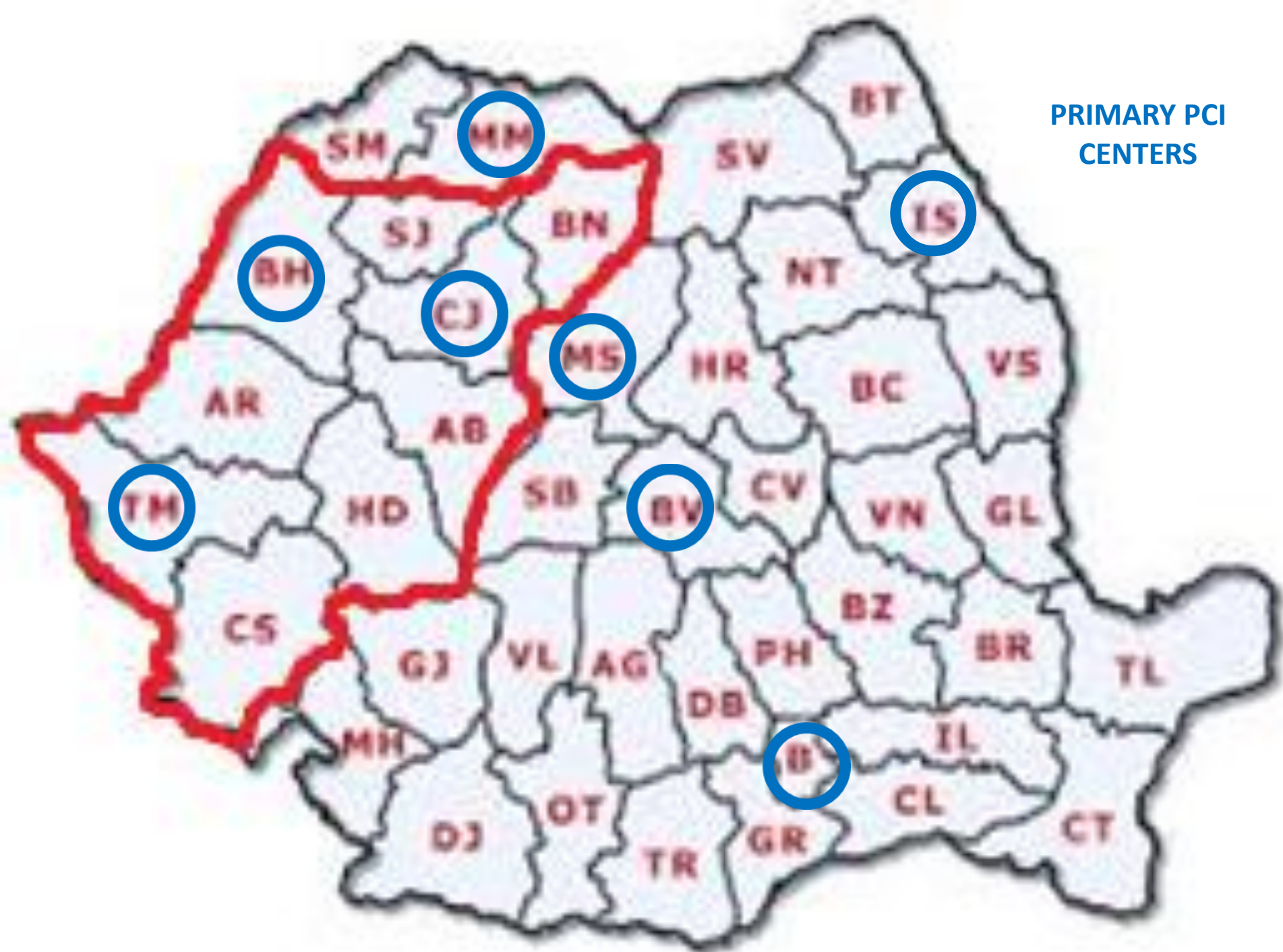


CVDNOR – 2018 (data from Tromsø and HUNT studies)

