Health care system performance comparison in the design of health policies

Mesa de ponencias: “Comparaciones entre sistemas sanitarios: puntos fuertes, debilidades y oportunidades”.
Jueves 18 de junio

Sandra García Armesto
ARAID, Instituto Aragonés de Ciencias de la Salud
Unidad de Evaluación de Políticas y Servicios de Salud
MS and the EC were invited to improve coordination on HSPA at EU level:

- streamlining debate on the theoretical HSPA framework,
- identifying useful methodologies and tools to support policy makers in taking decisions,
- defining criteria for selecting priority areas for HSPA at EU level
- improving the availability and quality of relevant data and information.
Comparative Health Systems Performance Assessment

• **WHY** Functions of comparison: accountability, strategy development and learning

• **WHAT** Scope: whole systems, specific services, specific diseases, subnational approaches

• **HOW** frameworks and metrics, definitions, analytical approaches
Minimum Requirements

• Clear conceptual framework populated with standardized indicators.
• Widespread accepted metrics, consistent with most countries’ data collection systems.
• Meaningful comparisons to understand drivers of difference adjusted for
  • Demographic, social, cultural and economic circumstances of nations.
• “Single number” measures of whole health system performance: no scope for policy action
WHR 2000 Relations between functions and objectives of a health system

**Functions the system performs**

- Stewardship (oversight)
- Creating resources (investment and training)
- Financing (collecting, pooling and purchasing)
- Delivering services (provision)

**Objectives of the system**

- Responsiveness (to people's non-medical expectations)
- Health
- Fair (financial) contribution
## Examples of assessed dimensions of health care performance

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Conceptual Framework
HCQI Project.
(shaded area represents the focus of the HCQI Project)

Health Status
How healthy are citizens of member states, what are their health outcomes and what is their need for health care?

Non Health Care Determinants of Health
What are the non-healthcare factors that determine health? If/how is healthcare used is changing across and within member states

Healthcare System Performance
How does the healthcare system perform? What is the level of care across the range of patient care needs? What does this performance cost?

Health System Design and Context
What are the important design and contextual aspects that may be specific to each health system and which may be useful for interpreting the quality of its health care

Cost Effectiveness

Other country-related determinants of performance (e.g., Capacity, societal values/preferences, policy)
Figure 0.1. Conceptual framework for health system performance assessment

- **Health status** (Chapter 1)
- **Non-medical determinants of health** (Chapter 2)
- **Health care system performance**
  - How does the health system perform?
  - What is the level of quality of care and access to services?
  - What does this performance cost?
  - **Quality** (Chapter 5)
  - **Access** (Chapter 6)
  - **Cost/expenditure** (Chapter 7)
- **Health care resources and activities**
  - **Health workforce** (Chapter 3)
  - **Health care activities** (Chapter 4)
- **Health system design and context** (Annex A)

Data sources

• Administrative data
• Patient clinical records
• (national) registries (death, cancer, disease or specialty specific .....)
• Population based surveys
• Patient based surveys
ECHI - European Core Health Indicators

The European Core Health Indicators (ECHI), formerly known as European Community Health Indicators are the result of a long-term cooperation between the EU Member States and the European Commission. Three ECHI projects (1998-2001, 2001-2004, 2005-2008) funded under the EU Health Programmes established the first lists of ECHI indicators, aiming to create a comparable health information and knowledge system to monitor health at EU level.

Demography and socio-economic situation
- Population by sex/age - Old-age-dependency ratio (I)
- Birth rate, crude (I)
- Mothers age distribution (I)
- Total fertility rate (I)
- Population projections (I)
- Population by education (I)
- Population by occupation (I)
- Total unemployment (I)
- Population below poverty line (I)
- Income inequality (I)

Health status
- Life expectancy (I)
- Life expectancy by educational attainment (I)
- Infant mortality (I)
- Perinatal mortality (I)
- Disease-specific mortality (I)
- Drug-related deaths (I)
- Smoking-related deaths (D)
- Alcohol-related deaths (D)
- Excess mortality by heat waves (D)
- Selected communicable diseases (I)

Health interventions: health services
- Vaccination coverage in children (I)
- Influenza vaccination rate in elderly (I)
- Breast cancer screening (I)
- Cervical cancer screening (I)
- Colorectal cancer screening (I)
- Timing of first antenatal visits among pregnant women (D)
- Hospital beds (I)
- Practising physicians (I)
- Practising nurses (I)

