16th European Health Forum GASTEIN

Resilient and Innovative Health Systems for Europe

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ECHO
EUROPEAN COLLABORATION FOR HEALTHCARE OPTIMIZATION

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HEALTHCARE OPTIMIZATION

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http://www.echo-health.eu/

www.echo-health.eu

COOPERATION

ECHO –

European Collaboration for Healthcare Optimization

An international project on healthcare performance

EHMA European Health Management Association

Instituto Aragonés de Ciencias de la Salud

Inštitut za varovanje zdravja Republike Slovenije

The University of York

UMIT university for health sciences, medical informatics and technology the health & life sciences university

University of Southern Denmark

Enrique Bernal-Delgado, Sandra García-Armesto
Julián Librero, Natalia Martínez, Ester Angulo,
Micaela Comendeiro, Cristobal Baixauli,
Manolo Ridao, and Miriam Seral
on behalf of the ECHO consortium

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The concept

- ECHO has set about the task of bringing together **patient-level data from Austria, Denmark, England, Portugal, Slovenia and Spain**, making them comparable.

- ECHO is expanding the usual approach in healthcare performance international comparison, by adding the **variation framework**

- **Performance dimensions:** utilization, equitable access to effective care, quality, and efficiency, in terms of opportunity costs, and provider-level efficiency.

- Healthcare areas or hospital providers will be flagged as good- or poor performers – **not a diagnostic tool but a screening tool**

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Geographic-perspective

1. **Effective care** (hip fracture, colectomy in colorectal cancer, breast surgery in breast cancer, etc)
2. **Uncertain benefit/harm balance in "non-average" patients** (CABG, knee replacement, etc.)
3. **Doubtful/ lower value care and opportunity costs** (tonsillectomy, spinal fusion, prostatectomy, etc.)

Hospital-perspective

1. **In-hospital case fatality rates for a condition** (admissions with principal diagnosis of acute myocardial infarction, ischemic stroke);
2. **In-hospital case fatality rates after a procedure** (in hospital mortality after CABG, PCI, non-ruptured abdominal aortic aneurysm, hip replacement)
3. **Patient safety event rates** (Trauma after vaginal delivery with and without instrumentation, Catheter-related infection, Pulmonary Thromboembolism or Deep venous thrombosis, Postoperative sepsis)

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Some messages from ECHO …
… with potential impact in policy making

Utilization of effective procedures

Equity

Value - quality

Value - efficiency

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Utilization of effective procedures

- *At population level, the burden of ischemic disease does barely explain variation in revascularization;*

- *Might be a symptom of under or overuse*

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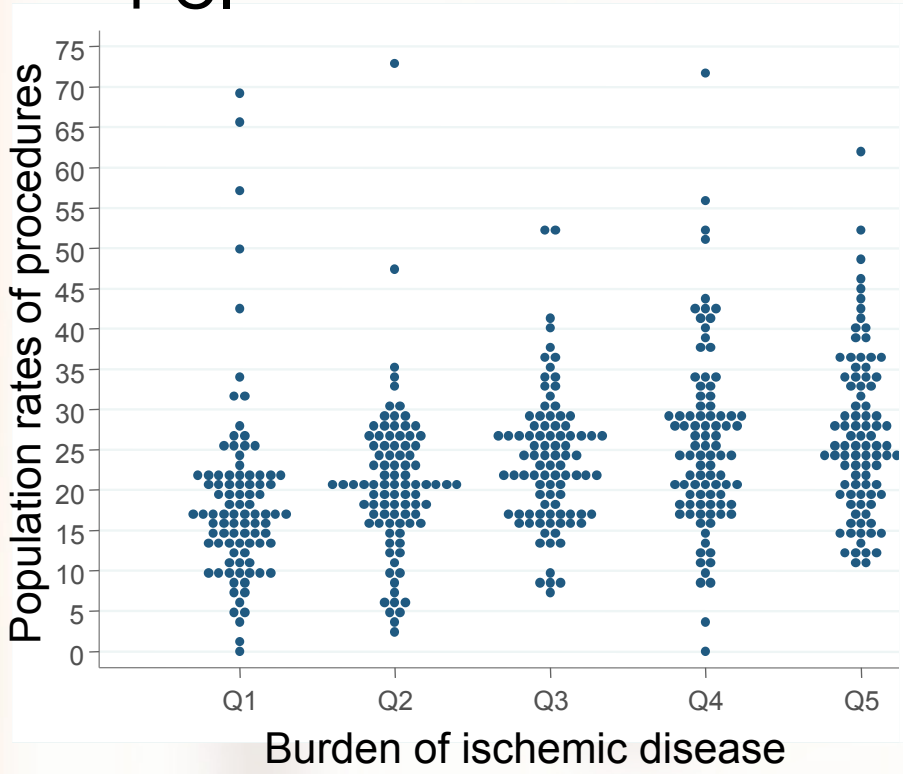
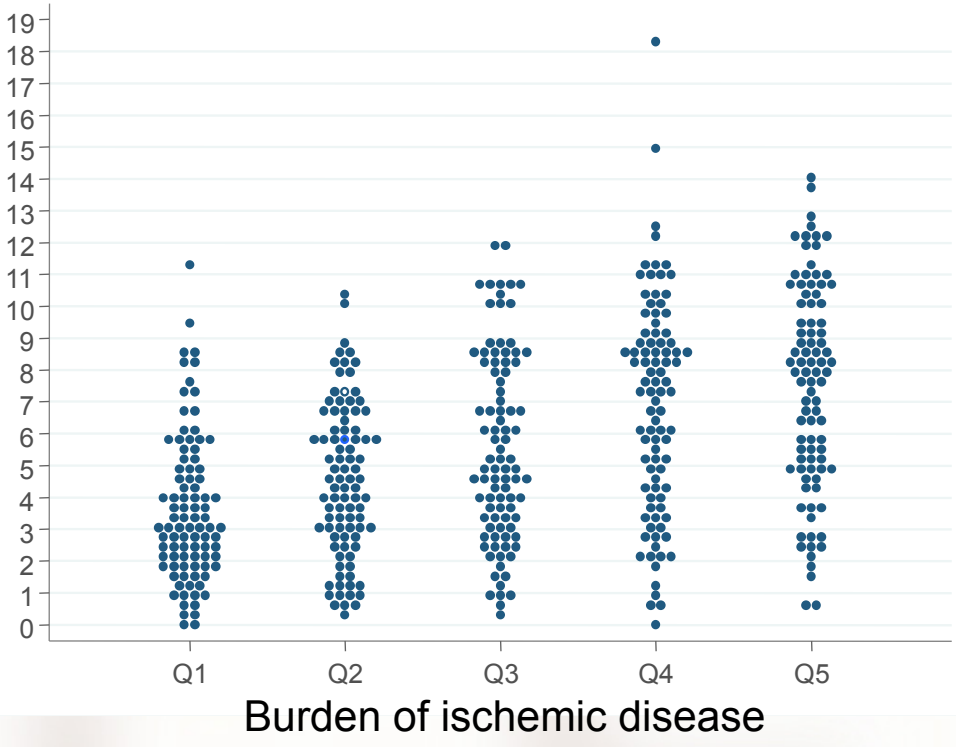
PCI, CABG and burden of ischemic disease