- Main factors involved:
 - Positive changes in smoking habits (1994 – 2008: 35% decline in daily smokers)
 - Increase in proportion of people engaged in physical activity
 - Decline in hyperlipidemia
 - !!! Negative trends: overweight, diabetes mellitus

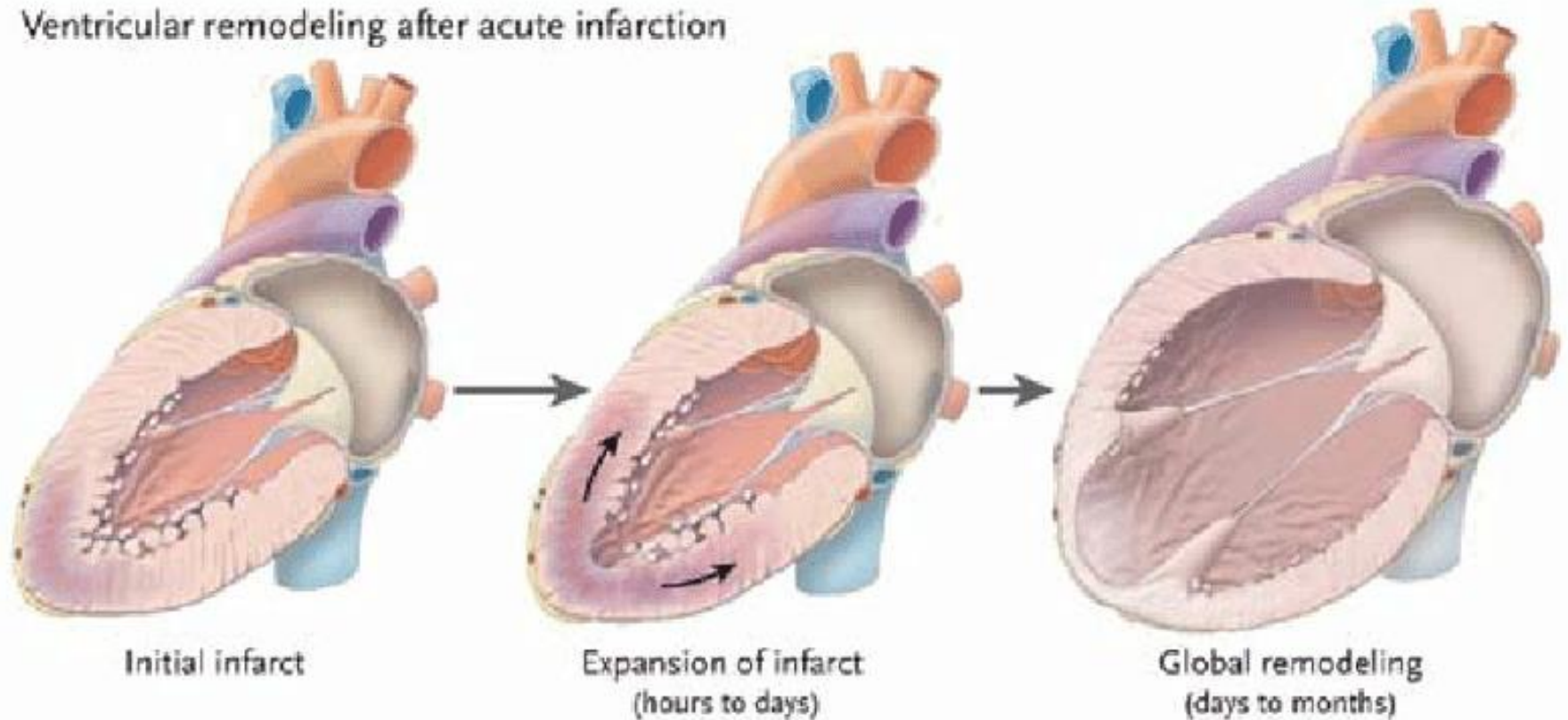






Left ventricular remodeling after acute myocardial infarction

Ventricular remodeling after acute infarction