Health interventions: health promotion
- Policies on environmental tobacco smoke (ETS) exposure (I)
- Policies on healthy nutrition (I)
- Policies and practices on healthy lifestyles (I)
- Integrated programmes in setting, including workplace, schools, hospital (D)
Limitations

- Indicators might not be relevant to the primary objective of improvement: granularity, specificity in definitions, coverage
- Heterogeneity in Methodology and data sources: trade-off between relevance and sound comparison
Methodological hurdles

• Standardized definitions and coding Controlling for differences in populations across countries
• Adjusting for differences in the ability to track individual patients across the system
• National representativeness of data and Controlling variability in data sources
• (retrospective) completeness of time series
## Building crosswalks across languages: Colectomy in colorectal cancer

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<td>Procedure codes: <strong>4572; 4573; 4574; 4575; 4576; 4579; 458; 4610; 4611; 4613; 4614; 4620; 4622; 4623; 484x; 485; 486x</strong> in patients with Dx1: <strong>153xx; 1540; 1541; 1548; 2303; 2304</strong></td>
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**Codes 461x, 462x** are only considered if are coded together with any of the others (if displayed alone considered palliative interventions)

Dx1 C18, C19,C20, C21, D00, D01

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Efforts

• Improve metrics and methodology for measurement
• Improve reliability and comparability of available data: definitions, internationally standardized indicators (crosswalks WHO-FIC: ICD, ICHI and ICF)
• New elements to enhance information systems’ relevance (UPI, POA)
• Convergence of data sources
What is the ECHO Project?

The European Collaboration for Health Optimization (ECHO) project is an international effort to bring together the hospital databases of several European countries and make the data available via an online summary tool.

European Health Care Outcomes, Performance and Efficiency

In the beginning of 2010, the EuroHOPE (European Health Care Outcomes, Performance and Efficiency), a new European four-year research project has been launched to evaluate the performance of European health care systems in terms of outcomes, quality, use of resources and costs.

HEALTH DATA NAVIGATOR

Learn from best practice examples to identify success factors and to improve data availability

BRIDGEHEALTH

BRIDGING INFORMATION AND DATA GENERATION FOR EVIDENCE-BASED HEALTH POLICY AND RESEARCH

AIM and OVERARCHING GOAL

- “To work towards a European health information (EU-HI) and data generation network covering major EU health policy areas”

- Develop a blueprint for a sustainable and integrated EU-HI system by developing common methods:
  - standardising the collection and exchange of health information
  - ensuring data quality
  - undertaking priority setting exercises for health information
  - addressing ethical and legal issues associated with the collection and use of health data

WORK PACKAGES

WP5 HES
WP6 Health and Environment
WP7 RMACH
WP8 Population based disease registries
WP9 Injury surveillance
WP10 Administrative data on health care
WP11 Integrating data sources health care
WP12 Evaluation health care systems
WP13 Coordination, dissemination, Evaluation
Overall health outcome
HEALTHY LIFE YEARS (WP1)
Basic features

- ECHO employs **routinely collected administrative data** – hospital discharges, demographic and socioeconomic data, supply features.

- ECHO has set about the task of bringing together **patient-level data** from Austria, Denmark, England, Portugal, Slovenia and Spain, making them **comparable** – 200 million episodes.

- ECHO is expanding the usual approach in healthcare performance international comparison (built upon average values and average benchmark), adding **variation within and across** countries.

- Systematic variation is shown for a variety of **comparable performance indicators**.
Expanding the metrics of performance to include within country variation across policy relevant jurisdictions and providers

1. Geographical analysis: population exposure to healthcare implications:
   - equitable access to effective care,
   - efficiency in planning and delivery of care
   - innovation policies

2. Hospital-specific, implications: providers benchmarking
   - quality of care
   - efficiency
Questions addressed by ECHO

• How to deal with international comparison using administrative datasets
  – Building a single dataset
  – Getting valid performance indicators across languages
  – Enabling the development of ECHO-standards for each indicator

• How to estimate unwarranted variation
  – How large variations are?
  – How to get rid of randomness and overdispersion?
  – How to account for need/epidemiology/comorbidity/severity?
  – How to flag providers beyond the expected?

