More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Conclusions to draw from the analysis of variation in times of saving targets

experiences from member countries of the ECHO Project

Enrique Bernal-Delgado, Sandra García-Armesto

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

RESPONSES TO AUSTERITY

Health Foundation, 2014
WHO, 2014

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

- **Limited efforts to promote structural change**
  - Open and honest debate with all stakeholders before any decision
  - Investing to implement more sustainable care models
  - Building upon the values and principles of the existing system
- **Major changes without any programme to monitor or evaluate impact**
- **Short-term measures to reduce (or slow down growth of) public budget have been more prevalent**
  - Services reduction, even closures
  - Wage restraints - Workforce constrains
  - Increasing users cost sharing (out of pocket, taxes increase)
  - Policies on pharmaceutical pricing
- **Limited efforts to increase value for money**

ECHO

EUROPEAN COLLABORATION FOR HEALTHCARE OPTIMIZATION

EUROPEAN COLLABORATION
HEALTHCARE OPTIMIZATION

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

www.echo-health.eu

SAVINGS vs. VALUE

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Proposals to increase value

- **M**
  - –
  - –
- **M**
  - –
  - –
  - –
  - –
- **Micro – clinical**
  - Clinical decision support tool
  - Clinician feed back
  - Patient education and empowerment

ons

Better information systems to enable timely monitoring, evaluation and sharing of best practice.

Colla C Swimming Against the Current – What might work to reduce low-value care NEJM 2014;371:1280-3

ECHO
EUROPEAN COLLABORATION FOR HEALTHCARE OPTIMIZATION

EUROPEAN COLLABORATION
HEALTHCARE OPTIMIZATION

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

www.echo-health.eu

Routinely collected administrative data at episode level, to map out and monitor systematic differences in performance across providers

ATLAS VPM & ECHO

ECHO

EUROPEAN COLLABORATION FOR HEALTHCARE OPTIMIZATION

EUROPEAN COLLABORATION
HEALTHCARE OPTIMIZATION

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

www.echo-health.eu

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

Atlas of Variations in Medical Practice in Spain: The Spanish National Health Service under scrutiny

Enrique Bernal-Delgado[a,*], Sandra García-Armesto[b], Salvador ...
On behalf of the Atlas VPM Group[1]

European Journal of Public Health, Vol. 25, Supplement 1, 2015, 3–7

doi:10.1093/eurpub/cku219

ECHO: health care performance assessment in several European health systems

E. Bernal-Delgado[1,2], T. Christiansen[3], K. Bloor[4], C. Mateus[5], A.M. Yazbeck[6], J. Munck[7], J. Bremner[8]*, on behalf of ECHO Consortium

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Engaging stakeholders

Eliciting variations in value reliably

Backing dialogue on policy and organizational change

HOW ARE ATLAS VPM & ECHO CONTRIBUTING TO INCREASE VALUE

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

- **Engaging stakeholders**
  - The definition of value
  - The list of interventions under study
- **Eliciting variations in value reliably**
  - Sound definition of the event – comparable across systems
  - Proper attribution of the exposure – hospitals, small areas
  - Systematic variation (or systematic reduction) vs. random
- **Backing dialogue on policy and organizational change**
  - Fact-sheets showing systematic variation -
    - Quantifying the impact (excess-cases)
    - Time-series (effect change) vs. cross-sections
    - Identifying good stories
  - Local discussion (i.e. microsystems) on how to lever change

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Underuse of effective interventions
Effective interventions performed on non-eligible patients
Interventions with a more cost-effective alternative
Essentially ineffective interventions
Low quality interventions
Unsafe interventions

DEFINITION OF VALUE

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

- **Engaging stakeholders**
  - The definition of value
  - The list of interventions under study
- **Eliciting variations in value reliably**
  - Sound definition of the event – comparable across systems
  - Proper attribution of the exposure – hospitals, small areas
  - Systematic variation (or systematic reduction) vs. random
- **Backing dialogue on policy and organizational change**
  - Fact-sheets showing systematic variation -
    - Quantifying the impact (excess-cases)
    - Time-series (effect change) vs. cross-sections
    - Identifying good stories
  - Local discussion (i.e. microsystems) on how to lever change

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

- **Developing comparable indicators** across different languages
  http://www.echo-health.eu/handbook/getting-indicators.html
- Dealing with **population size heterogeneity**
  http://www.echo-health.eu/handbook/unit_analysis.html
- Measuring differences in hospitals rather than differences in patients **(risk adjustment measures)**
  http://eurpub.oxfordjournals.org/content/25/suppl_1/15
- Using **proper analyses** meant to elicit systematic and unwarranted differences in performance
  http://www.echo-health.eu/handbook/metrics.html

