



EUROPEAN HEALTH CARE OUTCOMES,
PERFORMANCE AND EFFICIENCY

A framework for health system comparison of costs, efficiency and outcomes

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Purpose of the framework

- to describe the characteristics and diversity of health systems by centralisation/decentralisation, integration, financing and reimbursement methods, regulations etc. and postulate hypotheses on how they are related to costs and outcomes
- to provide a common terminology and conceptual framework for project
- analyse how the transition of changing treatment practice is tackled across participating countries in Europe
- to identify various approaches adopted to increase efficiency such as HTA (Health Technology Assessment), guidelines, quality registers on performance indicators

Health system characteristics

Financing of health systems:

Beveridge-systems: *Finland, Italy, Norway, Scotland (U.K.) and Sweden*

Bismarck-systems: *Hungary and the Netherlands*

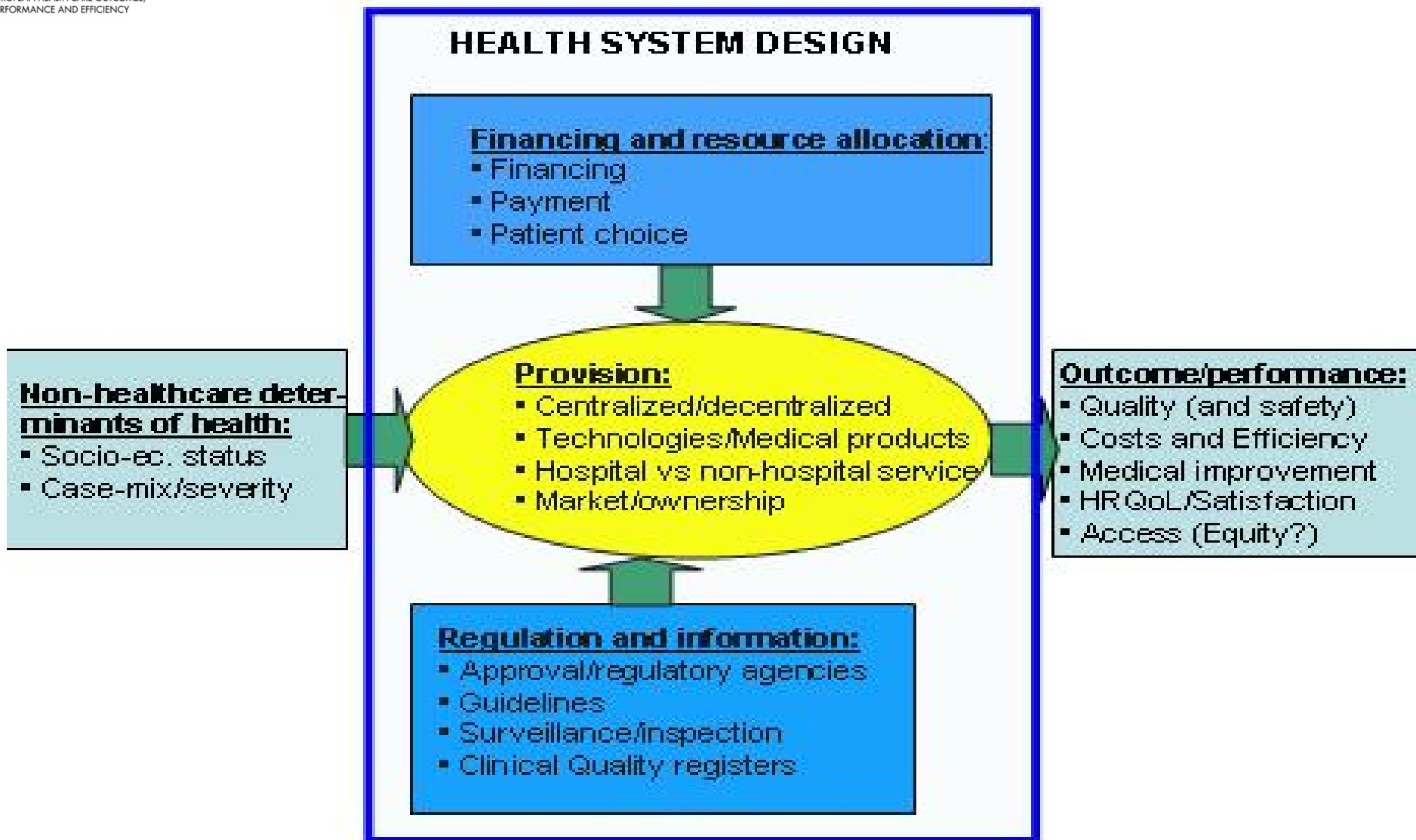
- Nordic countries; regionalized tax-based systems (Norway moved towards more centralized funding)
- Scotland part of the NHS (some autonomy)
- Italy – decentralization towards regional levels
- Hungary – a single social health insurance scheme
- The Netherlands – regulated competition between sickness funds