PCI



CABG



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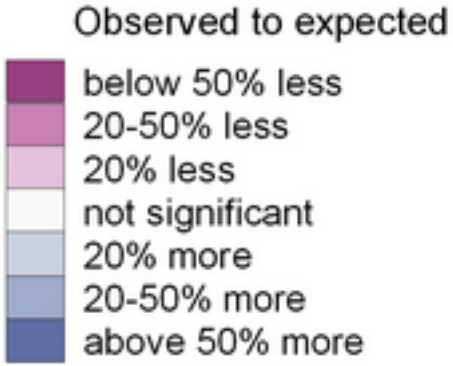
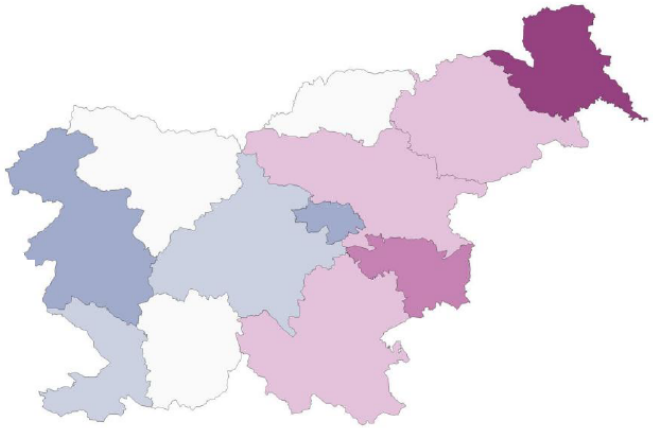
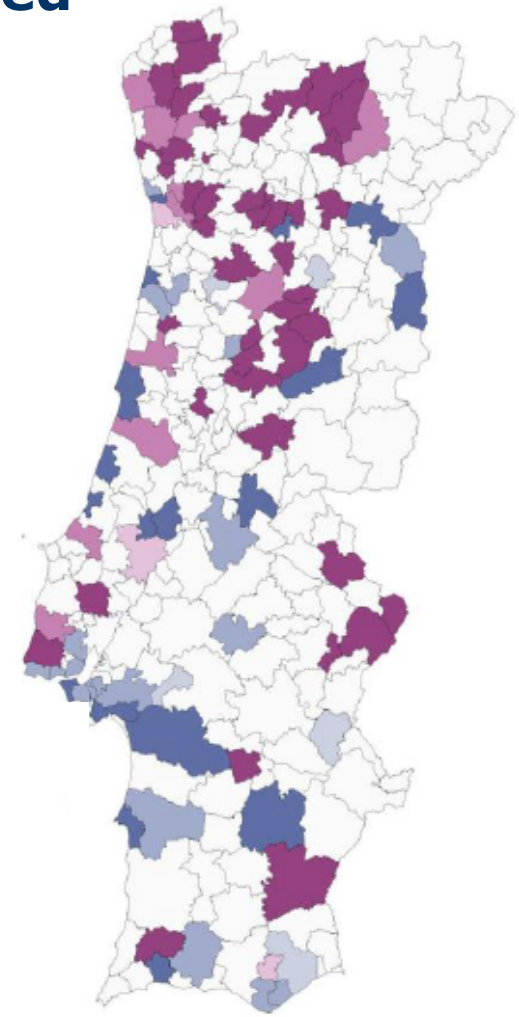
Flagging areas beyond the expected

PCI







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Equity

- *Revascularization is performed differently across income quintiles, not always coherent with need.*

- *Differences beyond need might represent inequities in access.*

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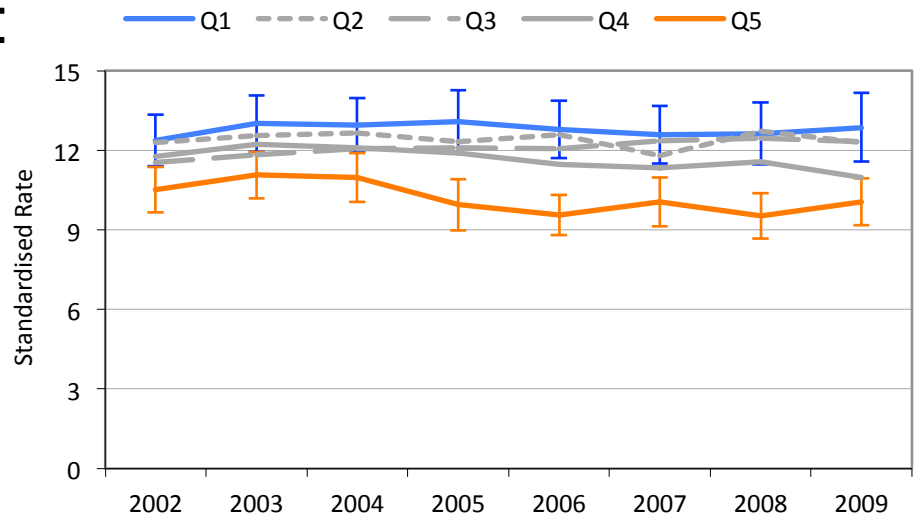
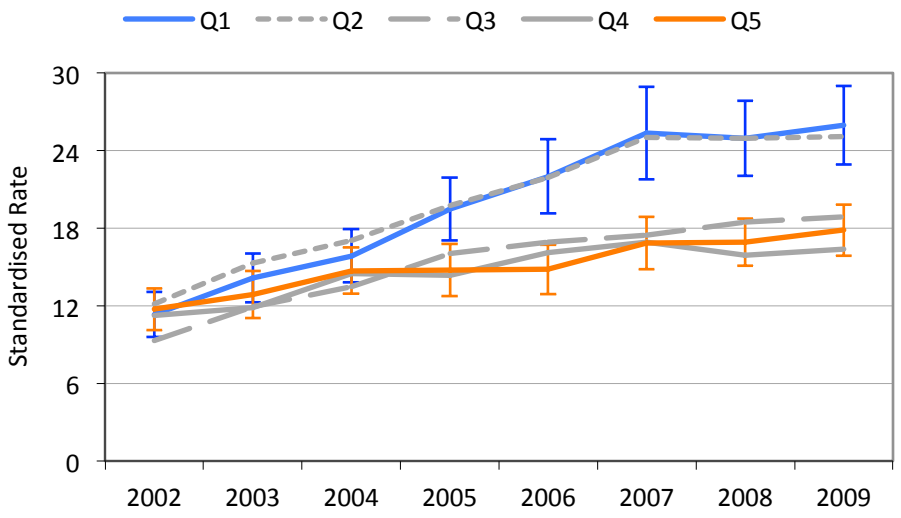
Spain

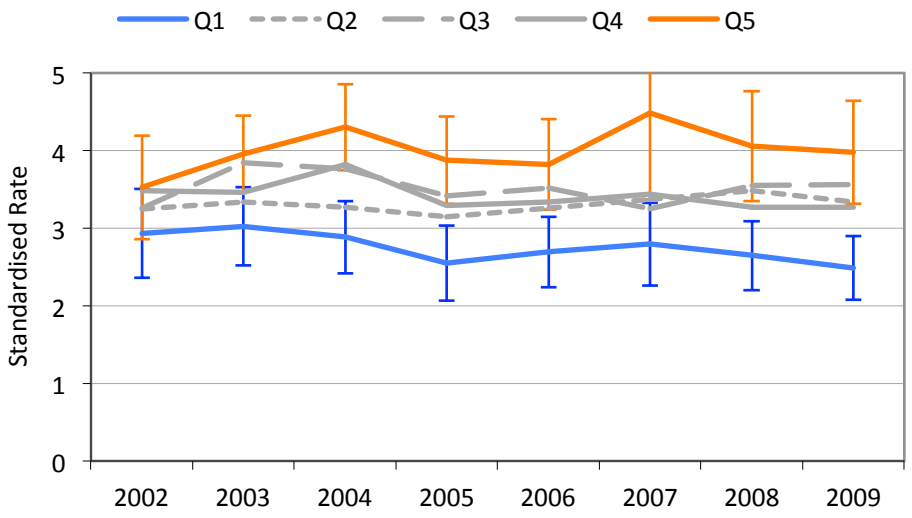
AMI



PCI



CABG



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Quality

Case-fatality rates varies dramatically across high-volume hospitals, irrespective of the differences in patient case-mix

Hospital flagged as poor (or good) performers are likely to behave consistently overtime.