**Predictors of left
ventricular remodeling**

Age

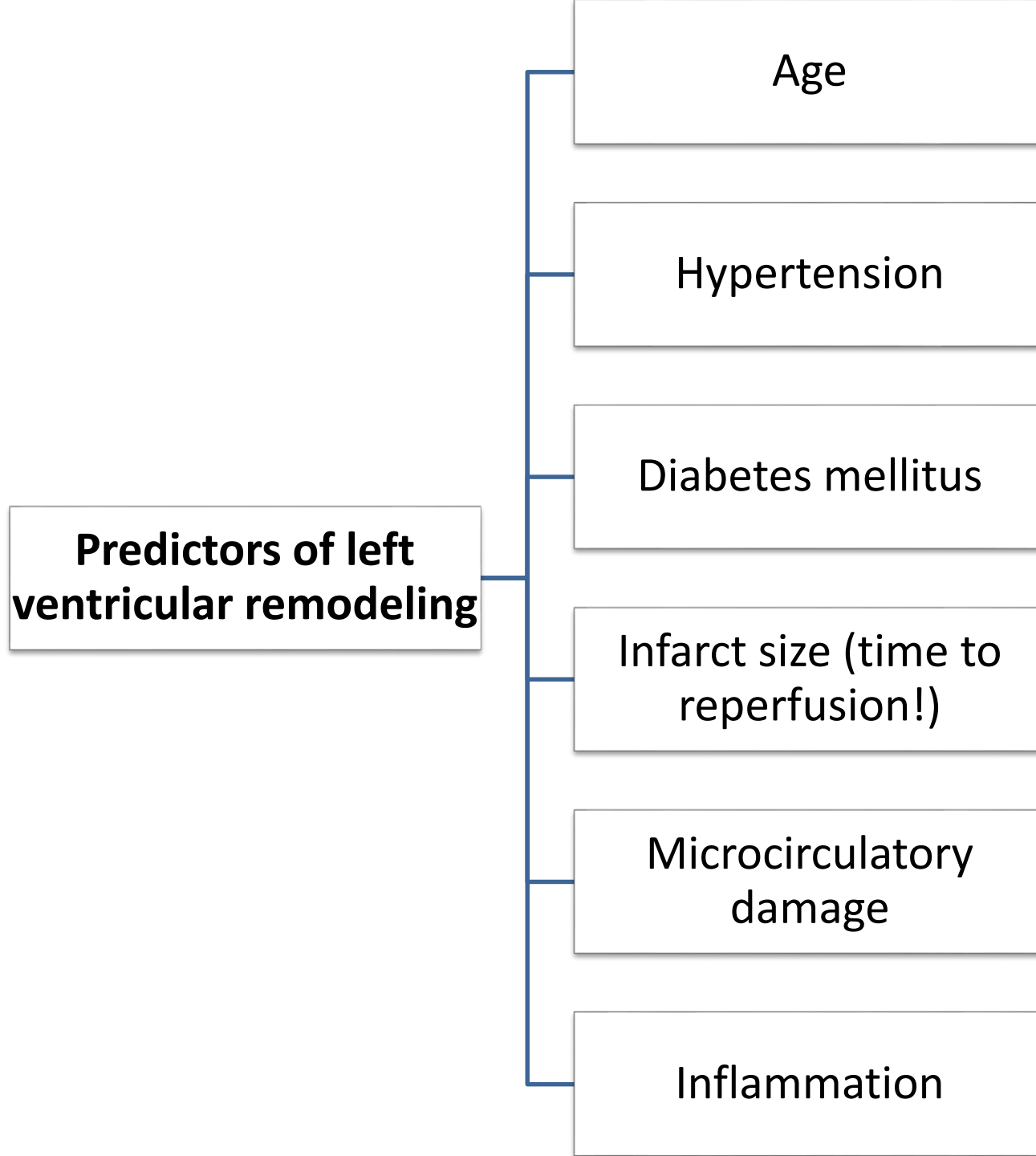
Hypertension

Diabetes mellitus

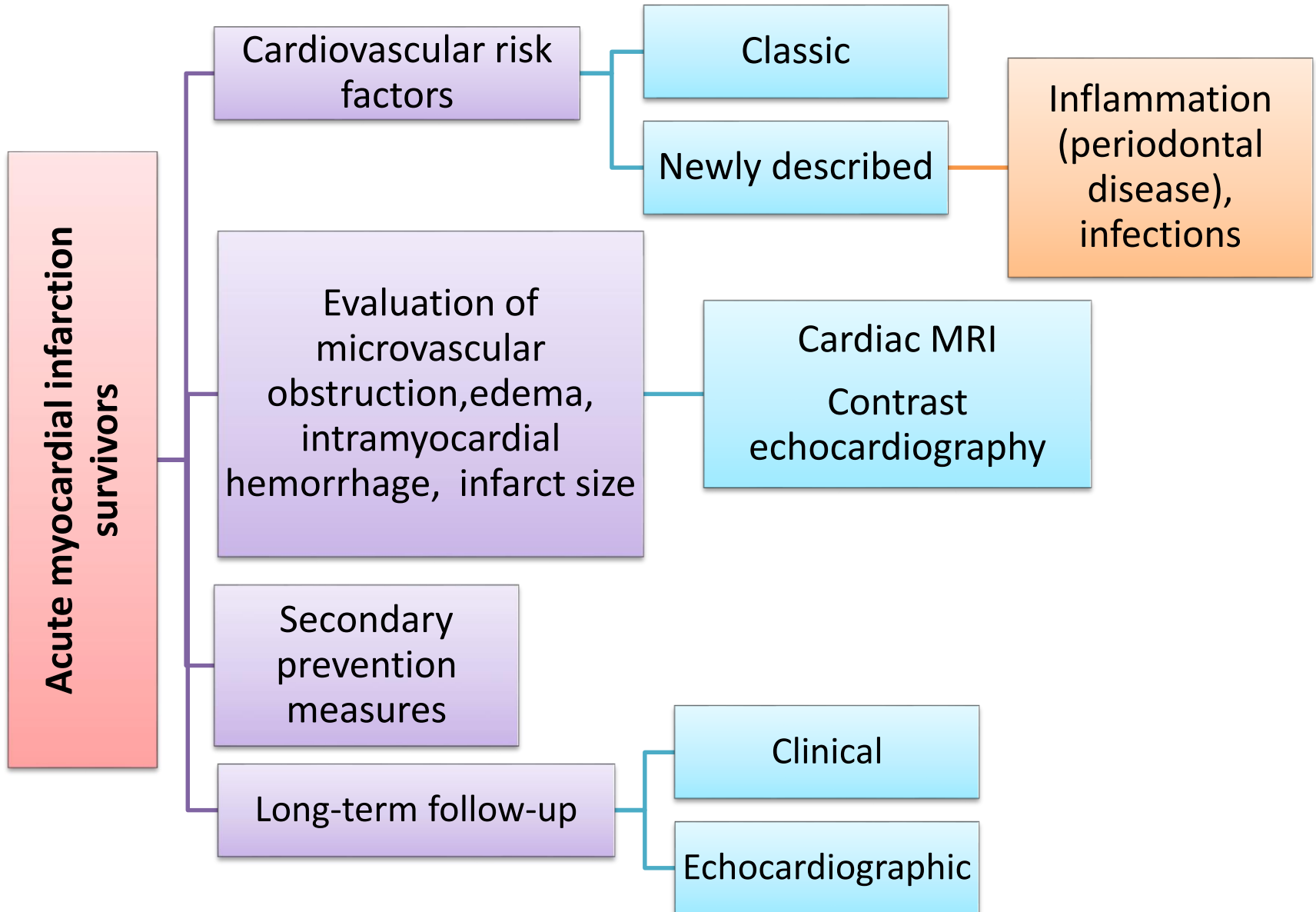
Infarct size (time to
reperfusion!)

