Seeing the wider context and horizon: the value and impact of health service accreditation and hospital quality programs

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Background

Ernst Codman and the “end results” approach in the 1910s. The "idea" entailed following patients long enough to determine if treatments proved successful and taking comprehensive measures to prevent new failures if outcomes were undesirable.

Codman's work anticipated contemporary approaches to quality monitoring and assurance, establishing accountability, and allocating and managing resources efficiently, among other assessment features.
Background

- Substantial amount of resources and research in the last 30 years on assessing and improving the quality of health care
- Relationship between “external” and “internal” efforts
- Considerable progress in developing measurement tools and widespread application; however, variations and quality and safety problems persist after adjusting for confounders.
- Increase interest in “what works” and how to accelerate health care quality efforts is more up to date than ever.
- Relevance for decision-makers at different levels:
  - Professionals, Hospitals, purchasing agencies,
  - MS and EU level and of course patients
What is important for implementing change?

Deepening our Understanding of Quality Improvement in Europe

**External Pressure**
- Perceived external pressure
- External assessment

**Hospital Governance**
- Quality orientation of the management board

**Quality Management (QM) System**
- Quality management systems index
- Quality management compliance index
- Clinical quality implementation index

**Patient Involvement in QM**
- Client council

**Patient Involvement in QM**
- Patient information

**Hospital Culture**
- Competing values
- Social capital
- Patient safety culture

**Professional Involvement**

**Pathway Culture**
- Patient safety culture

**Professionalism**

**Patient Experience**

**Perceived Patient Safety**

**Clinical Effectiveness**

**Acute myocardial infarction**
**Stroke**
**Hip fracture**
**Deliveries**
Purpose of the regulation: There are a number of regulation strategies, including accreditation, by which governments seek to influence behaviour and control risks by indirect means.

What is accreditation?

The application of nationally and internationally agreed standards for assessing and benchmarking performance.
Who gets accredited?

- General Practices
- Aged Care facilities
- Hospitals
- Day surgeries
- Radiology practices
- Mental Health Services

- Public health programs
- Individual health professionals
- Professional training programs
- Specific services (Bone Marrow transplantation)
Models of accreditation (I)

Accreditation involves:

• Organisational self-assessment;

• Survey (interviews and observational assessment);

• Written report developed by the accrediting agency and provided to organisations

• Decision of accreditation
Models of accreditation (II)

 Appropriately, for the qualitative methods utilised, the assessment findings strive to be credible and verifiable.

 Results are not precisely repeatable, but the aim is to strive to be as rigorous as possible, transparent and defensible.

 Performance is often assessed against a multilevel scale.
How widespread is healthcare accreditation?

- Accreditation of **health organizations** is practised in more than 70 countries.
- 22 national bodies.
- One international organisation: ISQua.
What the critics say ...

Healthcare clinical and organisational performance

Accreditation survey

Time
What the advocates claim ...

Accreditation survey

Healthcare clinical and organisational performance

Time
The benefits of accreditation

Having a positive accreditation result is associated with good organizational and has a trend of better clinical performance.

• Accreditation performance was significantly positively correlated with organizational culture (rho=0.618, p<0.005) and leadership (rho=0.616, p<0.005).
• There was a trend between accreditation and clinical performance ACHS clinical indicators (rho=0.450, p<0.080).
• Accreditation was unrelated to organizational climate (rho=0.378, p<0.110) and consumer involvement (rho=0.215, p<0.377).

Other benefits of accreditation:

• Accreditation promotes positive quality and safety cultures across organizational boundaries.
• Accreditation can be used to create and build quality and safety improvements
• The patient journey survey (PJS) method in the accreditation process is a valuable approach

References:

Image credit: http://blog.hypeinnovation.com/customer-journey-mapping-the-framework-part-
Areas that need to be further covered:

• The empirical evidence base for accreditation programs and the development of accreditation standards have not been compelling in the past but these are improving.