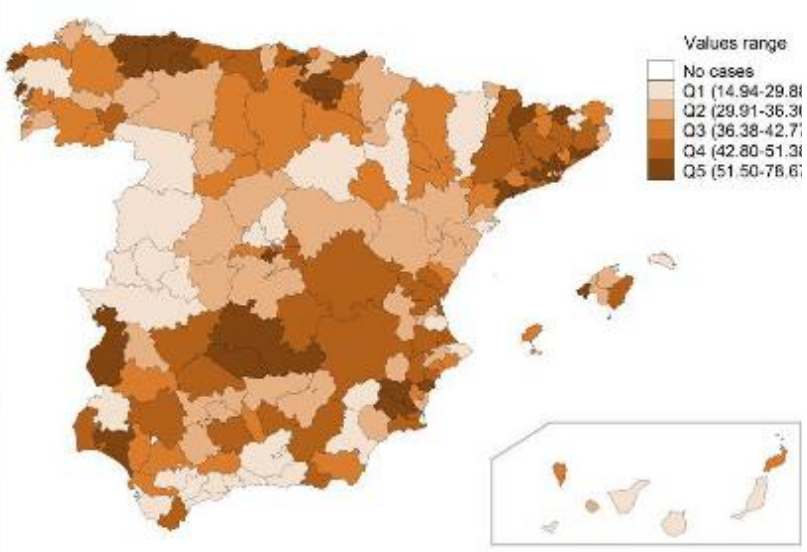
More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

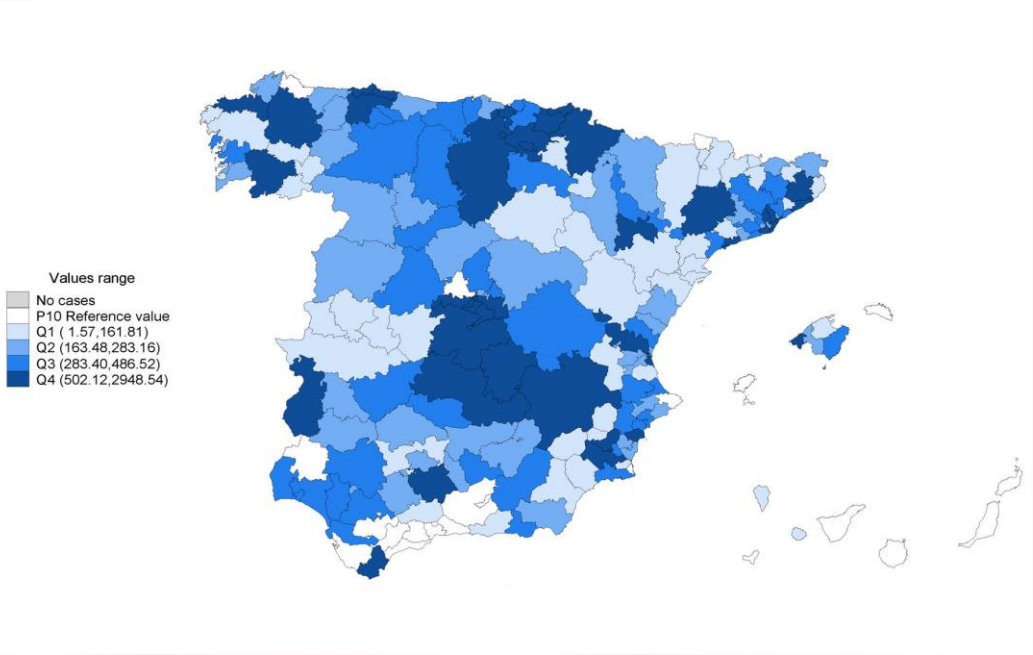
- **Engaging stakeholders**
  - The definition of value
  - The list of interventions under study
- **Eliciting variations in value reliably**
  - Sound definition of the event – comparable across systems
  - Proper attribution of the exposure – hospitals, small areas
  - Systematic variation (or systematic reduction) vs. random
- **Backing dialogue on policy and organizational change**
  - Fact-sheets showing systematic variation
    - Quantifying the impact (excess-cases)
    - Time-series (effect change) vs. cross-sections
    - Identifying good stories
  - Local discussion (i.e. microsystems) on how to lever change

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Impact

[Potentially avoidable hospitalizations in chronic and fragile patients]