Microcirculatory
damage

Inflammation



Collected data



Aims

- The development of a risk model for the prediction of long-term adverse left ventricular remodeling and of consequent heart failure in acute myocardial infarction survivors
- The improvement in secondary prevention measures and the reduction of heart failure related cardiovascular mortality
- The evaluation of several disadvantaged subgroups of the population with regard to specific cardiovascular risk factors (Romani population – 10-15% of the included patients)

1. The development of a risk model for the prediction of heart failure

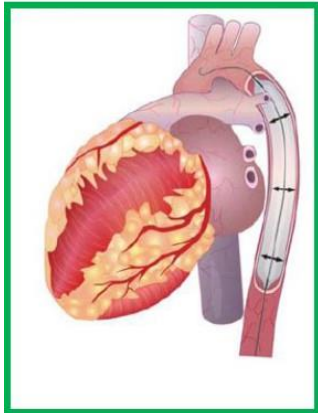
PATIENT SUBGROUPS!

- A. **VERY HIGH-RISK:** STEMI with acute heart failure/cardiogenic shock: short-term survival!
- B. **HIGH RISK:** STEMI with LVEF<35% and area of necrosis >24% – short-term survival!
- C. STEMI with **late** left ventricular remodeling and heart failure: inflammation on MRI, MVO on perfusion echocardiography – long-term follow-up!