Health system characteristics

Provision of services, freedom of choice, regulation etc :

- Market structure/ownership
- Integration funder/provider vs. contracted services
- Payment and incentives
- Freedom of choice
- Entrance to the market
- Use of technologies
- Regulation of providers
- Information and guidelines

Preliminary analytical framework



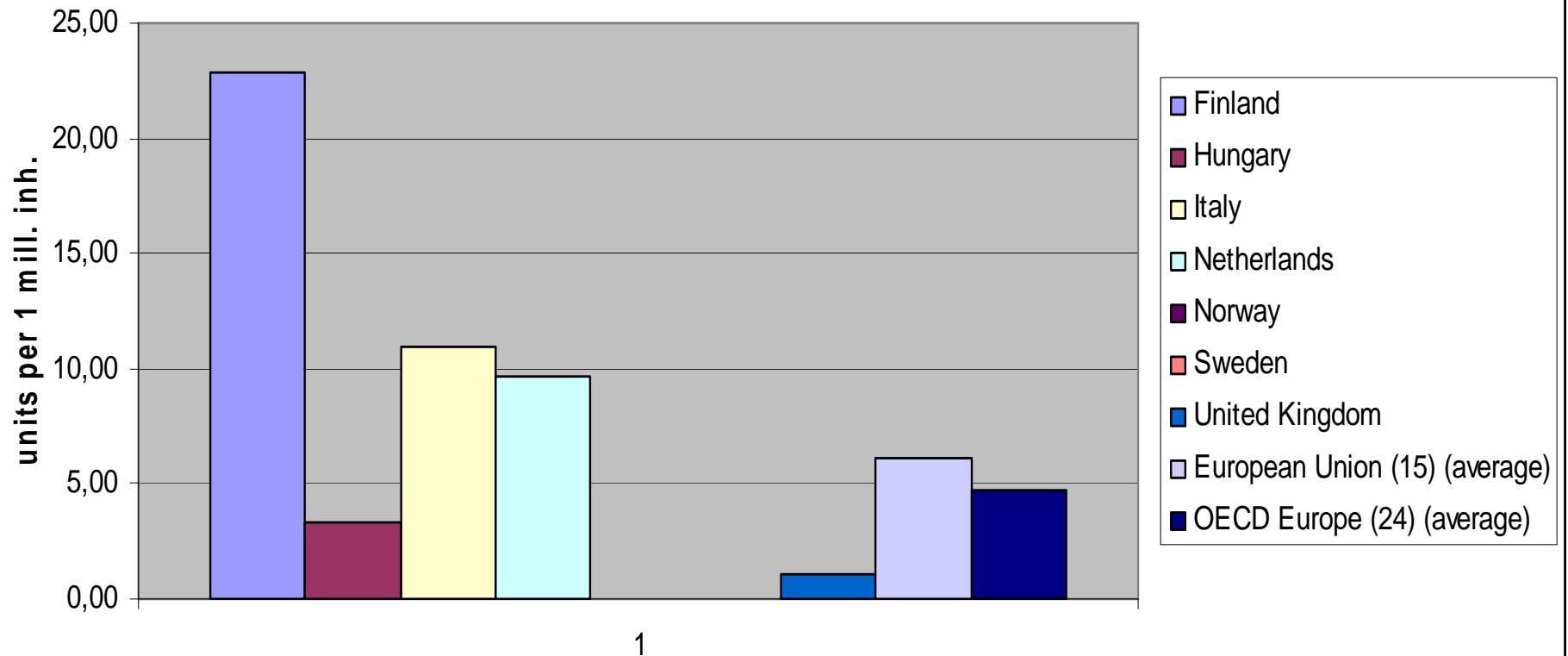
Use of health system characteristics in the analyses