STANDARDIZED RATES

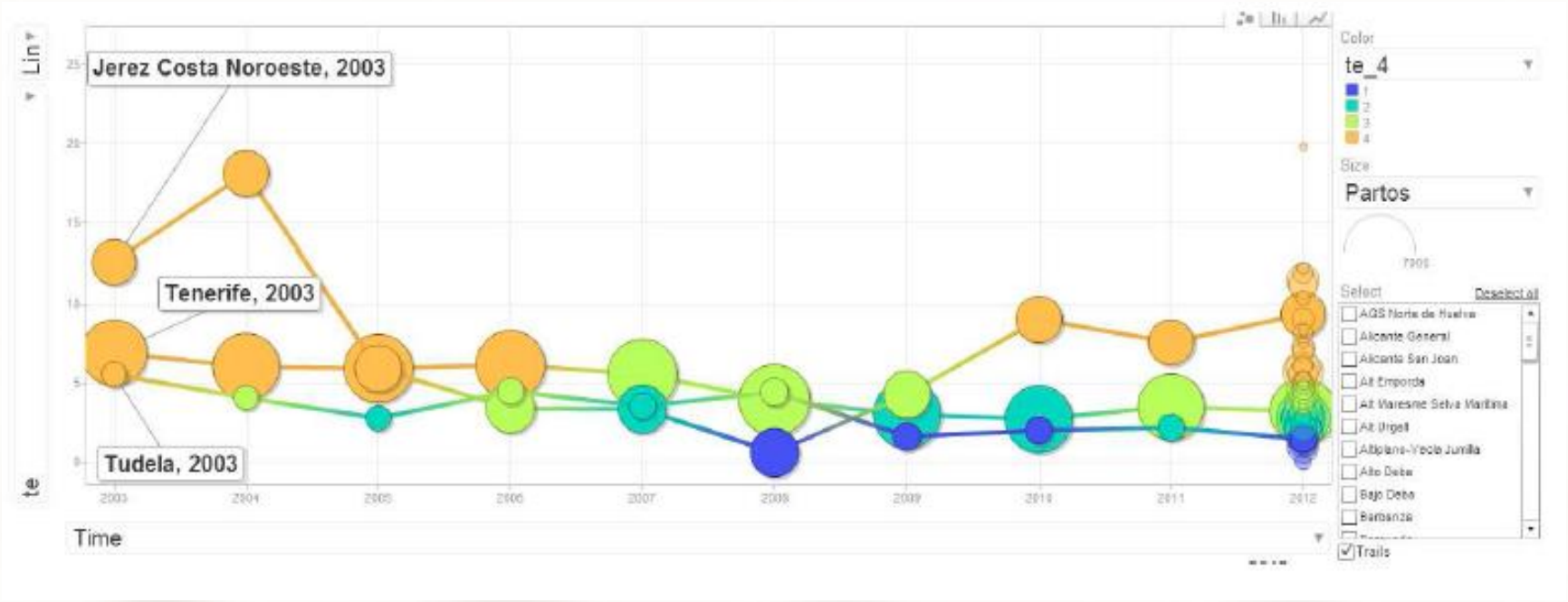
POTENTIALLY AVOIDABLE CASES

Map in blue represents excess cases with regard to areas in Percentile 10th of the distribution of rates – the darker the colour, the higher the excess-cases.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Over time evolution