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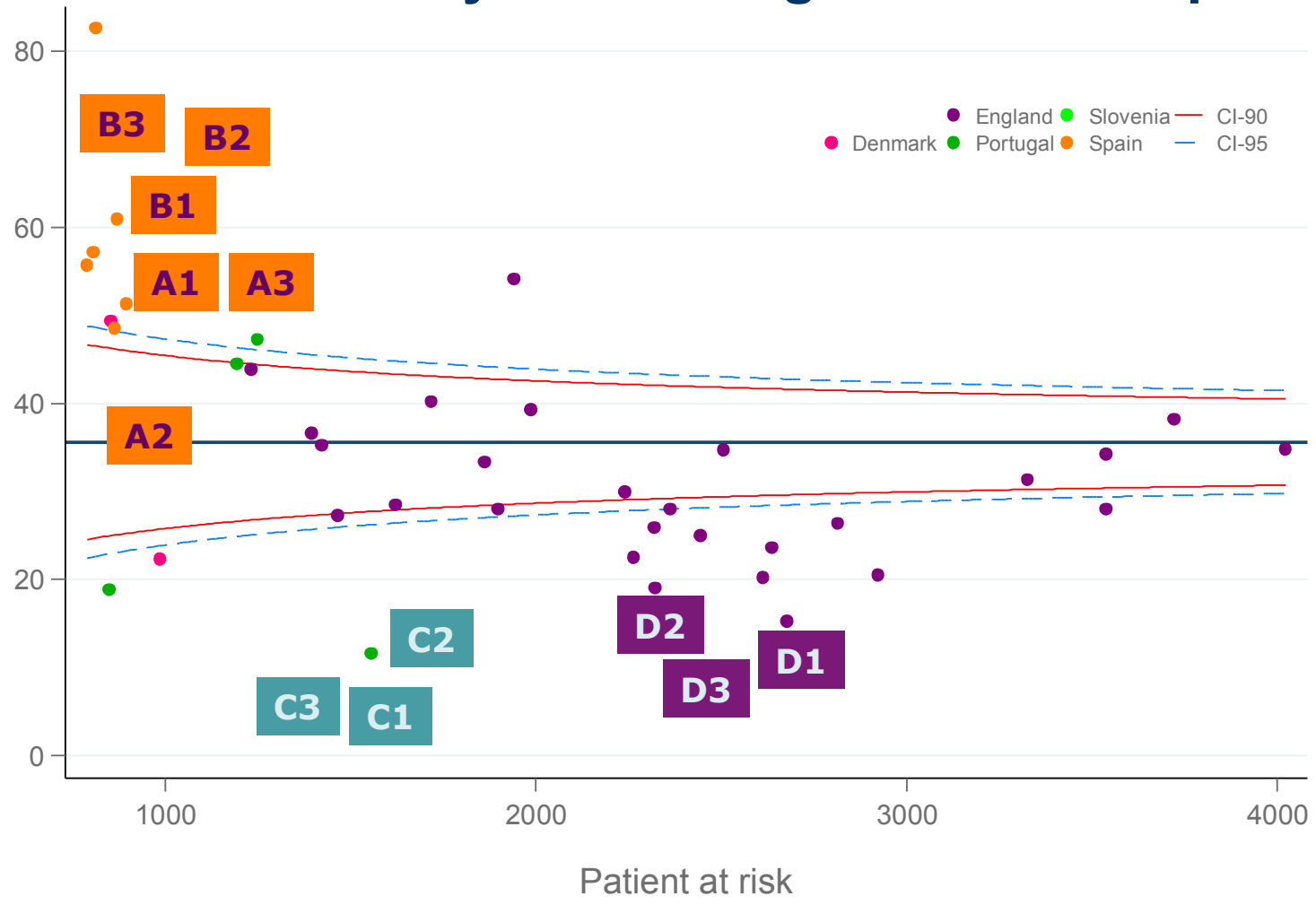
CABG fatality rates in high volume hospitals



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Efficiency (value)

Variation in low-value procedures is huge, within and across countries.

Areas with high number of low-value procedures are facing high opportunity costs

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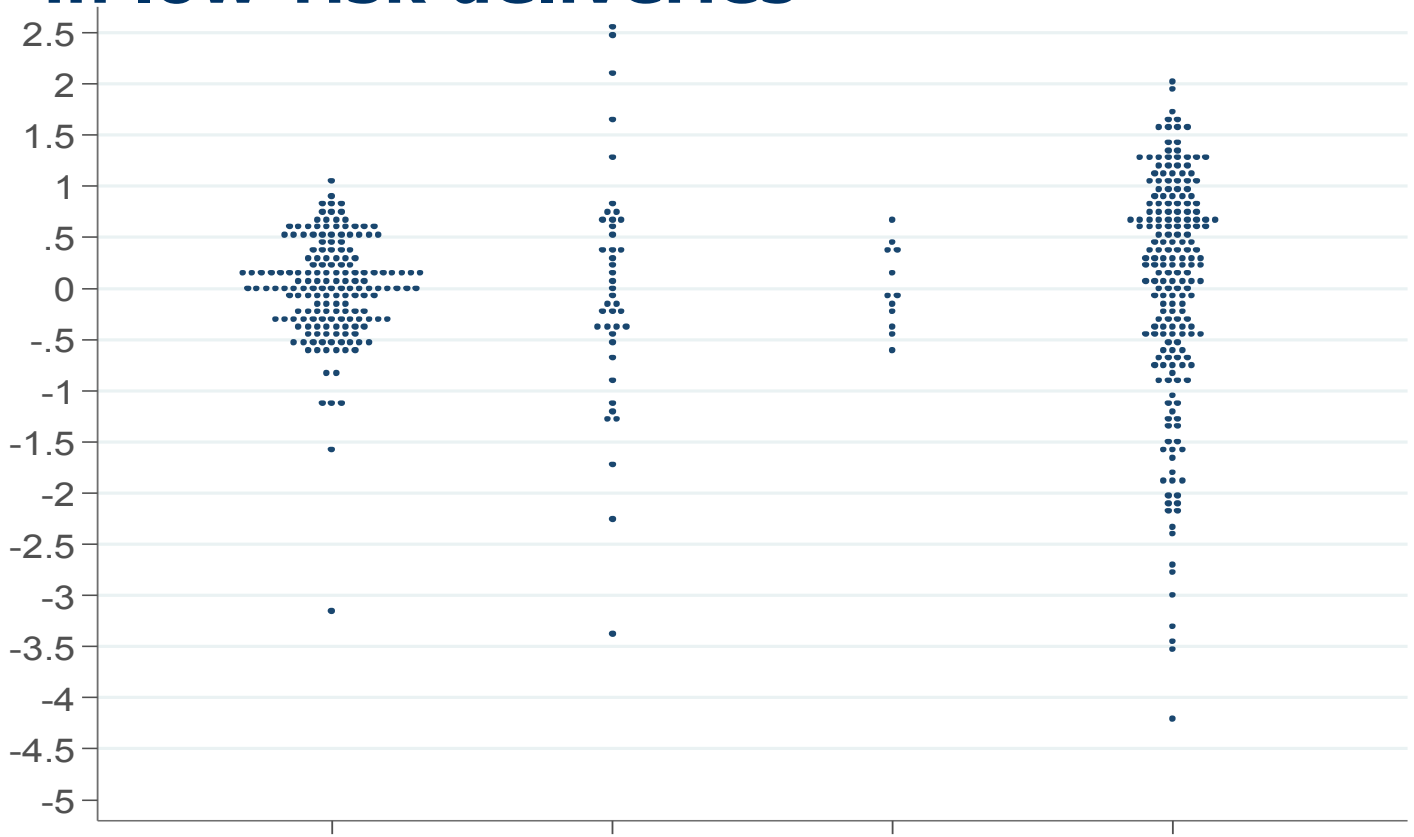
C-section in low-risk deliveries



	ENG	POR	SLV	SPN
Std Rate/10,000	21.45	7.92	22.17	12.05
EQ_{5-95}	3.12	18.81	3.57	22.52

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Efficiency (value)

Hospitals are getting different outcomes regardless patients' differences. On the other hand, hospitals are managing differently those resources devoted to treat similar patients.