Cardiogenic shock

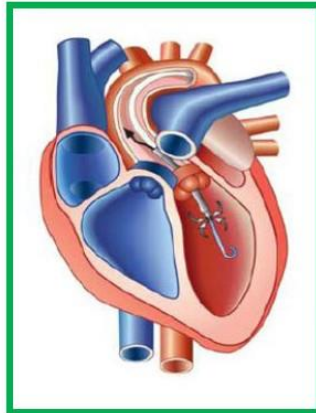
Continuous Flow Pumps

Pulsatile

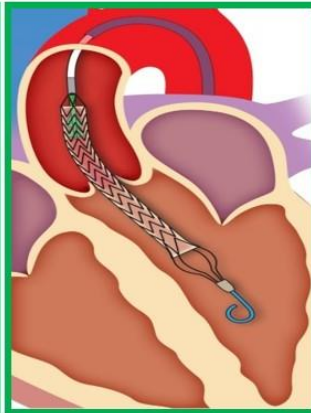


IABP

Axial-Flow

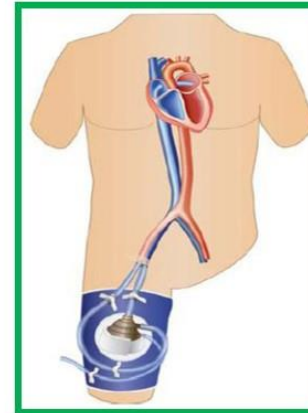


Impella CP

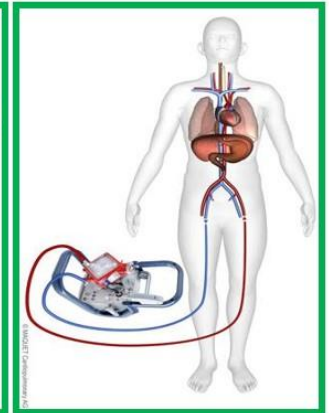


PHP *

Centrifugal Flow



TandemHeart



VA-ECMO

Intracorporeal

Extracorporeal

* Investigational

Contemporary Management of Cardiogenic Shock

A Scientific Statement From the American Heart Association

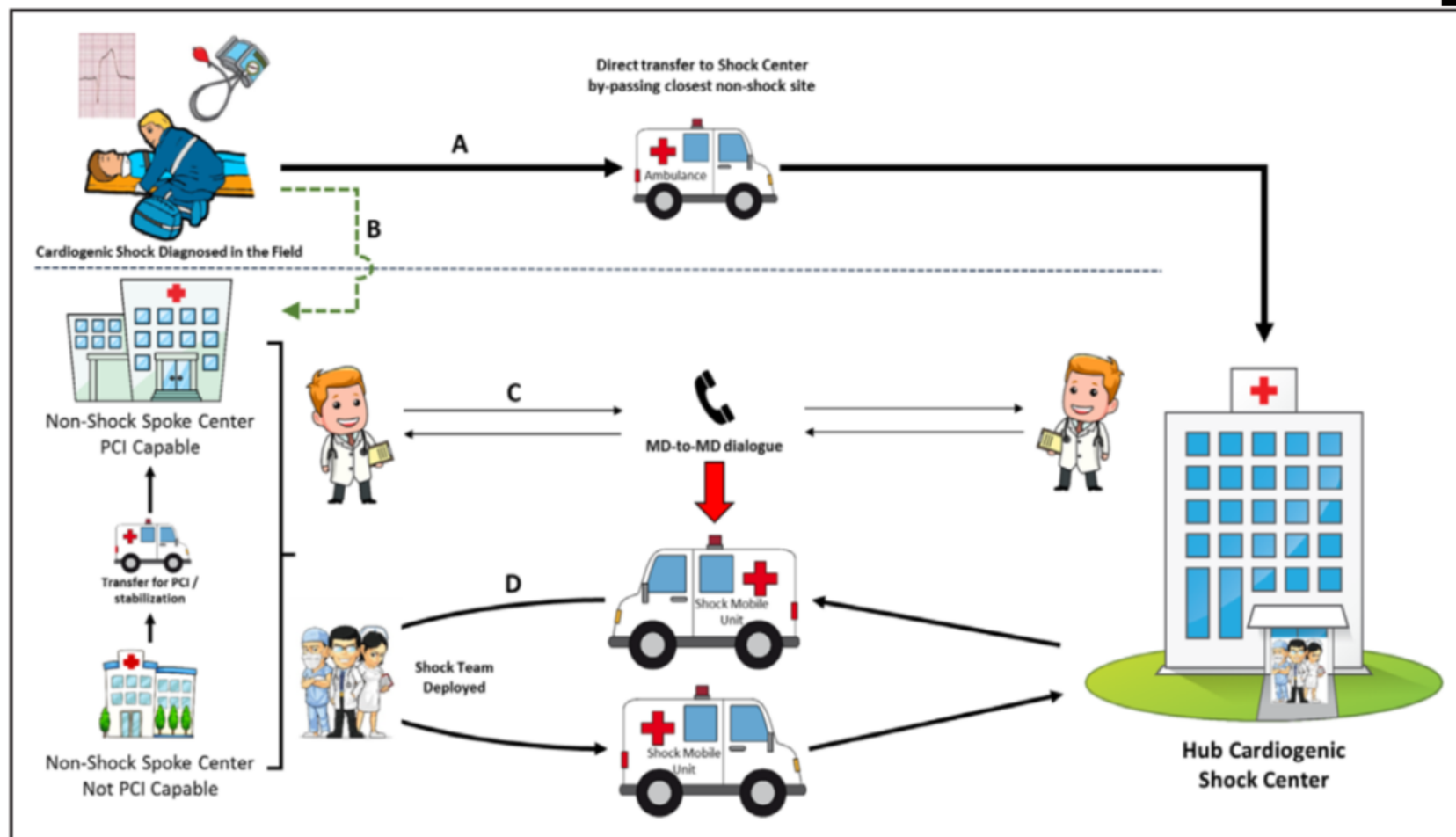


Figure 3. Proposed regional system of care for cardiogenic shock.