- **Disease specific features**
- **Hospital features**

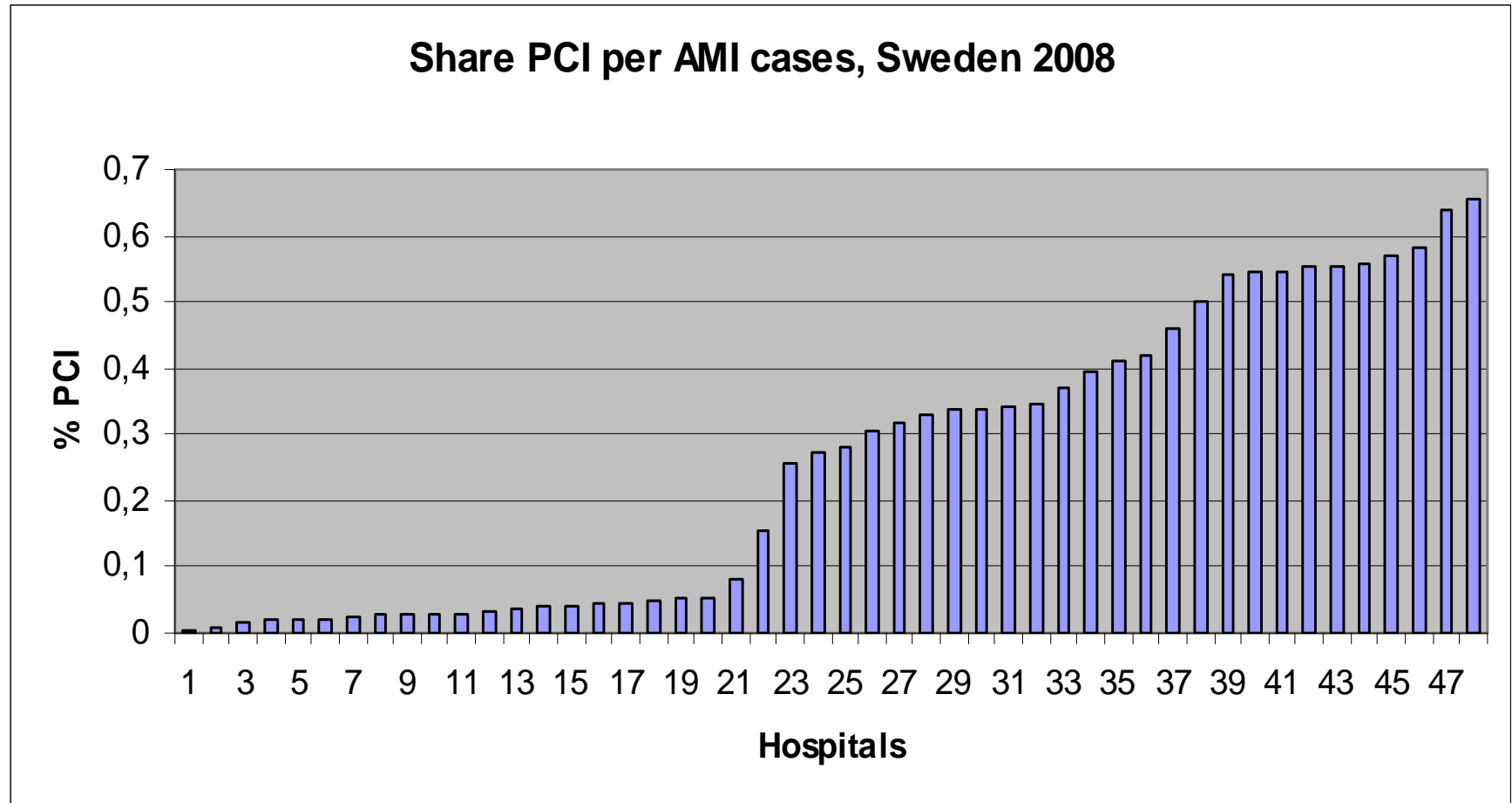
- **Multi-level analysis:**
 - patients/clinic/hospital/regions/countries
 - Patient: age/risk factors, treatment/procedures, drugs etc
 - Clinic: specialization
 - Hospital: concentration of services, ownership, type
 - Region: payment, urban/rural, socio-economic status
 - Country: financing, payment, patient choice, guidelines

- Hungary, Italy, Norway and Scotland report some kind of centralization. For PCI treatment the Netherlands, Norway and Scotland have a centralized system. Finland and Sweden have the most decentralized system.
- Guidelines have been published in Finland, Italy, the Netherlands, Scotland and Sweden for 5-10 years. In Hungary and Norway no formal national guidelines