Hospital with poor outcomes and higher use of resources are likely providing lower-value care.

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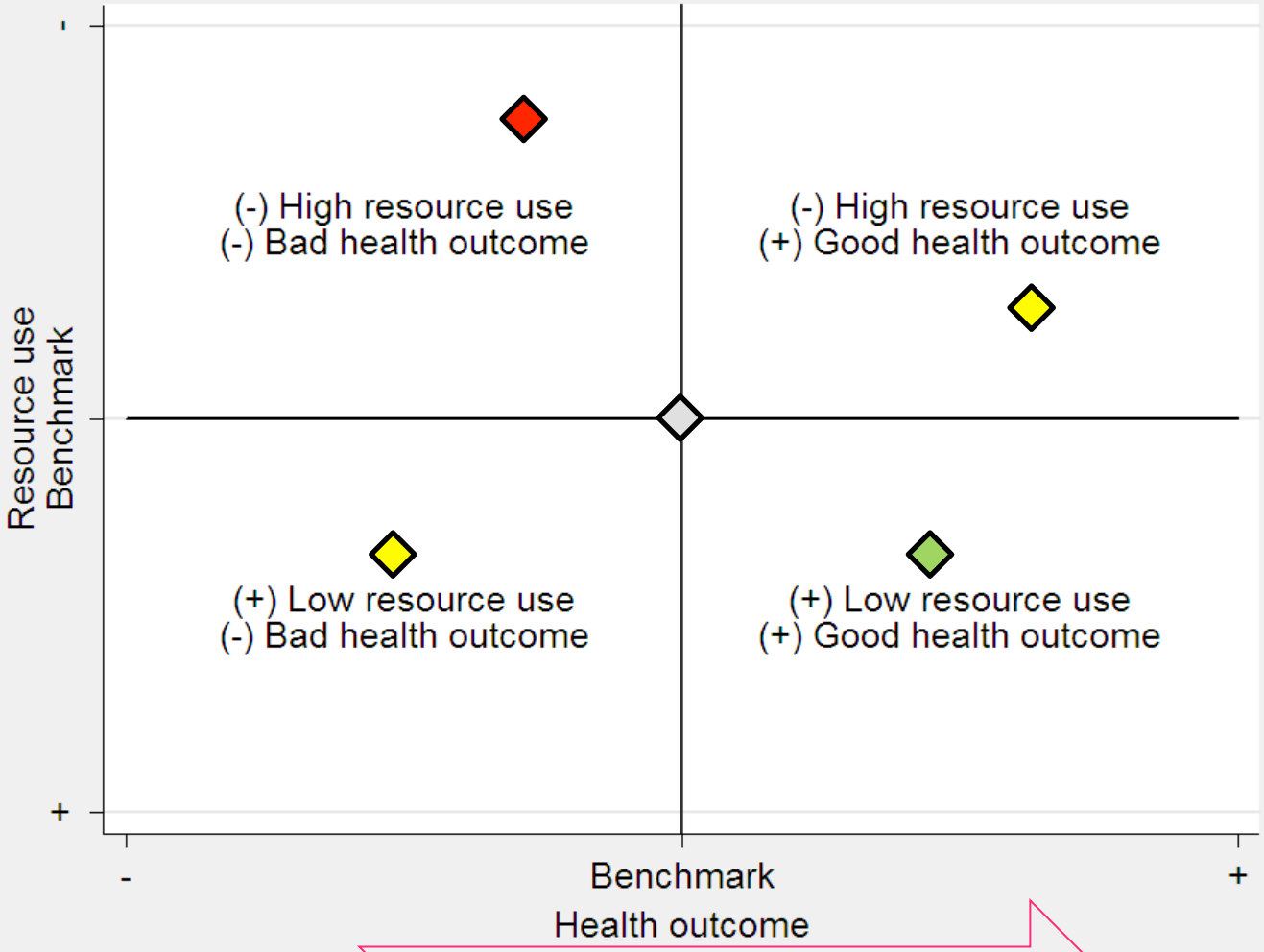
SHORTER LOS



LESS MORTALITY

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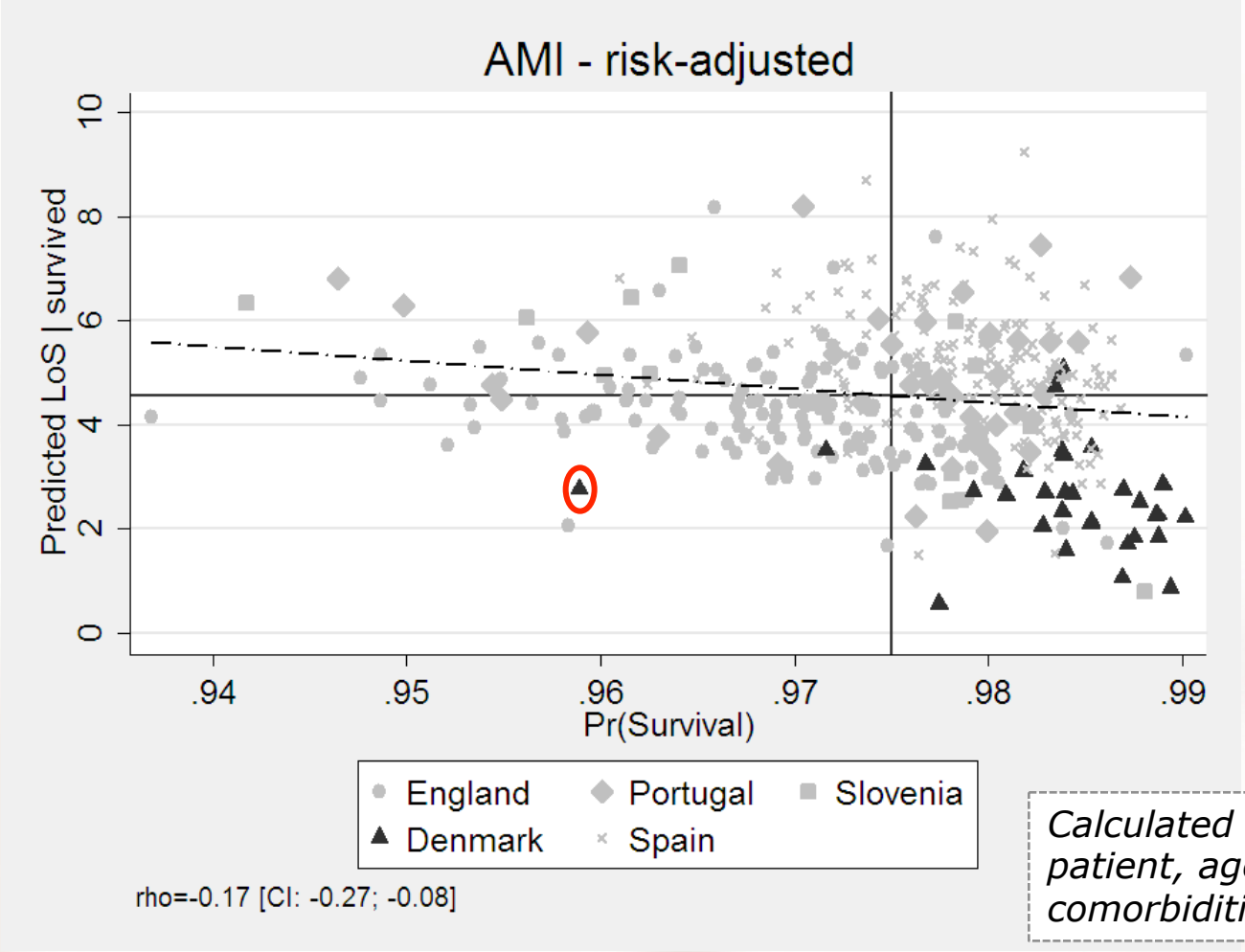
DENMARK