• Explore underlying factors?
  – Supply
  – Demand (socio-demographic)
  – Learning curve
  – Policy environment

• Getting the in-country stakeholders opinion?
  – Making the results meaningful and, ultimately, useful for policy-makers
ECHO case study on lower-value indications of C-section

C-section LRD. Rates charted in natural scale

C-section LRD. Rates charted in normalised scale

Standardised utilisation rate per 100

Denmark  England  Portugal  Slovenia  Spain

Denmark  England  Portugal  Slovenia  Spain
PCI, CABG and burden of ischemic disease

**PCI**

- Population rates of procedures vs. burden of ischemic disease

**CABG**

- Population rates of procedures vs. burden of ischemic disease
Figure 3 Hospital performance following CABG surgery, 2007–2009, England and Spain pooled. Average mortality is 3.0%. Shaded markers are hospitals that exceed the 99.8% CI. This illustrates the ‘ECHO approach’, with data from both countries being pooled. More Spanish hospitals are identified as ‘alerts’ and ‘alarms’ and there is a clear separation in the number of expected deaths (reflecting differences in volume) between English and Spanish hospitals.
[Potentially avoidable hospitalizations in chronic and fragile patients]

STANDARDIZED RATES

POTENTIALLY AVOIDABLE CASES
Good stories to learn from
[Mortality after PCI]

Quality

[Graph showing mortality after PCI for two hospitals, Hospital Clinico Universitario and Hospital Universitari, with data points for the years 2002 to 2009.]
Editorial

Variations in health care delivery within the European Union

Salvador Peiró¹², Alan Maynard³

Comparing hospital performance within and across countries: an illustrative study of coronary artery bypass graft surgery in England and Spain

Nils Gutacker¹, Karen Bloor², Richard Cookson¹, Sandra Garcia-Armesto³⁴, Enrique Bernal-Delgado³⁴

Socioeconomic inequality in hip replacement in four European countries from 2002 to 2009—area-level analysis of hospital data

Richard Cookson¹, Nils Gutacker¹, Sandra Garcia-Armesto²³, Ester Angulo-Pueyo²³, Terkel Christiansen⁴, Karen Bloor⁵, Enrique Bernal-Delgado³⁴

Potential of geographical variation analysis for realigning providers to value-based care. ECHO case study on lower-value indications of C-section in five European countries

Sandra Garcia-Armesto¹²³, Ester Angulo-Pueyo¹³, Natalia Martín Inés Joaquim⁶, Enrique Bernal-Delgado³⁴, on behalf of the ECHO

Comparing variation across European countries: building geographical areas to provide sounder estimates

Lau C. Thygesen¹, Cristobal Baixauli-Pérez²³, Julián Libreño-López²³, Natalia Martínez-Lizaga³⁴, Manuel Rídao-López³⁴, Enrique Bernal-Delgado³⁴, on behalf of the ECHO Consortium
Summary

- Bottom-up collaborative health services research project which aims to describe systematic and unwarranted variations in medical practice, using both, a population-based and a hospital-specific analysis.

- ...providing insight for decision-makers to pose the proper decision-making questions; and yielding relevant information for hospital managers to look at those underperforming quality areas.

- ...using several strategies for translating knowledge into practice: the Atlas VPM itself, technical workshops, meetings with decision-makers, and web-based tools for researchers.

http://www.atlasvpm.org
Exceso de CESÁREAS EN CASO DE BAJO RIESGO OBSTÉTRICO respecto a la tasa p25

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CESÁREAS BAJO RIESGO OBSTÉTRICO

Evoluciónde las áreas del Q4 de 2003
Comparing and reporting dimensions of HSP: Levels of influence

• Political discourse and pushing accountability
  (show that your performance is equivalent or better than that reported in other countries)

• (Re/de) shaping political agenda
  (priorities and actual delivery of care, balanced scorecards, national reports)

• Peers group for comparison (elements for system engineering and factors for success; Nordic council of ministries, EU regions and subsets)

• The SMART paradigm and comparisons for benchmarking and setting targets (non evaluation=devaluation vs the targets regime)
• **Strategic focus:**
  • link between health system strategies and international benchmarking: policy lessons designed for those who can act upon the findings (the policy-makers).
  • Policy focus rather than research focus: benchmarking systems driven not by experts or researchers but by policy-makers supported by experts and researchers

• **Adaptability and flexibility of benchmarking efforts:**
  • both large (full health system comparisons) and narrower scope studies,
  • using tools that can be administered in a time frame that matches the policy-makers’ agendas
• Data standardization to facilitate credible comparisons.

• Conveying data in a meaningful manner while reducing the need to rank health systems in league tables.

• Sensitivity to political and contextual issues; indicator interpretation should not lose sight of:
  
  • the policy context within which they are measured;
  • the players involved in formulating and implementing policy
  • the time lag needed to assess the impact of different policies
  • aspects of health care that remain unmeasured by available data.
SUMMARISING...