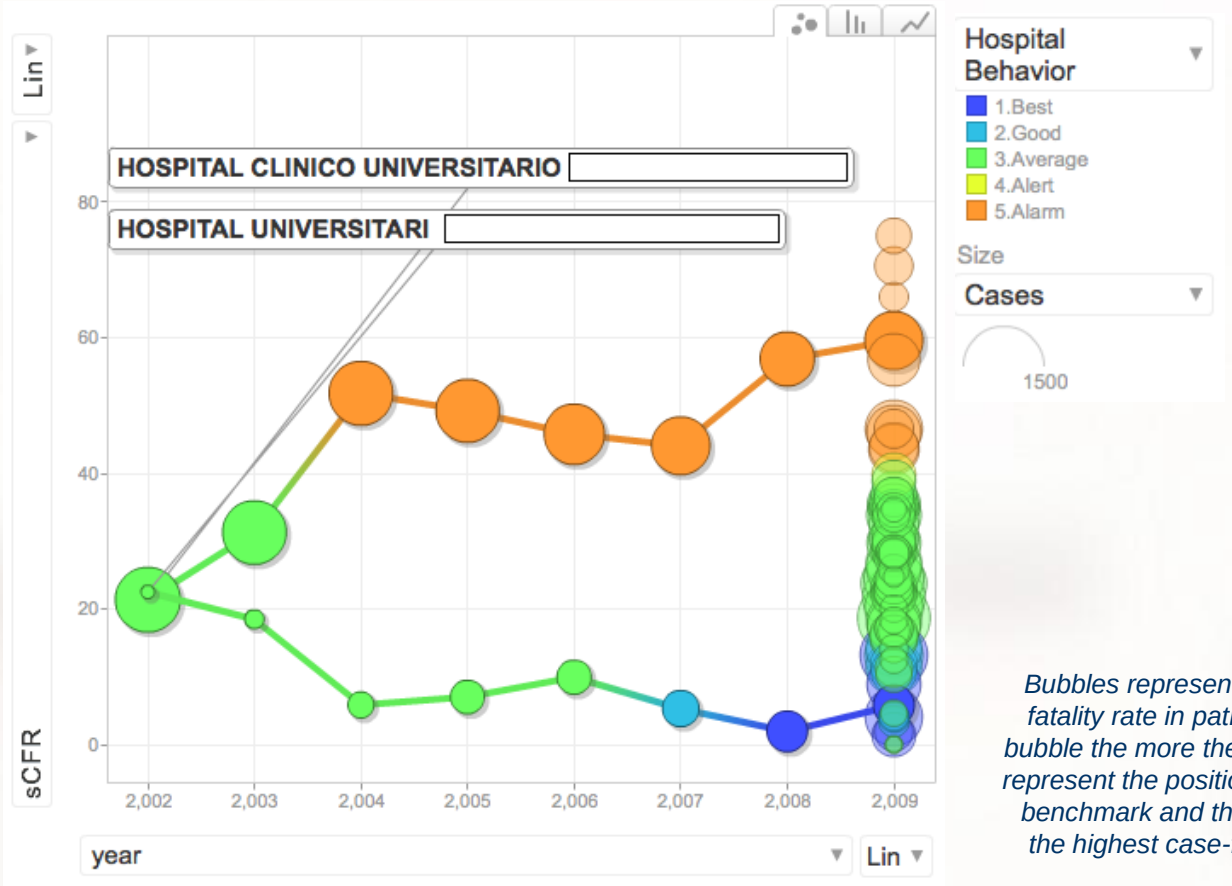
C-section in low risk deliveries



Bubbles represent hospitals – trends in adjusted case-fatality rate in patients undergoing PCI. The bigger the bubble the more the number of patients treated. Colours represent the position of each hospital with regard to the benchmark and the confidence intervals – from orange the highest case-fatality rates, to dark-blue the lowest.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Good stories to learn from
[Mortality after PCI]



Bubbles represent hospitals – trends in adjusted case-fatality rate in patients undergoing PCI. The bigger the bubble the more the number of patients treated. Colours represent the position of each hospital with regard to the benchmark and the confidence intervals – from orange the highest case-fatality rates, to dark-blue the lowest.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

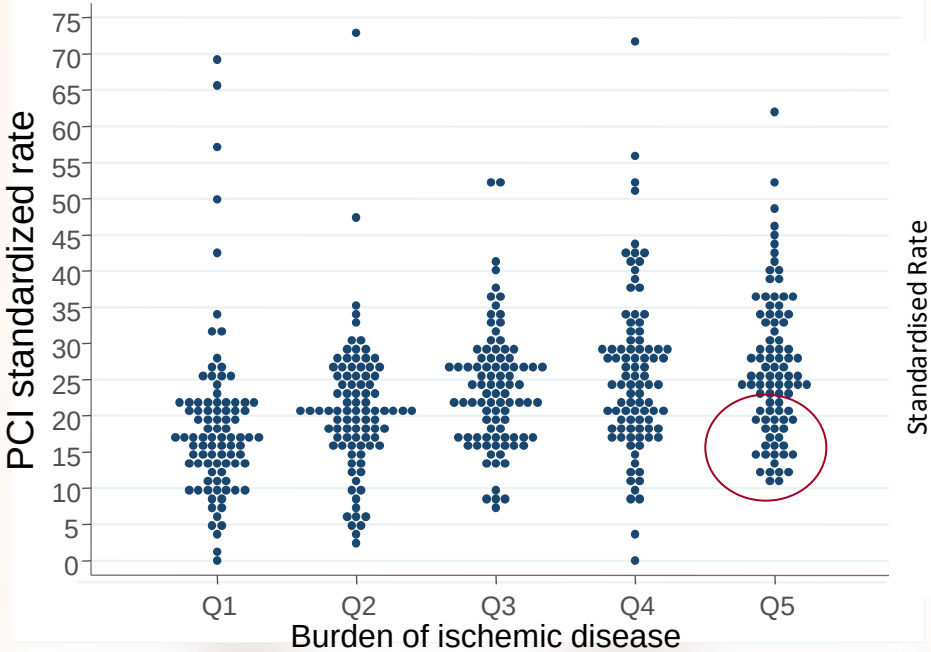
Additional material

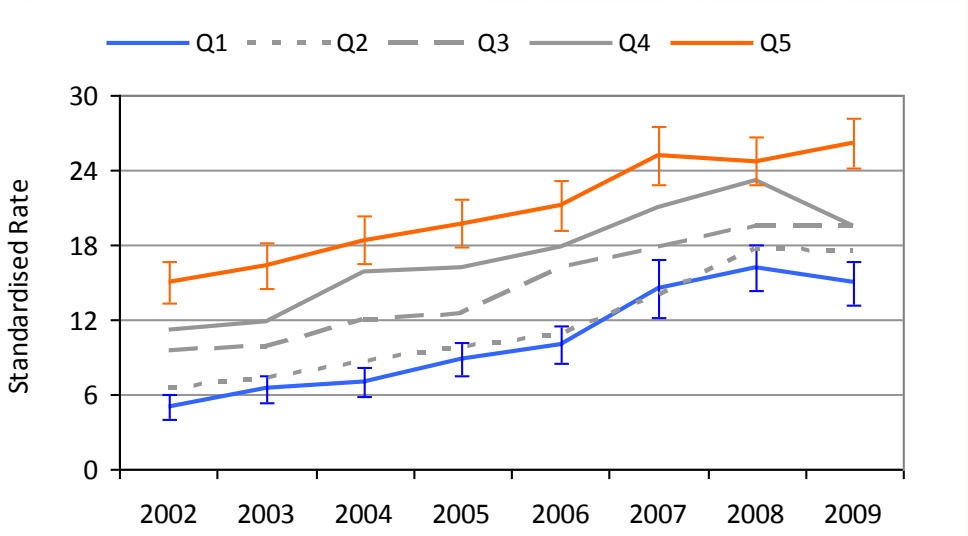
EXAMPLES OF VARIATIONS IN LOW-VALUE CARE IN THE ECHO COUNTRIES

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Underuse of effective care

[PCI burden of ischemic disease and social gradient]