Calculated for female patient, aged 18-55, no comorbidities

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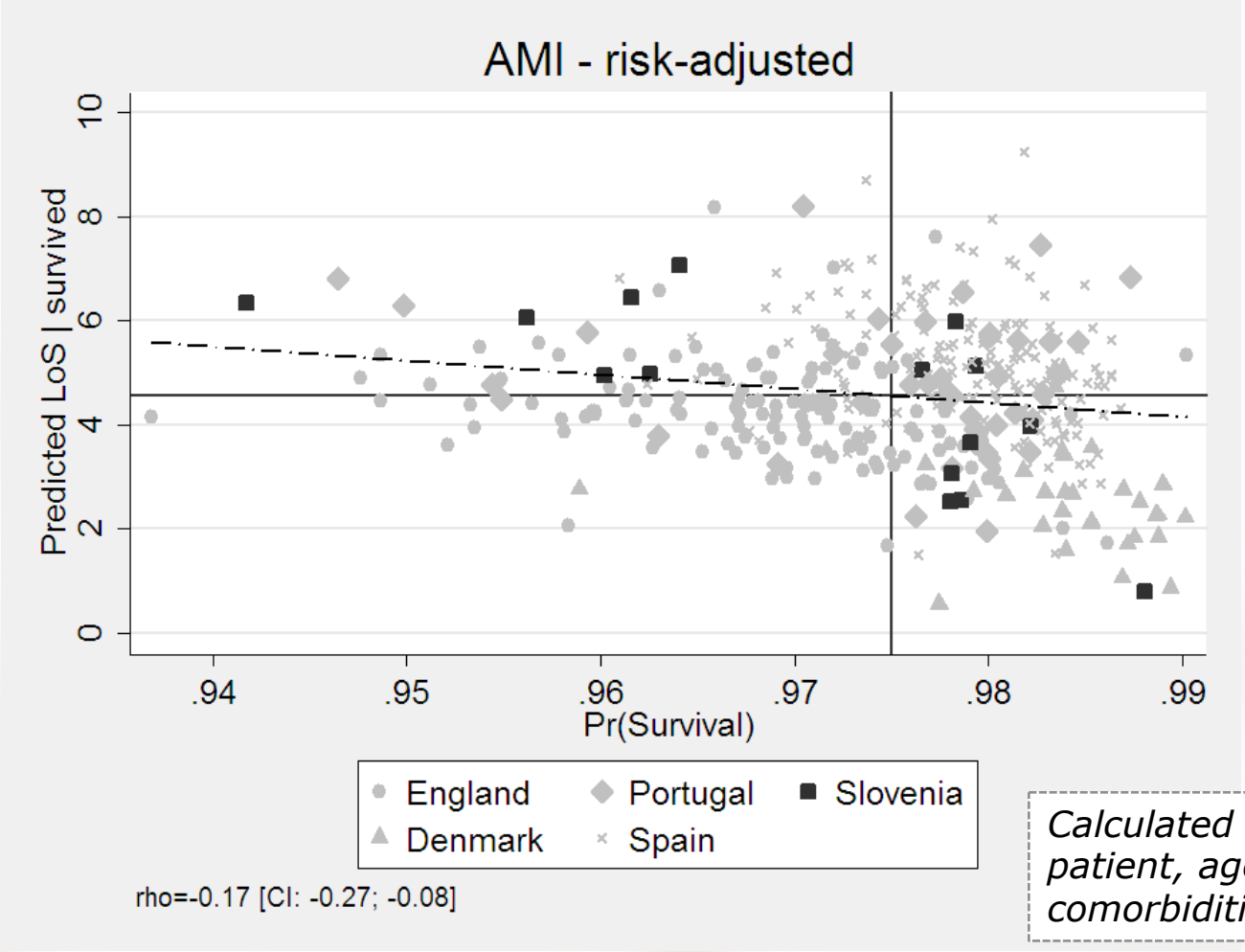
SLOVENJA



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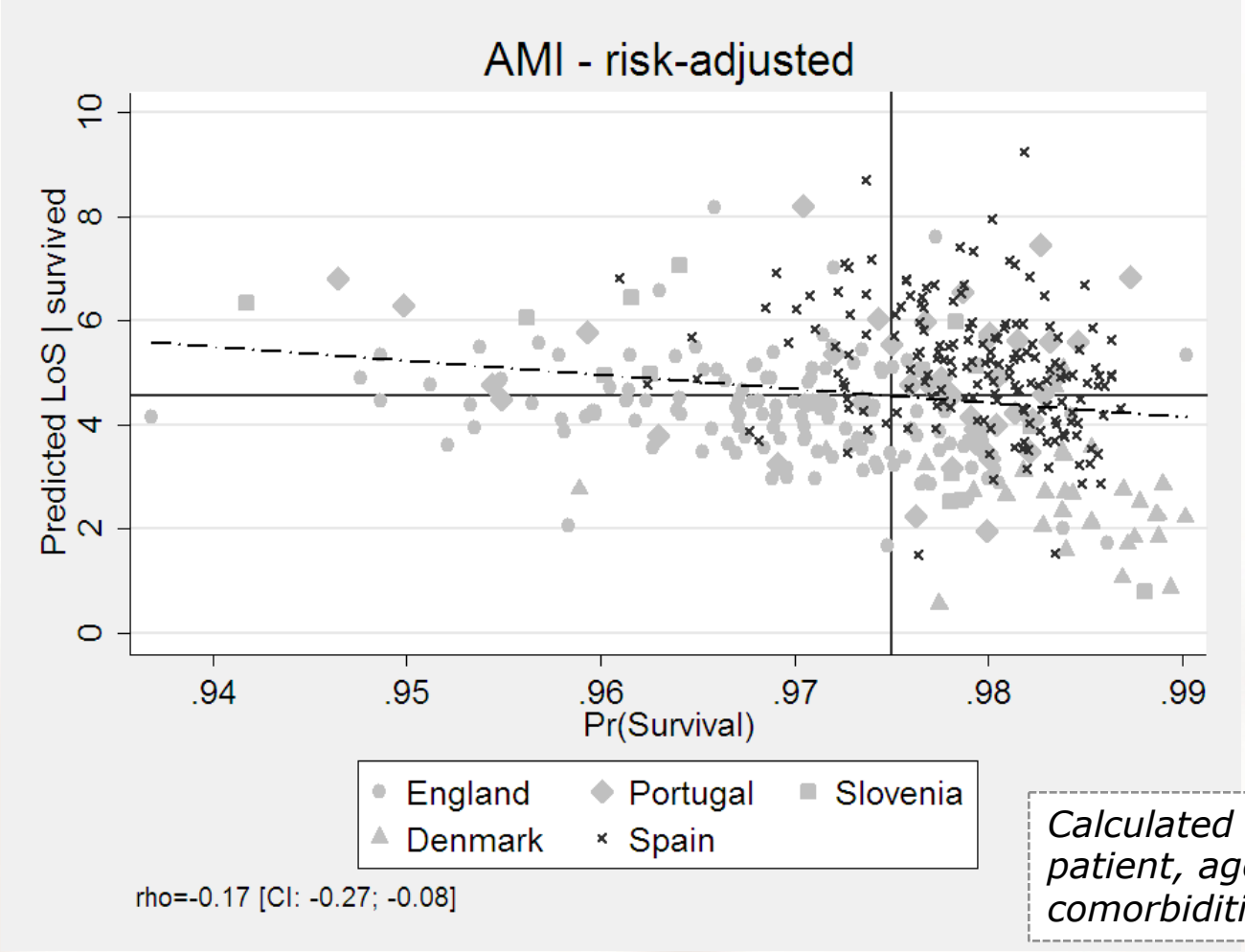
SPAIN