• Economic evaluation of accreditation programs using cost-benefit analysis is at a rudimentary stage, and most quality and safety initiatives have not been rigorously subject to cost-benefit analyses

References:


Key challenges

• Role of government in accreditation schemes
• Financial viability of schemes
• Ongoing stakeholder acceptance and engagement
• ‘Peer-to-peer’ or professional surveyors
• Reliability of surveyors and surveys
• Public disclosure of results and findings
Are hospital and departmental quality improvement programs associated with clinical performance?
Deepening our Understanding of Quality Improvement in Europe

External Pressure
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Hospital Culture
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Professional Involvement

Pathway Culture
- Patient safety culture

Professionalism

Patient Involvement in QM
- Client council
- Patient information

Patient Involvement in QM

Departmental Quality Strategies
- Specialized expertise and responsibility
- Evidence-based organization of pathways
- Patient safety strategies
- Clinical review

Patient Experience
Perceived Patient Safety
Clinical Effectiveness

Acute myocardial infarction
Stroke
Hip fracture
Deliveries
Overall objective

To test whether organisational quality improvement and culture, professionals' involvement, and patient empowerment are associated with the quality of care in European hospitals (as measured in terms of clinical effectiveness, patient safety and patient involvement)
# Deepening our Understanding of Quality Improvement in Europe

**Project coordination:** Avedis Donabedian Institute, Autonomous University of Barcelona. Prof. Rosa Suñol; Co-IP: Oliver Groene, PhD

## Partners
- Academic Medical Centre, Netherlands
- Netherlands Institute of Health Services Research, Netherlands
- Dr Foster Intelligence, England
- Department of Clinical Quality and Patient Safety, Central Denmark Region
- Polish Society for Quality Promotion of Health Care, Poland
- Institute for Medical Sociology, Health Services Research and Rehabilitation Sciences, Germany
- European Hospital and Healthcare Federation, Belgium
- University of California, Los Angeles, USA
- Avedis Donabedian Institute, Autonomous University of Barcelona, Spain

## Country coordination
- Czech National Accreditation Committee, Czech Republic
- Dr Foster Intelligence, England
- Haute Autorité de Santé, France
- Institute for Medical Sociology, Health Services Research and Rehabilitation Sciences, Germany
- Polish Society for Quality Promotion in Health Care, Poland
- Portuguese Association for Hospital Development, Portugal
- Portuguese Society for Quality in Health Care, Portugal
- Foundation for the Accreditation and the Development of Health Services, Spain
- Turkish Society for Quality Improvement in Healthcare, Turkey

Funded by the European Community’s Seventh Framework Programme FP7/2007-2013 under grant agreement n° 24188
Overall design

- Cross-sectional study
- Data collected at hospital, departmental, professional and patient levels
- Mixed methods:
  - Measurement of the various constructs will entail both qualitative and quantitative techniques
    - Surveys
    - Chart review
    - Audit/observation
    - Routine data
Countries participating in the field test

Criteria:
- They cover different European health systems and social variation.
- They are big enough to have sufficient number of hospitals for the sampling strategy.
Hospitals inclusion criteria

Applicable to ALL 30 hospitals

- > = 130 beds
- General hospitals /Provide care for the four conditions studied
  - Acute Myocardial Infarction (AMI)
  - Stroke
  - Hip Fracture
  - Deliveries

Applicable only to the 12 hospitals for the in-depth study

- Volume of care provided to ensure recruitment of patients in given timeframe (30 valid cases in 4-5 months per condition)
## Countries and Hospitals participation

Total hospitals (n=240) and patients (n=11520)

### Countries

<table>
<thead>
<tr>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
</tr>
<tr>
<td>England</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Poland</td>
</tr>
<tr>
<td>Portugal</td>
</tr>
<tr>
<td>Spain</td>
</tr>
<tr>
<td>Turkey</td>
</tr>
</tbody>
</table>

### Participation and Activities at country level

- **30 hospitals**
  - **Activities:**
    - Surveys to professionals (management directors, quality coordinators and prof. leaders)
    - Administrative Data

- **12 hospitals** (from the previous 30)
  - Additionally performed the following Activities:
    - Surveys to professionals (Chiefs of Department and professionals)
    - Chart review (35 per condition)
    - Surveys to patients (30 per condition’s pathway)
    - Visits
## Measures compliance