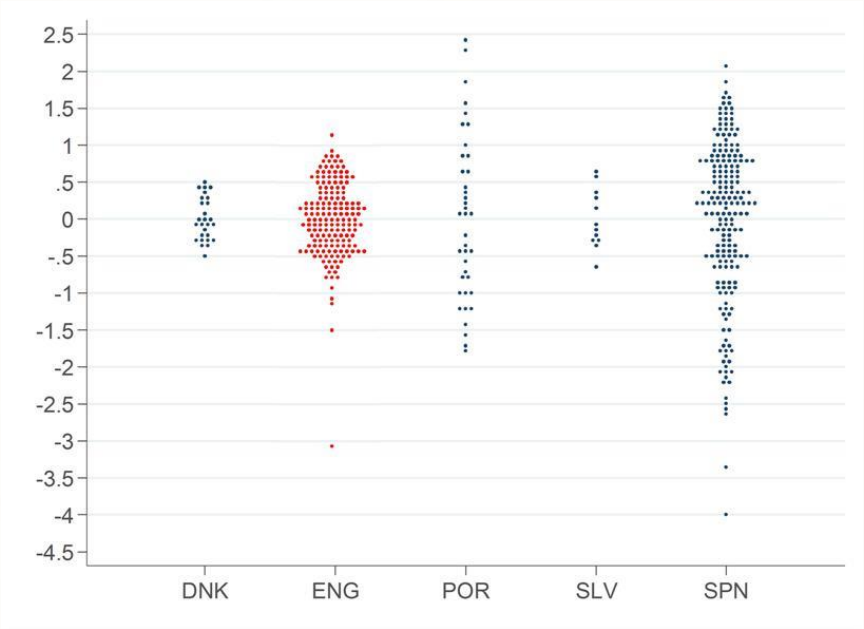
Each dot represents a healthcare area – age-sex standardized rate. Q1 to Q5 represent quintiles of ischemic disease rates. Q1 the lowest burden, Q5 the highest burden. Is there underuse of PCI in the areas in Q5 inside circle?

Blue line represents PCI rate in the less affluent areas; red line represents PCI rates in the better off areas. Is there underuse in the worse off areas?

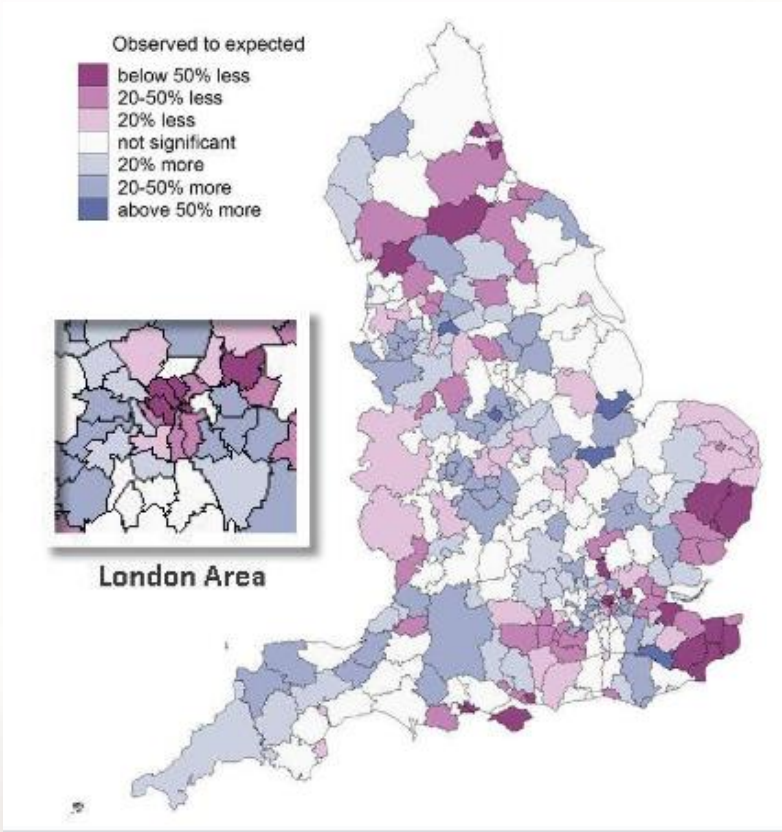
More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Effective surgery in non-eligible patients

[C-section in low risk deliveries]



SR	**40.13**	19.55	**7.02**	21.45	8.58
EQ5-95	**1.66**	4.69	**46.80**	3.54	35.36
SCV	**0.16**	0.28	**2.19**	0.20	1.26



Dots represent areas – age-sex standardized rates (natural scale on the left, normalized scale on the right).