Digital Subtraction Angiography units

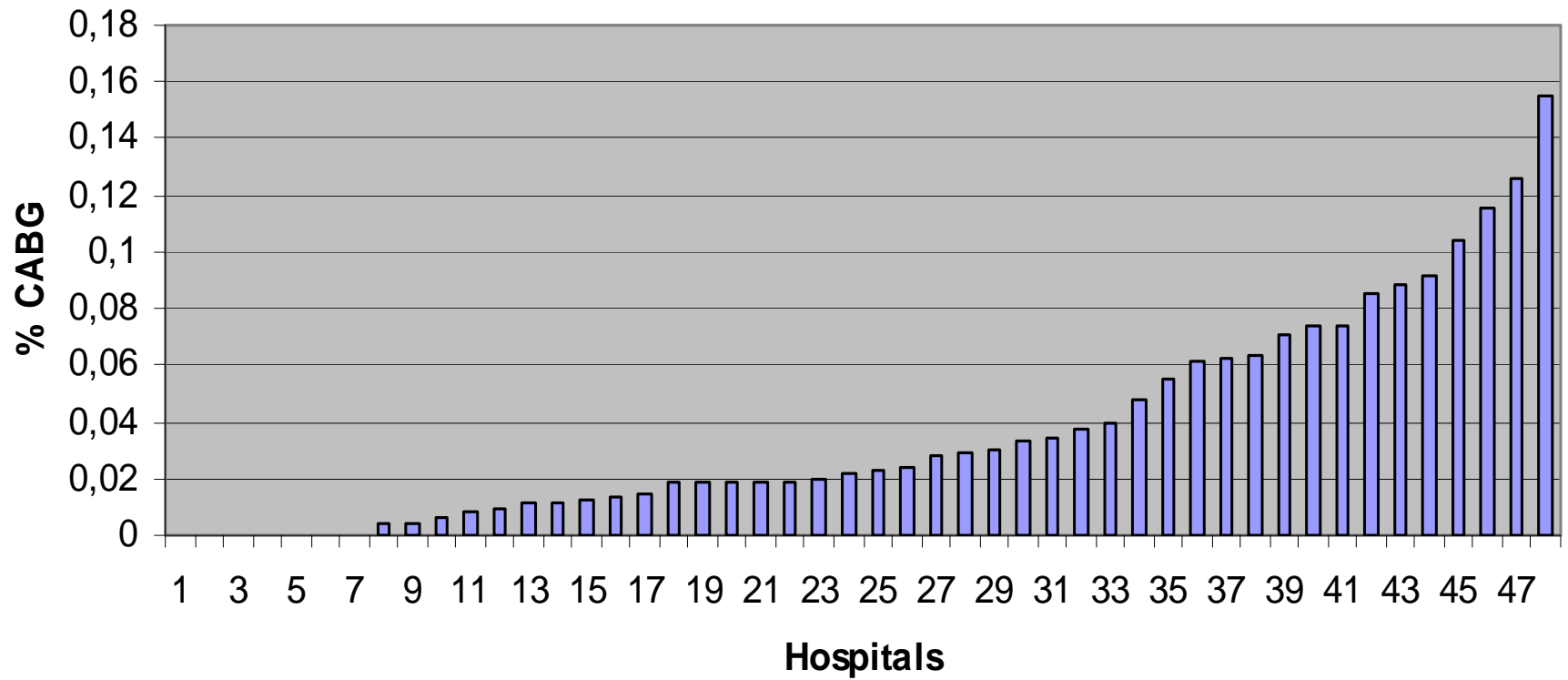


Utilization of PCI



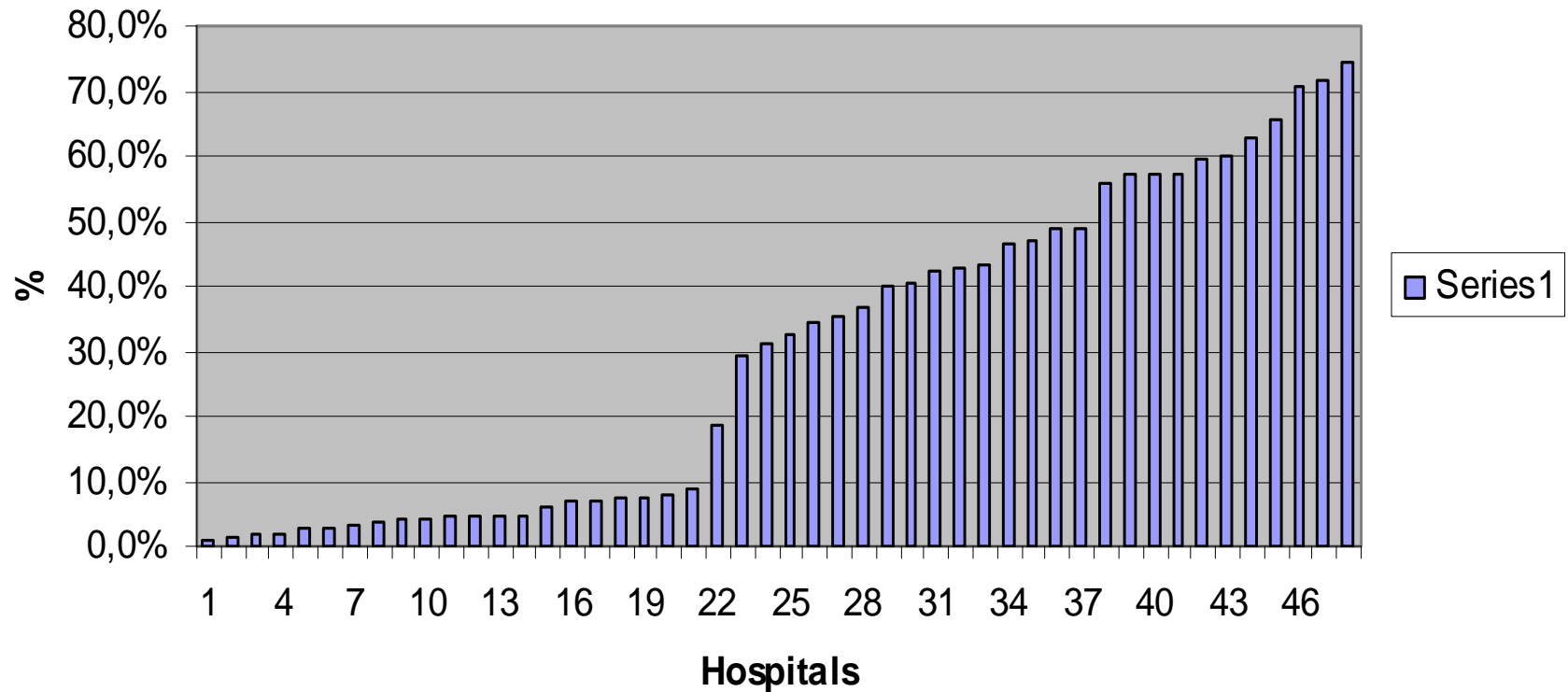
Utilization of CABG

Share CABG per AMI cases, Sweden 2008



Utilization of PCI + CABG

Share of PCI+CABG per AMI, cases, Sweden 2008



Stroke

- Hungary and Italy report a somewhat centralized organisation for stroke patients.
- Finland, the Netherlands, Scotland and Sweden report a decentralized structure.
- Finland, the Netherlands, Scotland and Sweden published guidelines last 5-10 years. In Hungary and Italy there are no formal guidelines
- The role of specialized stroke centers
- Guidelines for recommended drugs to prevent recurrence (thrombolysis etc.)

Hip fracture

- Finland, Italy, the Netherlands, and Sweden report a decentralized structure
- Hungary, Norway and Scotland have some centralization.
- Finland, the Netherlands, Scotland and Sweden have published guidelines during the last 5-10 years. In Hungary and Italy there are no formal guidelines
- Osteoporosis treatment

Very Low Birth Weight Infant

- - The treatment is centralized to tertiary care in most countries
 - Access to prenatal care and centralized neonatal care
 - Norway report a combined decentralization and centralized structure.
 - All countries report that formal guidelines have been published during the last 5-10 years, apart from Hungary.
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National guidelines

#1: Are guidelines available? From when?

#2: Have guidelines been implemented?

- * Data on use of procedures (eg. PCI/CABG)
- * Prescription of recommended drugs per diagnosis
- * Centralization of treatment (Herfindahl index)

#3. Analysis of the correlation between procedures and outcomes

Hypotheses to be considered

AMI:

- Centralization of PCI improve outcomes and efficiency
- Access to medical equipment and outcome (CT, PET DSA)
- Use of PCI and CABG

Stroke:

- Specialized stroke-units improve outcome and efficiency
- Drug treatment and re-admission

Hip fracture:

- The centralization will improve the quality
- Time from admission to surgery operation (within 24 hours)
- Osteoporosis treatment

Very low birth weight infants:

- Centralization of the treatment and quality and efficiency
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