<table>
<thead>
<tr>
<th>Type of Questionnaire</th>
<th>Total</th>
<th>% From Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Questionnaires</td>
<td>9.793</td>
<td>89</td>
</tr>
<tr>
<td>Patient Questionnaires</td>
<td>6.536</td>
<td>75</td>
</tr>
<tr>
<td>Chart Reviews</td>
<td>9.082</td>
<td>90</td>
</tr>
<tr>
<td>External Visits</td>
<td>74 + 189</td>
<td>100</td>
</tr>
<tr>
<td>Administrative Routine Data</td>
<td>182</td>
<td>95</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>25.731</strong></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>
How do we measure quality management?
Content of quality management measures at hospital level

<table>
<thead>
<tr>
<th>Index</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMSI, Quality Management</td>
<td>Global measure on the extent of implementation of quality management system. Includes 9 sub-scales.</td>
</tr>
<tr>
<td>System Index</td>
<td>(46 items questionnaire)</td>
</tr>
<tr>
<td>QMCI, Quality management</td>
<td>Developed from the perspective of how the hospital management oversees quality activities of the hospital.</td>
</tr>
<tr>
<td>compliance Index</td>
<td>(18 items visit)</td>
</tr>
<tr>
<td>CQI, Clinical quality</td>
<td>Measures the implementation of quality activities and continuous quality improvement in clinical areas.</td>
</tr>
<tr>
<td>implementation</td>
<td>(7 areas visited)</td>
</tr>
<tr>
<td></td>
<td>(infection prevention, medication management, falls, pressure ulcers, elective surgery, patient safety in surgery and preventing patient deterioration)</td>
</tr>
</tbody>
</table>
# Content of quality management measures at pathway level

<table>
<thead>
<tr>
<th><strong>SER, Specialized expertise and responsibility</strong>&lt;br&gt; (3 items visit)</th>
<th>Responsible group for condition management.&lt;br&gt;Clinical leadership</th>
</tr>
</thead>
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<tr>
<td><strong>EBOP, Evidence based organization of the pathway</strong>&lt;br&gt; (5-10 items visit)</td>
<td>Based on quality standards developed from evidence based guideliness from NICE and SIGN. Meassures if organizational meassures are in place to allow aplying evidence</td>
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<td><strong>PSS, Patient safety strategies</strong>&lt;br&gt; (9 item visits)</td>
<td>Include: Patient ID, Hand Hygine, Prevention of needle puncture, medication management, Crash carts (resucitation trolleys) and reporting adverse events system available</td>
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<tr>
<td><strong>CR, clinical reviews</strong>&lt;br&gt; (3 items visit)</td>
<td>Includes: clinical indicators, multidisciplinary audit and professional feed-back</td>
</tr>
</tbody>
</table>
### Evidence based organization AMI. (66 departements)

<table>
<thead>
<tr>
<th>Item</th>
<th>n (%) full compliance</th>
<th>Average country range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There are written criteria and procedures for fast-track admission and treatment of patients presenting with acute chest pain</td>
<td>36 (54.5)</td>
<td>18.2–90.9</td>
</tr>
<tr>
<td>2. Arrangements ensure that eligible STEMI (S-T elevation Myocardial Infarction) patients can receive thrombolysis within 30 min of arrival at the hospital</td>
<td>37 (56.0)</td>
<td>18.2–85.7</td>
</tr>
<tr>
<td>3. Immediate access is available 24/7 to a specialist physician to determine whether coronary revascularization is appropriate</td>
<td>57 (86.3)</td>
<td>66.7–100.0</td>
</tr>
<tr>
<td>4. Facilities are immediately available for performance of and transport for emergency coronary angiography</td>
<td>48 (72.7)</td>
<td>40.0–90.9</td>
</tr>
<tr>
<td>5. Facilities are immediately available for performance of and transport for percutaneous coronary intervention</td>
<td>44 (66.6)</td>
<td>36.4–81.8</td>
</tr>
</tbody>
</table>
## Evidence based organization Stroke (74 departemnts)