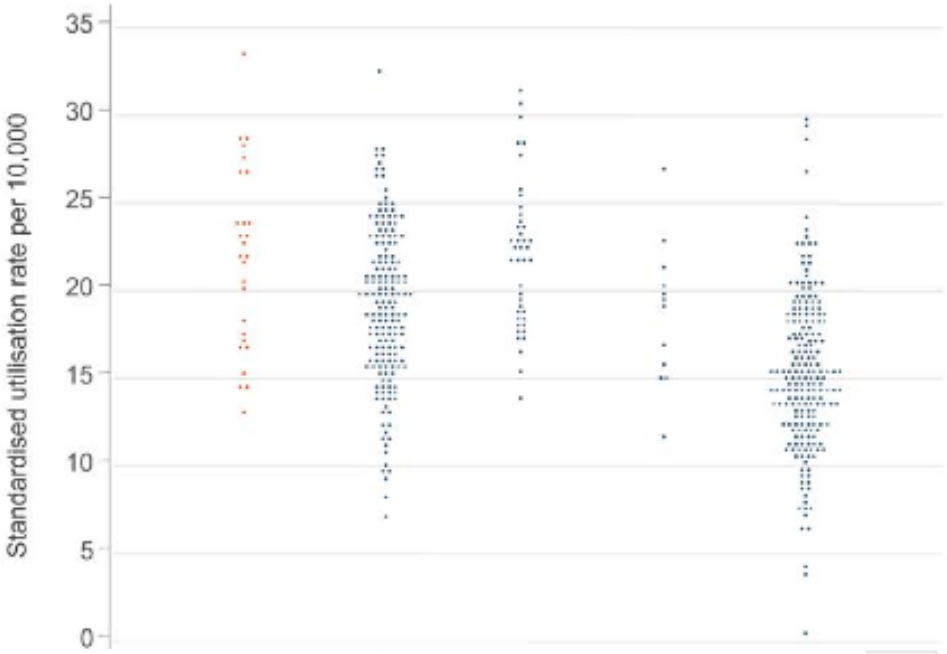
- *SR: standardized rate; EQ5-95: ratio between the 5th and 95th percentile. SCV: Systematic Component of Variation.*

Map represents standardized utilization ratio – bluish areas are above the expected

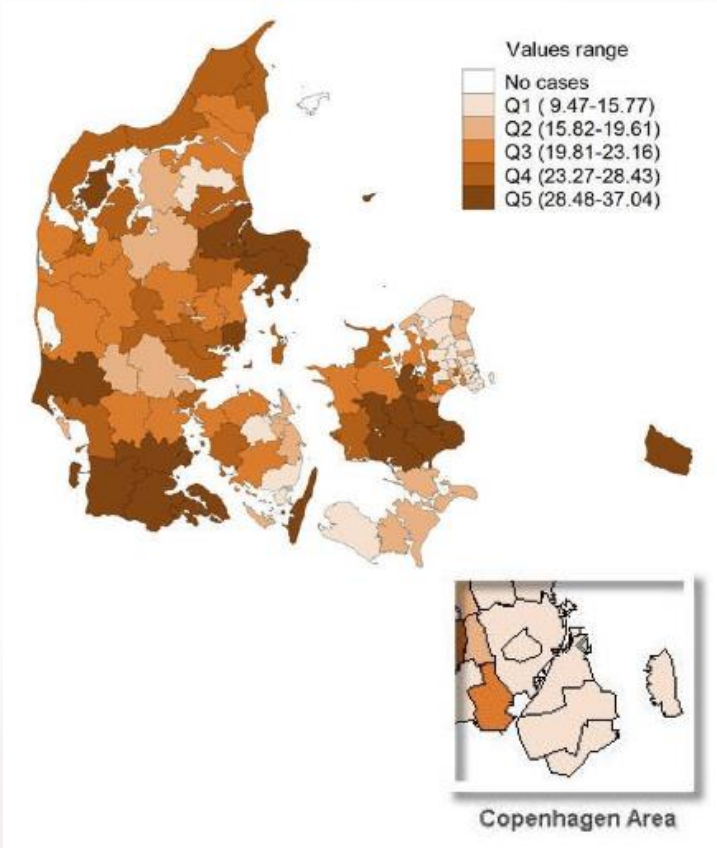
More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Intervention with existing more cost-effective alternative

[Hysterectomy in benign conditions]



	DENMARK	ENGLAND	PORTUGAL	SLOVENIA	SPAIN
SR	**21.84**	19.01	21.44	18.18	14.77
EQ5-95	**1.98**	2.27	1.83	2.34	2.95
SCV	**0.14**	0.07	0.09	0.04	0.09