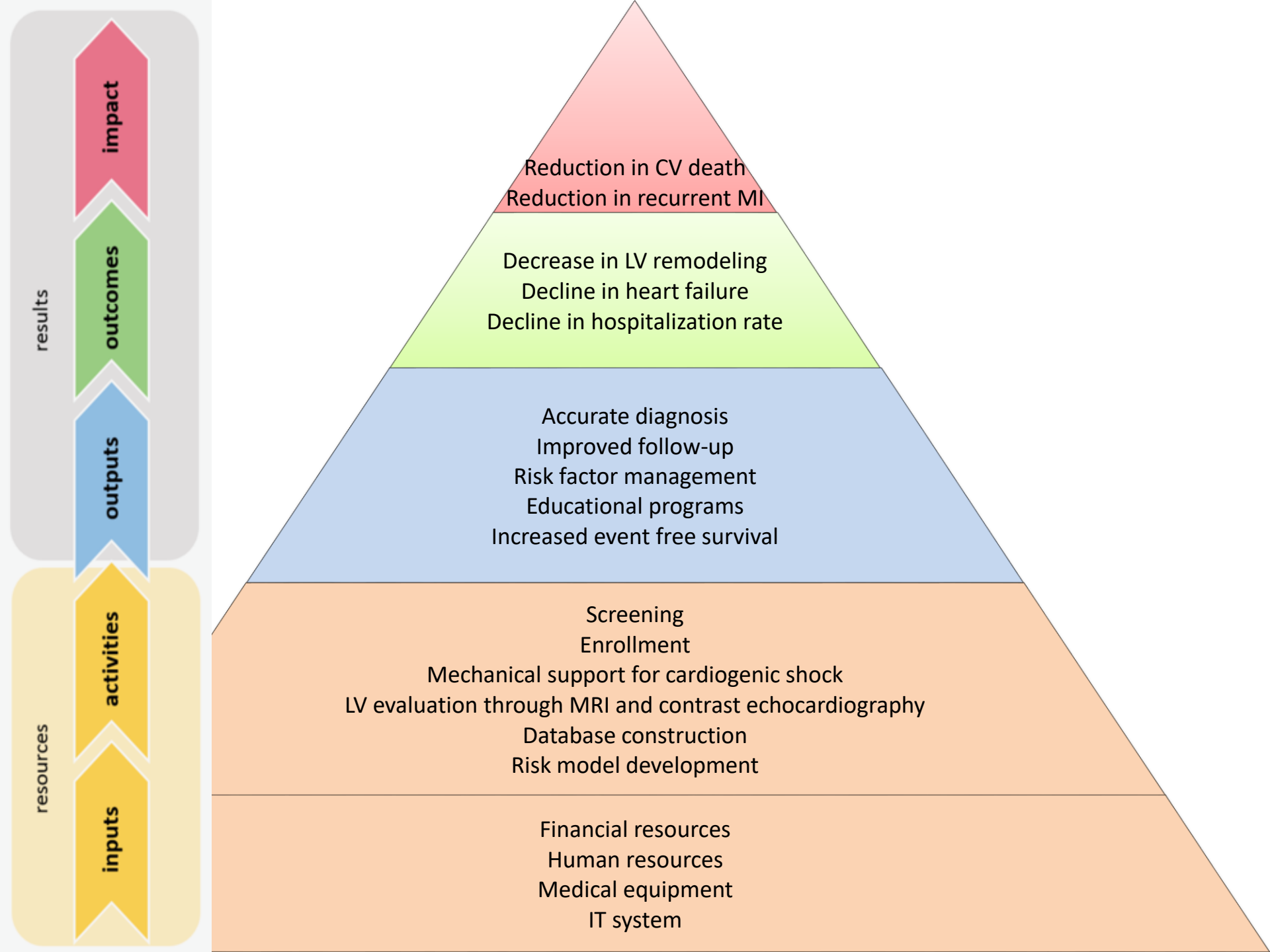
2. The improvement in secondary prevention measures

- A. Classic factors: smoking, hypertension, diabetes, dyslipidemia, obesity
- B. Non-classic factors: MVO, intramyocardial edema, intramyocardial hemorrhage, periodontal disease, infections (South London Stroke Registry!)
- C. Educational measures (e.g CVDNOR – smoking habits)
- D. Treatment adherence and compliance: statins (anti-inflammatory effect – Korean registry – decreased incidence of LV remodeling)
- E. Improved follow-up: GP involvement