<table>
<thead>
<tr>
<th>Item</th>
<th>n (%) full compliance</th>
<th>Average country rangea (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is an agreed procedure for appropriate patients to be directly transported by ambulance personnel to a stroke unit</td>
<td>42 (56.7)</td>
<td>36.4–100.0</td>
</tr>
<tr>
<td>2. Agreed procedures ensure that patients with suspected stroke are assessed for receiving thrombolysis, if clinically indicated</td>
<td>55 (74.3)</td>
<td>41.7–100.0</td>
</tr>
<tr>
<td>3. A thrombolysis service is available 7 days a week in the hospital or by formal arrangement elsewhere</td>
<td>62 (83.7)</td>
<td>58.3–100.0</td>
</tr>
<tr>
<td>4. Agreed procedures ensure that patients with acute stroke have their swallowing screened by a specially trained healthcare professional</td>
<td>35 (47.2)</td>
<td>0.0–100.0</td>
</tr>
<tr>
<td>5. Protocols and procedures are available for patients to receive brain imaging within 1 h of arrival at the hospital</td>
<td>46 (62.1)</td>
<td>25.0–91.7</td>
</tr>
<tr>
<td>6. Protocols are in place to ensure documented multidisciplinary goals are agreed within 5 days of admission to hospital</td>
<td>31 (41.8)</td>
<td>8.3–66.7</td>
</tr>
<tr>
<td>7. There is immediate access (1 h) to a specialist acute stroke unit (or area) for those with persisting neurological symptoms</td>
<td>51 (68.9)</td>
<td>50.0–83.3</td>
</tr>
</tbody>
</table>
Selecting patients’ safety strategies

- Mapping process of patients’ safety recommendations: High fives programs, WHO Patient’s safety Alliance, Patient safety agencies, Joint Commission International and Required Organizational Practices (ROPs) from Accreditation Canada.

- Selection criteria included: frequency of the recommendation in reviewed documents and coverage for the different safety areas (infection, medication etc) as well as results of a pilot.

- The final measure included 12 common items for all departments and 2 specific for deliveries (babies identification and locked access to neonatal nursery).
Patient safety strategies. Patients identified by bracelets

<table>
<thead>
<tr>
<th></th>
<th>AMI N of wards (%)</th>
<th>STROKE N of wards (%)</th>
<th>HIP N of wards (%)</th>
<th>DELIVERIES (mother) N of wards (%)</th>
<th>DELIVERIES (babies) N of wards (%)</th>
<th>All adults excluding deliveries and babies N of wards (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Patients identified</td>
<td>17 (28%)</td>
<td>7 (11%)</td>
<td>11 (18%)</td>
<td>16 (27%)</td>
<td>1 (2%)</td>
<td>35 (19%)</td>
</tr>
<tr>
<td>From 1-8 identified</td>
<td>12 (20%)</td>
<td>15 (24%)</td>
<td>14 (23%)</td>
<td>4 (7%)</td>
<td>3 (5%)</td>
<td>41 (22%)</td>
</tr>
<tr>
<td>9 and 10 Pat. identified</td>
<td>32 (52%)</td>
<td>40 (65%)</td>
<td>37 (60%)</td>
<td>40 (67%)</td>
<td>5 (93%)</td>
<td>109 (59%)</td>
</tr>
</tbody>
</table>

From 1-8 identified:
- AMI: 12 (20%)
- STROKE: 15 (24%)
- HIP: 14 (23%)
- DELIVERIES (mother): 4 (7%)
- DELIVERIES (babies): 3 (5%)
- All adults excluding deliveries and babies: 41 (22%)

9 and 10 Pat. identified:
- AMI: 32 (52%)
- STROKE: 40 (65%)
- HIP: 37 (60%)
- DELIVERIES (mother): 40 (67%)
- DELIVERIES (babies): 5 (93%)
- All adults excluding deliveries and babies: 109 (59%)

0 Patients identified:
- AMI: 17 (28%)
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- DELIVERIES (mother): 16 (27%)
- DELIVERIES (babies): 1 (2%)
- All adults excluding deliveries and babies: 35 (19%)

Funded by the European Community’s Seventh Framework Programme FP7/2007-2013 under grant agreement n° 24188
Patient Safety Procedures
Overall Compliance at pathway level

Answer categories:
0: No or negligible compliance
1: Low Compliance
2: Medium Compliance
3: High, extensive compliance (included)
4: Full compliance (included)
9: Not applicable

Patient Safety Procedures Compliance at pathway level

- **AMI** (N=72)
- **STROKE** (N=74)
- **HIP** (N=74)
- **DELIVERIES** (N=72)

Safety boxes for disposal of injection devices are available in sufficient quantities for the number of injections administered.

There is no concentrated potassium chloride (KCl) stored in patient service areas.

During 2010 clinical review included analysis of reported adverse events.