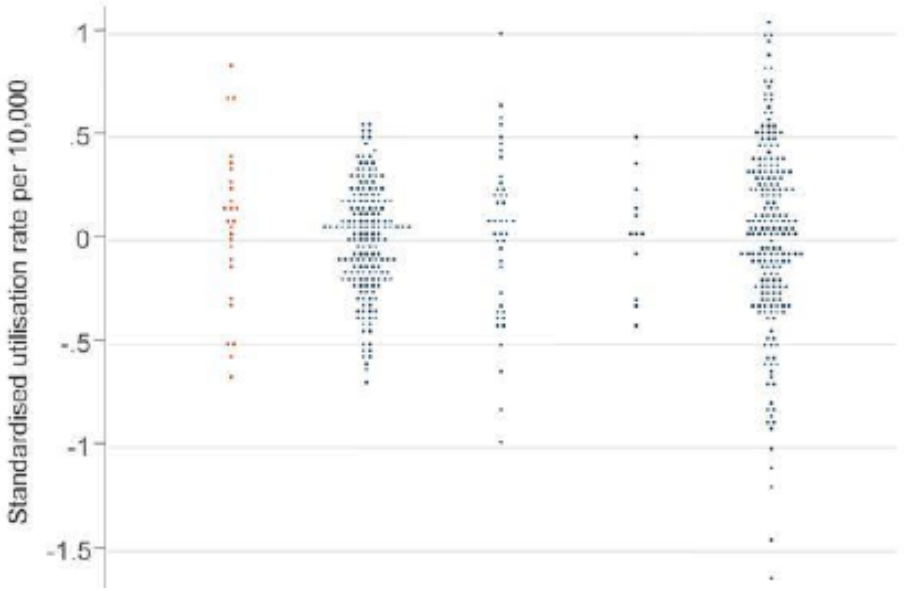


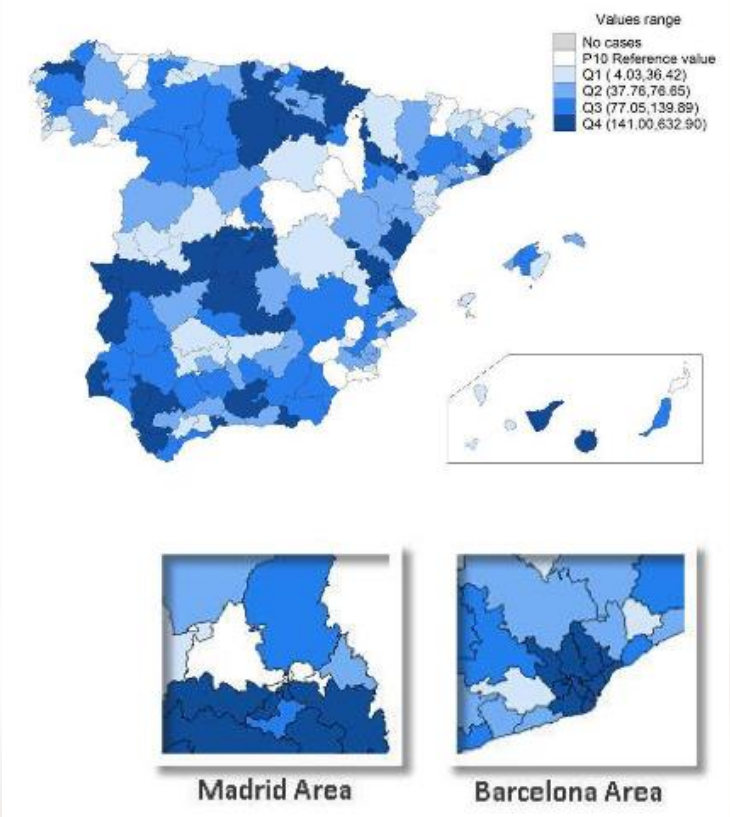
Dots represent areas – age-sex standardized rates (natural scale on the left, normalized scale on the right).
SR: standardized rate; EQ5-95: ratio between the 5th and 95th percentile. SCV: Systematic Component of Variation.
Map represents standardized rates– the darker the colour, the higher the rate.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Essentially ineffective care

[Tonsillectomy in children]