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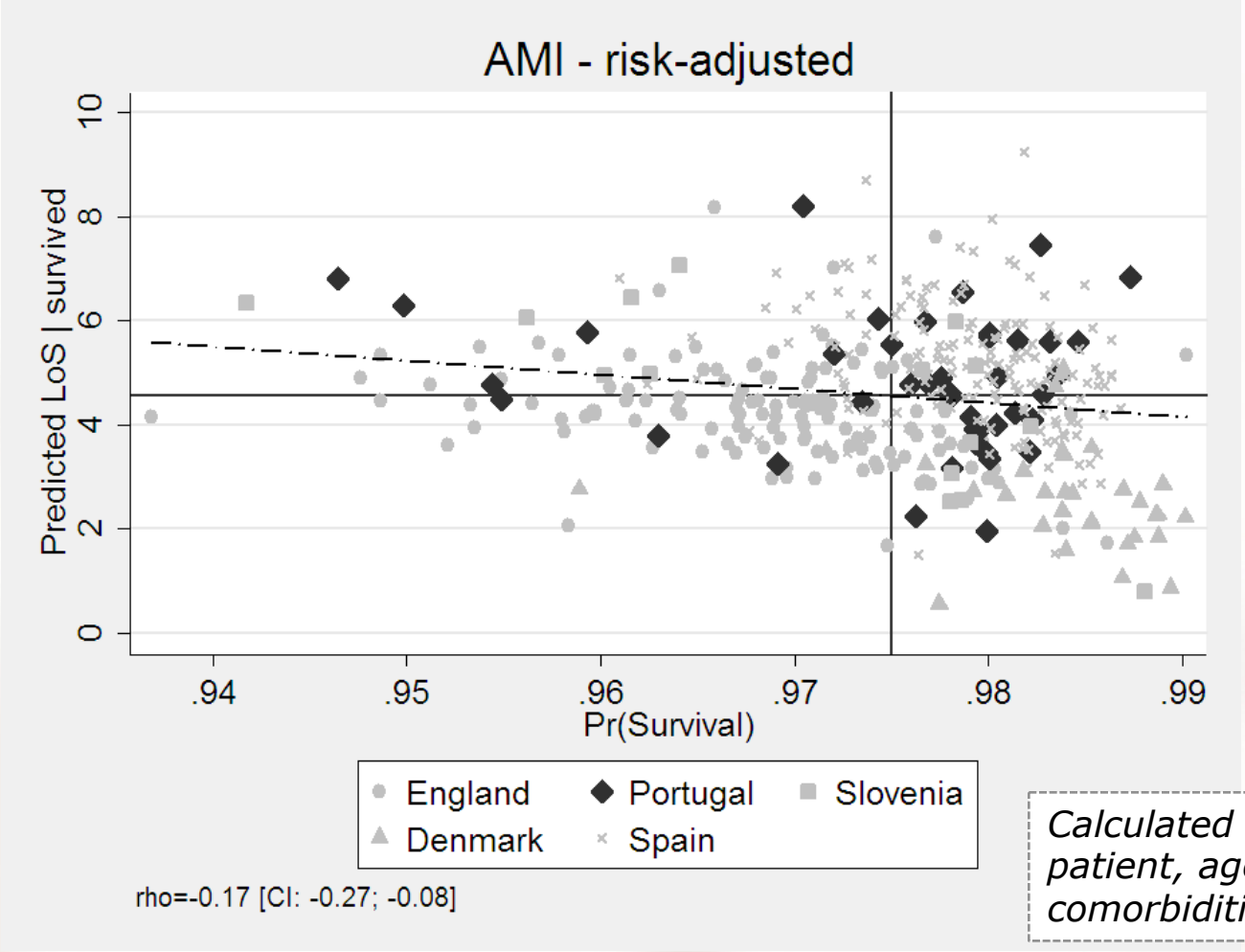
PORTUGAL



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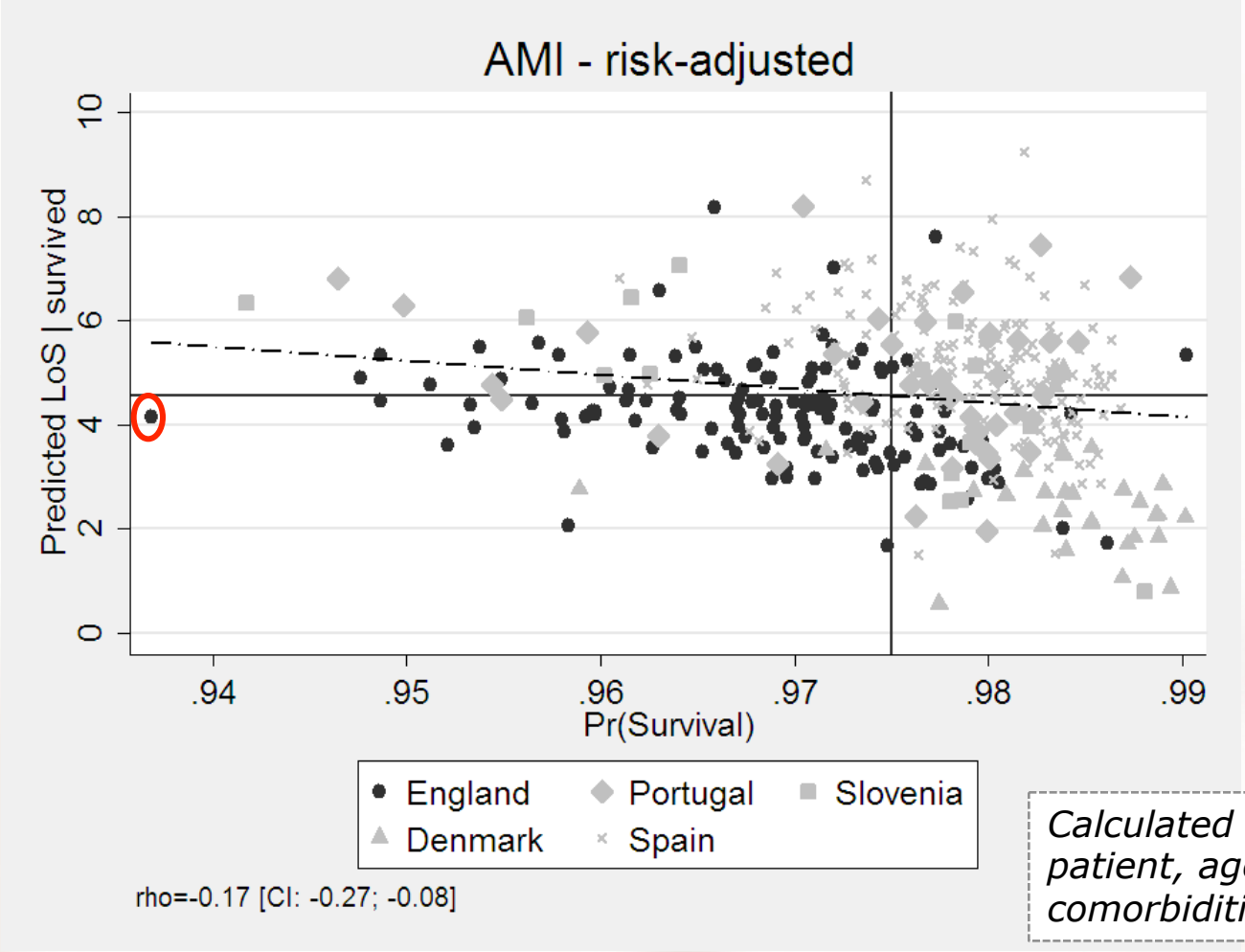
ENGLAND