- health systems performance comparisons can offer a valuable tool to revise policies, review accountability agreements and reassess resource allocation procedures.
- However, to strengthen health systems it is necessary to use these comparisons for performance management purposes and, as a first step, to integrate performance data needs into the policy-making process.
Registros, Encuestas y Sistemas de Información de interés para el Sistema Nacional de Salud

Procedimientos para el reconocimiento de Registros, encuestas y sistemas de información del ámbito profesional y científico de interés para el Sistema Nacional de Salud.

La Ley 16/2003, de 28 de mayo, de cohesión y calidad del Sistema Nacional de Salud, crea en su artículo 52 el Sistema de Información del Sistema Nacional de Salud y establece en su artículo 58, apartado 5 que el Instituto de Información Sanitaria podrá reconocer como válidos para el Sistema Nacional de Salud registros de información sanitaria existentes en diferentes ámbitos profesionales y científicos. En este Manual se recoge la propuesta de evaluación de registros, encuestas y sistemas de Información del ámbito científico o profesional, gestionados por Sociedades científicas u otras instituciones, con objeto de valorar su reconocimiento como de interés para el SNS, de cara a su potencial uso en el Sistema de Información del Sistema Nacional de Salud (SI-SNS). El reconocimiento del Registro no implica para el Ministerio compromiso alguno de financiación.

- Manual de procedimientos para el reconocimiento de registros, encuestas y sistemas de Información

Resoluciones de reconocimiento:

- Registro Base de Datos de la Red Español de Costes Hospitalarios, dependiente de la Fundación Instituto MAR de Investigaciones Médicas (IMIM). Más información.
- Registro de Análisis del Retraso en el Infarto Agudo de Miocardio (ARIAM), dependiente de la Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias. Más información.
- Registro Español de Fertilidad, dependiente de la Sociedad Española de Fertilidad. Más información.

Registros, Encuestas y Sistemas de Información de interés para el SNS: informe preliminar (diciembre 2010)

Tras el establecimiento por el Instituto de Información Sanitaria de una serie de criterios, consecuentes con el contenido y fines del sistema de información, se ha realizado una búsqueda activa de registros y sistemas de información de instituciones públicas o privadas, no incluidos actualmente en el Sistema de Información Sanitaria y que engrosan este primer inventario. De los registros inicialmente identificados se han incluido un total de 52, los cuales incluyen sobre una miscelánea de aspectos, con potencial interés para el Sistema Nacional de Salud.

- Registros, Encuestas y Sistemas de Información de interés para el SNS

Para más información y envío de documentación puede ponerse en contacto con el Instituto de Información Sanitaria informacionesanitaria@msssi.es
Sistema de Información Sanitaria

Áreas temáticas

Salud y estilos de vida | Centros, servicios y establecimientos sanitarios | Atención Primaria, Centros de Salud | Atención Especializada, Hospitales | Medicamentos y Productos Sanitarios | Financiación y Gasto Sanitario | Opinión de los ciudadanos, Barómetro Sanitario

Documentos de síntesis y análisis

- Indicadores Clave del Sistema Nacional de Salud: INCLASNS – BD Conjunto priorizado de información de los aspectos relevantes de la salud y del sistema sanitario español.
- Informe anual del Sistema Nacional de Salud
- Indicadores de los Sistemas Sanitarios de los países de la UE en el siglo XXI
- Los Sistemas Sanitarios en los Países de la UE: características e indicadores de salud, 2013
- Indicadores de Salud 2013: Evolución de los indicadores del estado de salud en España y su magnitud en el contexto de la Unión Europea
- Sistema Nacional de Salud, España 2012
- Análisis del Sistema Sanitario España 2010 – Health Systems in Transition (HIT)

Enlaces a organismos Internacionales

- EUROSTAT - Public Health Statistics Illustrated: estadísticas de salud y servicios de los países miembros de la Unión Europea
- OCDE - Health Data: recopilación de estadísticas e indicadores de los principales aspectos de los sistemas sanitarios de los países miembros de la OCDE
- OMS - European Health for All database: selección de estadísticas de salud de los estados miembros de la región europea. HFA-DB se puede utilizar en línea o descargarse
Overview

- Why comparison of HSP?
  - HSPA Framework/s
  - Uses
    - ranking
    - Setting targets and benchmarking
    - Learning and best practices
- International initiatives
- Spanish landscape