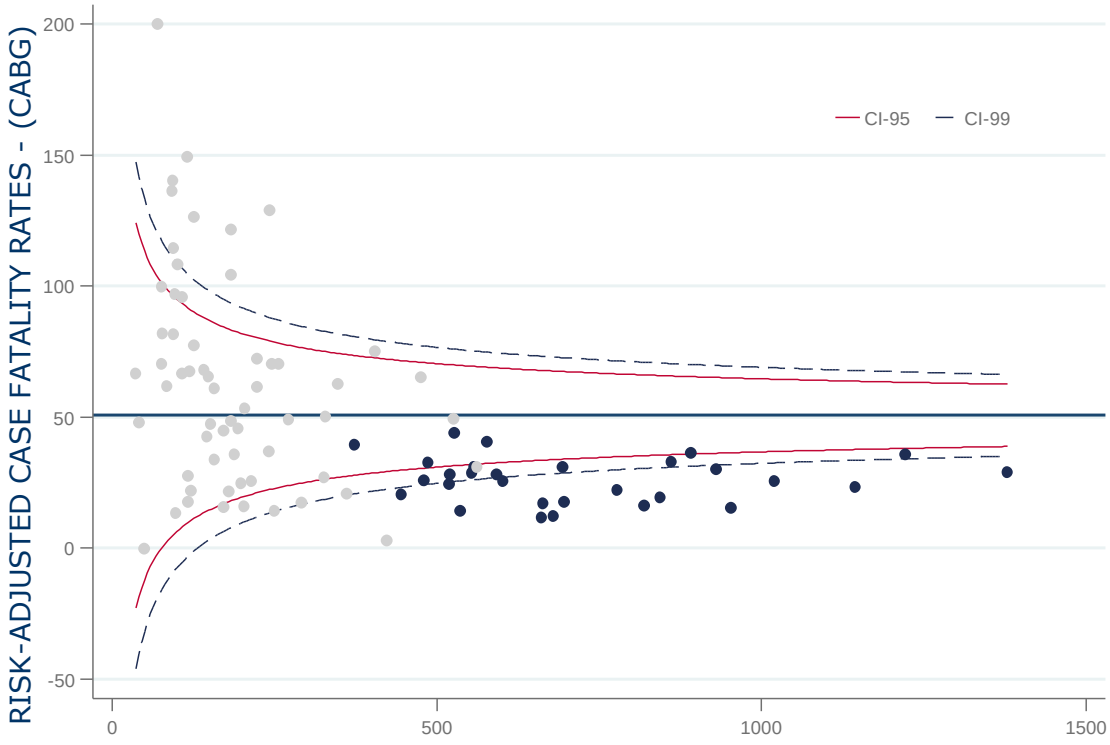


	DENMARK	ENGLAND	PORTUGAL	SLOVENIA	SPAIN
SR	33.4	39.8	62.3	83.7	**30.1**
EQ5-95	3.9	2.5	3.4	2.5	**4.8**
SCV	0.21	0.09	0.34	0.66	**0.23**

Dots represent areas – age-sex standardized rates (natural scale on the left, normalized scale on the right).
SR: standardized rate; EQ5-95: ratio between the 5th and 95th percentile. SCV: Systematic Component of Variation.
Map represents excess cases with regard to areas in Percentile 10th of the distribution of rates – the darker the colour, the higher the excess-cases.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Low quality care
[Mortality after CABG]

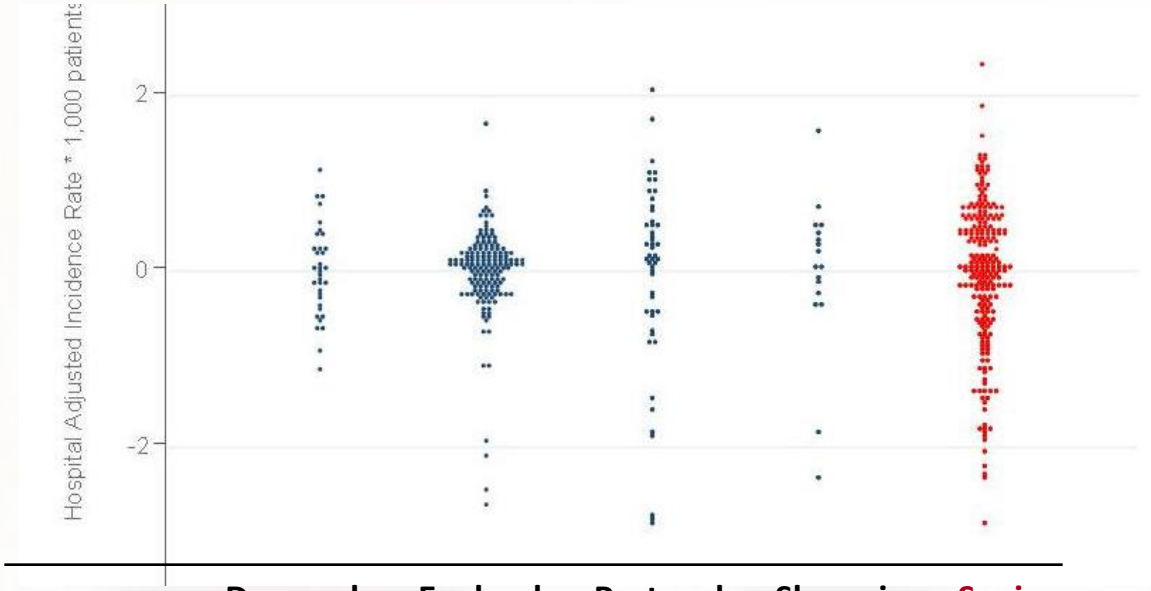


Dots represent hospitals - adjusted case-fatality rate in patients undergoing CABG. Hospitals beyond the upper confidence interval represent either alerts (beyond the red line) or alarms (beyond the dashed-line) Conversely, those hospitals beyond the lower confidence intervals are good or the best performers.

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Unsafe care

[PTE & DVT after surgery]



	Denmark	England	Portugal	Slovenia	Spain
aIR	1,43	7,55	0,87	4,36	1,87
EQ 25-75	2,11	1,48	3,84	2,04	3,16

Dots represent hospitals - adjusted incidence of Pulmonary Thromboembolism and Deep Venous Thrombosis (natural scale on the left, normalized scale on the right).
Table: aIR: adjusted incidence rate; EQ_{25-75}: ratio between the 1st and 3rd quartile.

ECHO

EUROPEAN COLLABORATION FOR HEALTHCARE OPTIMIZATION

EUROPEAN COLLABORATION
HEALTHCARE OPTIMIZATION

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

www.echo-health.eu

More information: Enrique Bernal-Delgado MD PhD MPH MHecon.
ECHO project coordinator Ebernal.iacs@aragon.es ; Phone +34976716792
http://www.echo-health.eu/

Conclusions to draw from the analysis of variation in times of saving targets

experiences from member countries of the ECHO Project

Enrique Bernal-Delgado & Sandra García-Armesto