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Some key issues in ECHO's international comparisons

- Building a **homogeneous knowledge infrastructure**
  - 250 million discharges (universe of hospitalizations since 2002 to 2009) plus ECHO indicators, plus contextual info
- **Developing crosswalks** across different languages
  - ICD 9th ICD10th
  - ICD 9th NOMESCO ACHI OPCS LEISTUNG-KATALOGUE-BMG
- **Treating size heterogeneity** across units of analysis
  - Comparable geographic units
  - Controlling extra-heterogeneity
- Making **patients and populations comparable** by pooling all eligible cases
  - Age-sex standardization or Risk adjustment

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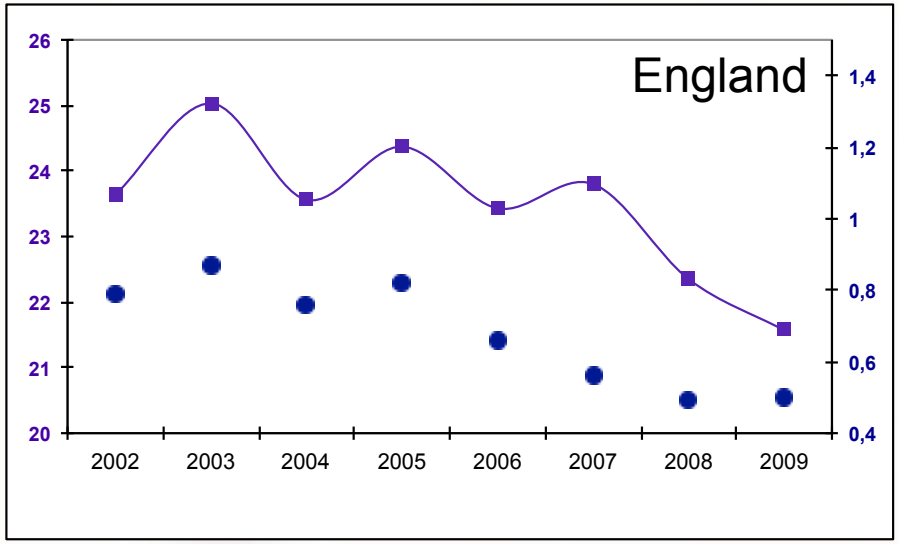