Diagrammatic instructions for resuscitation are available in resuscitation areas.

Ward staff receive formal feedback on the analysis of reported adverse patient events.

There is a system to report adverse events to patients.

All defibrillators are subject to a documented programme of maintenance and calibration by an electrical engineer.

Promotional hand hygiene reminders are on display in the workplace.

Each emergency "crash chart" has a completed checklist of equipment and supplies.

Laboratory equipment existing in the ward (e.g.: blood gas analysis) is calibrated, standardised and maintained by technicians from the main...
## Where are the major differences. Exploring Variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Between-Country Variability</th>
<th>Within-Country (Between-Hospital) Variability</th>
<th>Within-Hospital (Between Department) Variability</th>
<th>Total variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variance (%)</td>
<td>Variance (%)</td>
<td>Variance (%)</td>
<td></td>
</tr>
<tr>
<td>Model 1. PSS Patient safety strategies</td>
<td>0 (0)</td>
<td>0.1827 (65.9)</td>
<td>0.0943 (34.1)</td>
<td>0.277</td>
</tr>
<tr>
<td>Model 2. AMI-EBOP Evidenece based organization</td>
<td>0.068 (10.1)</td>
<td>0.6127 (89.9)</td>
<td>N.A.</td>
<td>0.681</td>
</tr>
<tr>
<td>Model 3. STROKE-EBOP Evidenece based organization</td>
<td>0.308 (31.8)</td>
<td>0.6603 (68.2)</td>
<td>N.A.</td>
<td>0.968</td>
</tr>
<tr>
<td>Model 4 OBSTETRIC DELIVERIES-EBOP Evidenece based organization</td>
<td>0.056 (40.0)</td>
<td>0.0835 (60.0)</td>
<td>N.A.</td>
<td>0.139</td>
</tr>
<tr>
<td>Model 5. HIP FRACTURE-EBOP Evidenece based organization</td>
<td>0.723 (56.3)</td>
<td>0.5611 (43.7)</td>
<td>N.A.</td>
<td>1.289</td>
</tr>
</tbody>
</table>
Associations between quality management systems and patients' outcomes

- at hospital level
- at department level
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Using Directed Acyclic Graphs (DAGs) to depict our assumptions about choice of covariates for confounding control
Relationship between quality systems at hospital level and clinical indicators (limited and weak)
Relationship between quality systems at departmental level and clinical outcomes (AMI). Very strong
Summary

- Patient safety strategies are not yet fully implemented
- Variations are higher inside countries than between countries both in Patient Safety Strategies and in Evidence Based organization
- Baseline assessment of key clinical practice indicators show major shortcomings and large variation. Findings suggest that a substantial proportion of European citizens could be at risk of receiving suboptimal care.

POLICY CONSEQUENCES OF THESE FINDINGS CAN BE RELEVANT FOR PATIENT MOVEMENT IN EUROPE
Conclusions Patient level outcomes

- Associational analysis suggests that QMS at hospital level (distal effect) has weak relationship with some clinical outcomes.
- Department level Quality activities (proximal effects) are strongly related with several clinical outcomes.
- We did not see clear associations between quality systems and patient perceived outcomes. It seems that current quality systems and patient experience are not related. We need to include patient centered care in our quality programs.

QUESTIONNAIRES AND THE APPRAISAL ARE AVAILABLE IN OUR WEB SITE

www.duque.eu
Some reflections. Importance of proximal effect

- Accreditation
- Hospital management leadership
- Hospital quality management systems
- Department quality management systems

Clinical effectiveness

Patients perception
We decided to launch a guide book on how to develop quality management systems.

Seven ways to improve quality and safety in hospitals
An evidence based guide
Do you think this means we are improving healthcare and developing the evidence base? Or is it a lot of work for little value?

Now, are you an optimist or pessimist?
What else could we do to improve the evidence base and services to achieve excellent care both at external (through accreditation) and internal levels (through changes in organization and clinical practice)?
The benefits of research collaborations investigating accreditation programs:

- MQ and FAD accreditation research protocols and study designs are nationally and internationally recognised and widely used.
- Collaborative accreditation and quality research partnerships offer many benefits to multiple stakeholders.
- Accreditation and quality programs the world over have similar characteristics and face common challenges.
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THANK YOU!!

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