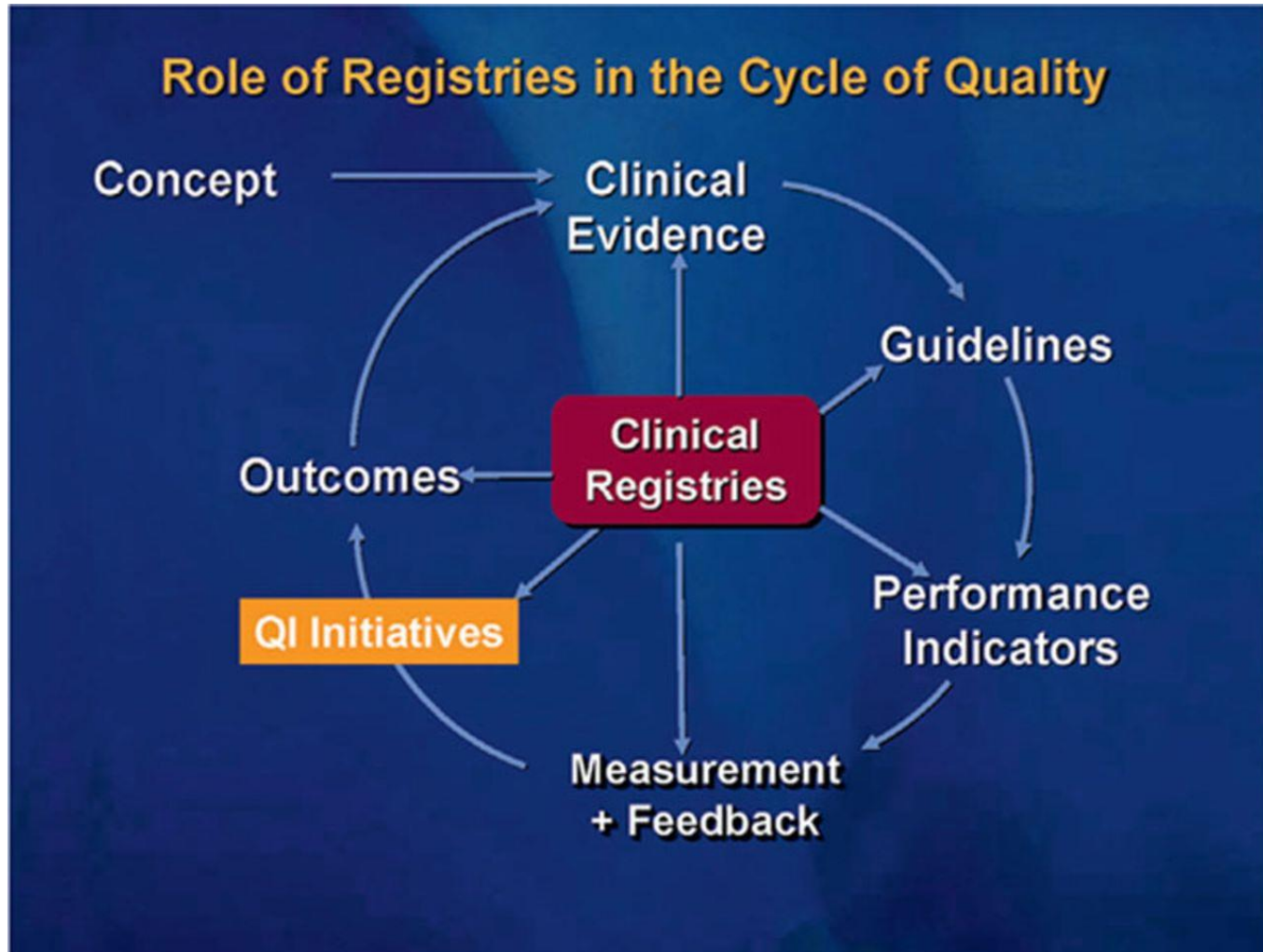
3. Disadvantaged population subgroups

- Low income areas
- Isolated regions
- Ex-industrial towns
- Poor medical education
- Low addressability to medical services
- Romani population**





ACC/AHA/STS Statement on the Future of Registries and the Performance Measurement Enterprise



Long-term financial sustainment