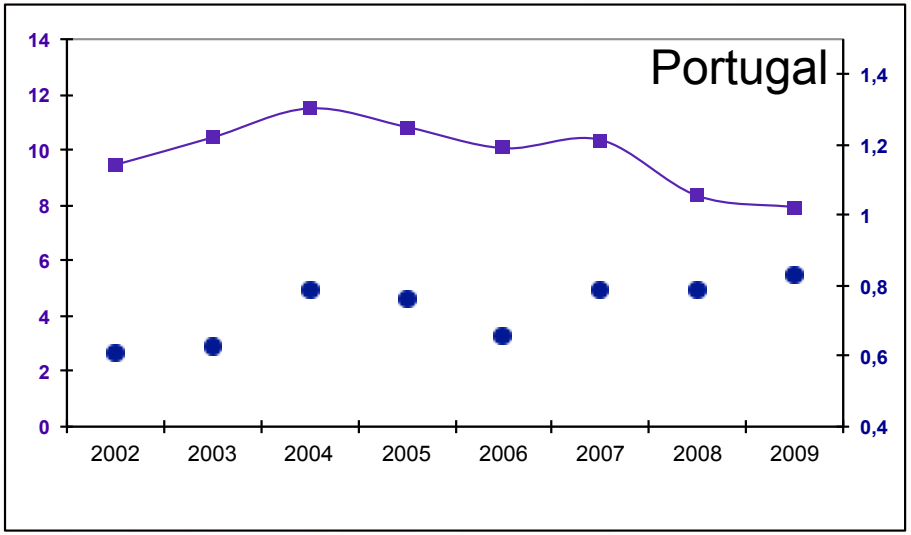

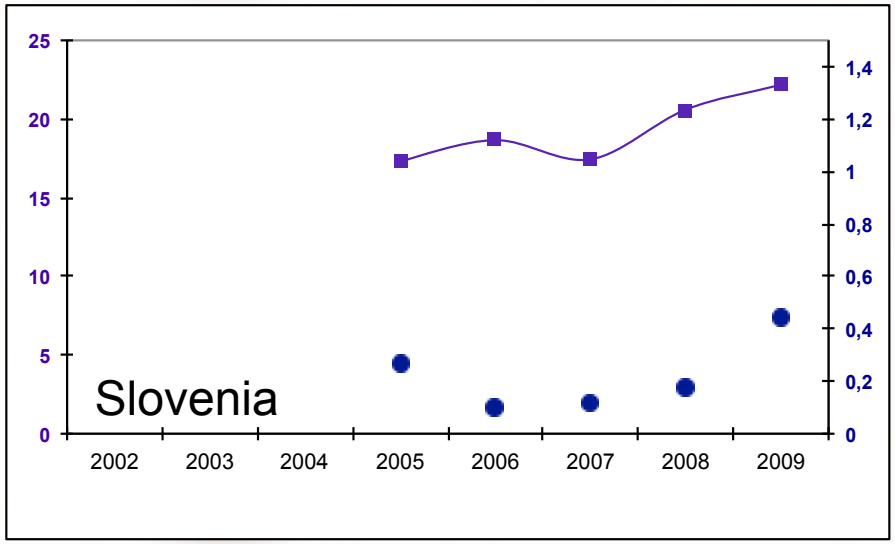

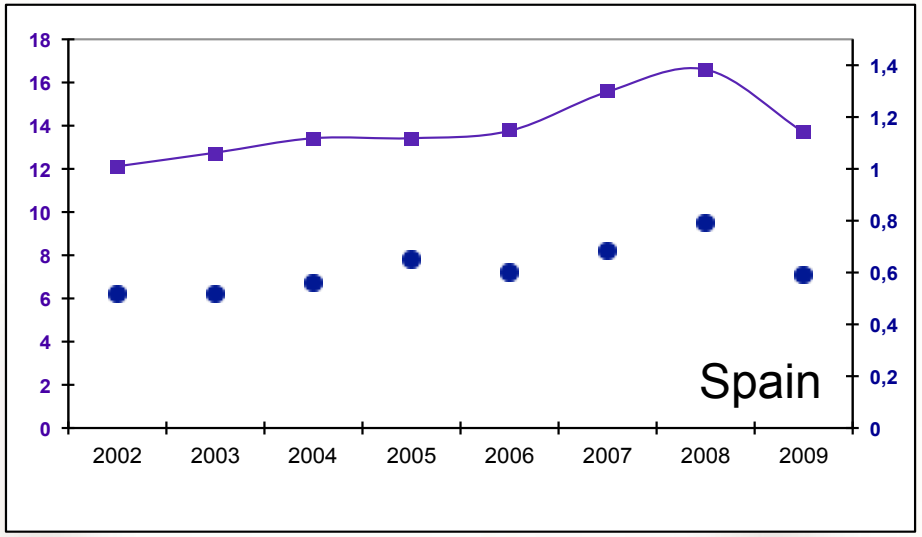

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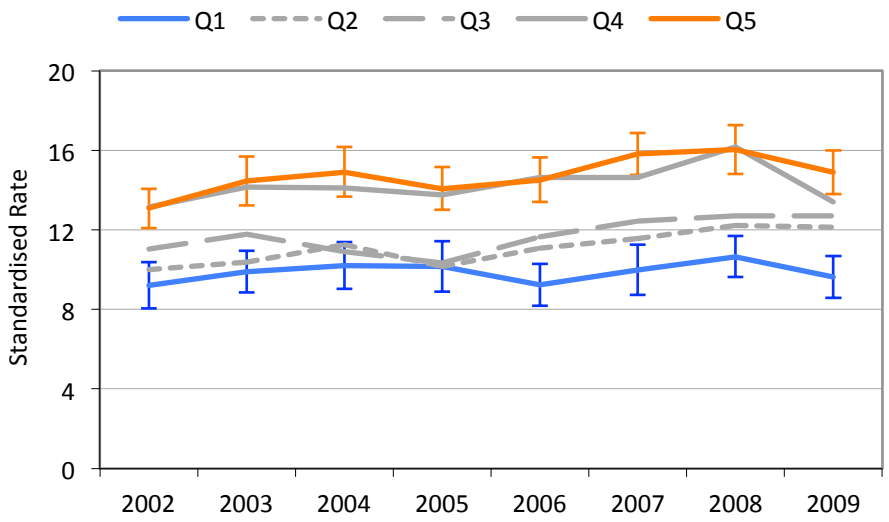
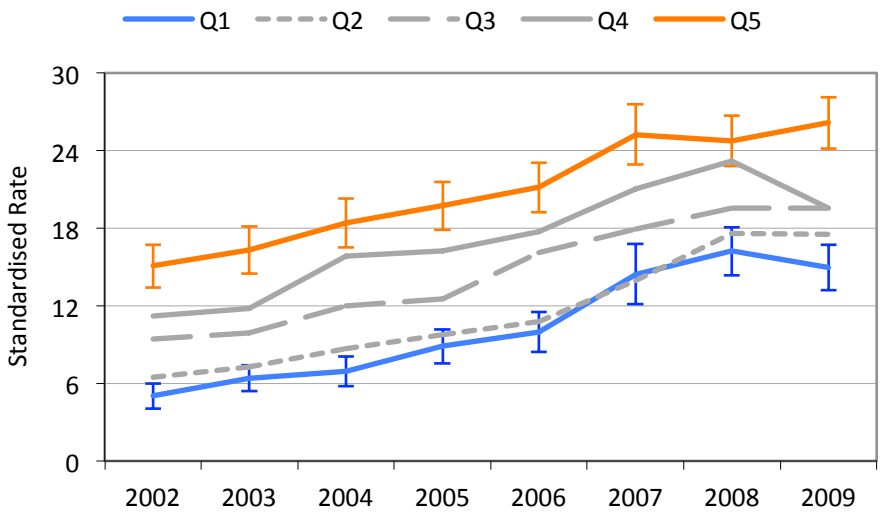
Portugal

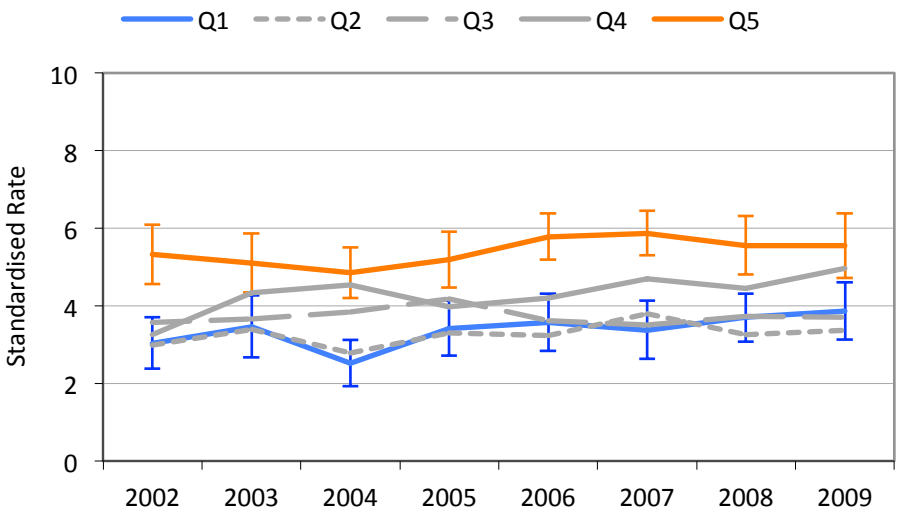
AMI



PCI



CABG



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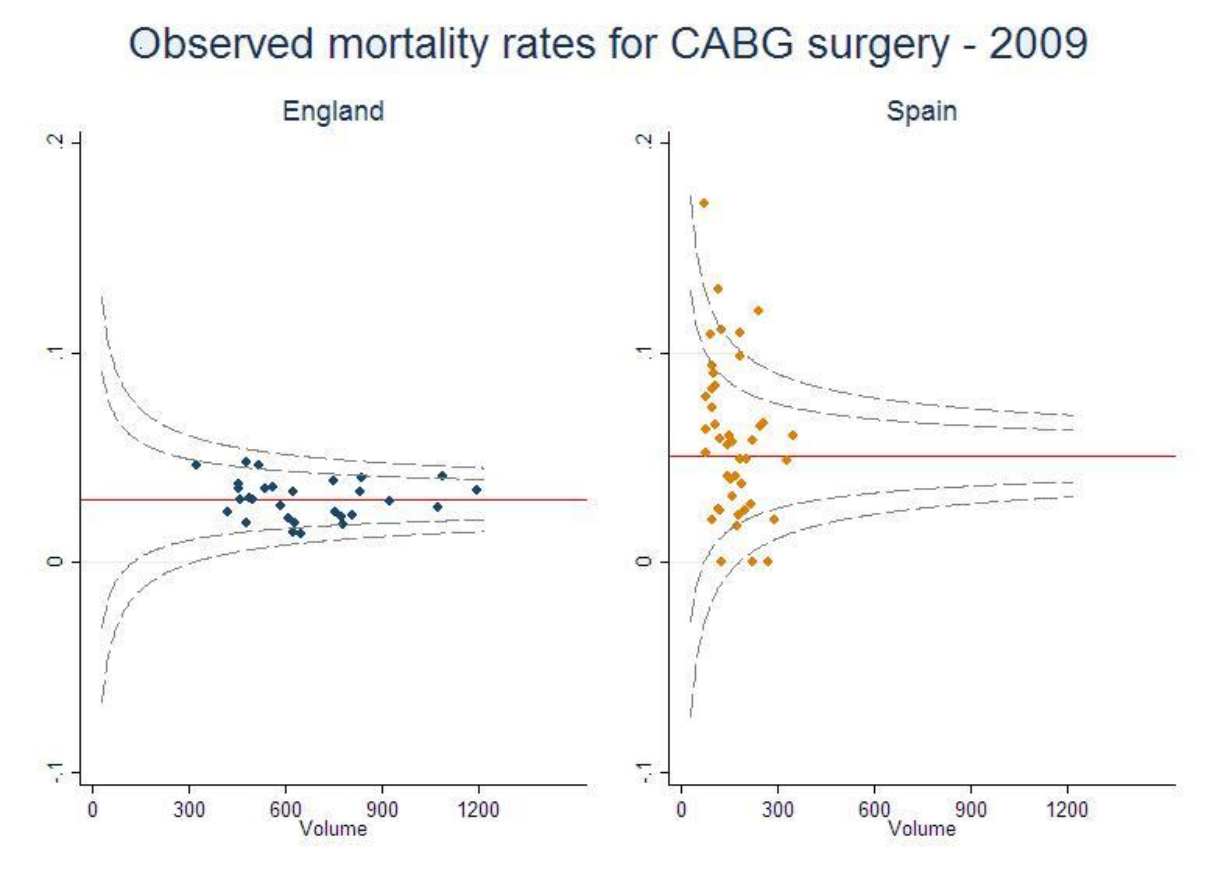
Country volume matters



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