

European results of the DUQUE Project

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Consortium



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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)



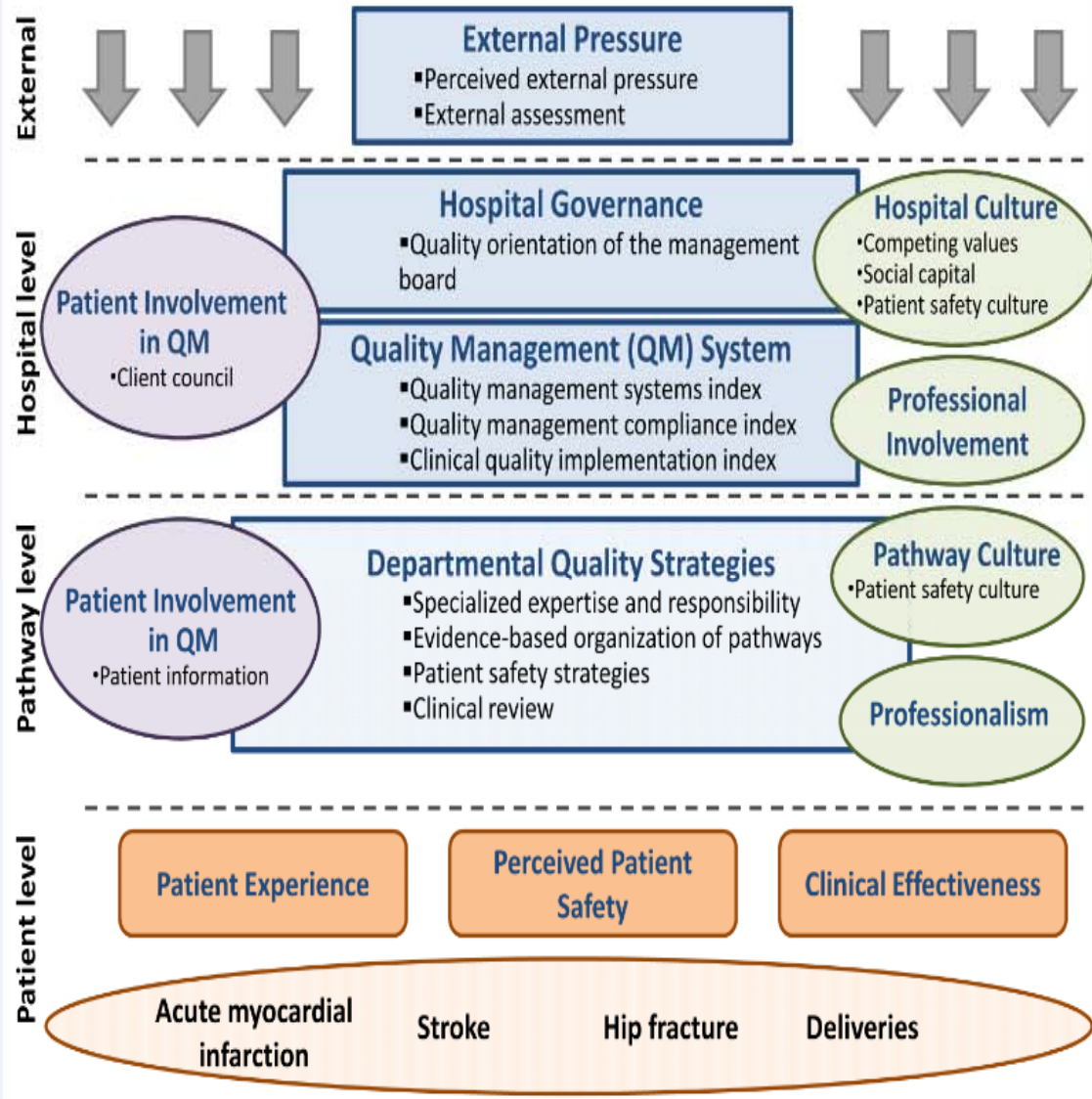
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Partners

- 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



Recruitment of hospitals in each participating country

Participants	Number of non-depth hospitals recruited	Number of in-depth hospitals recruited	Total number of hospitals recruited	Percentage of expected hospitals
Czech Republic	18	12	30	100
Portugal	19	11	30	100
Poland	18	12	30	100
Turkey	18	12	30	100
Germany	9	4	13	43
England	4	0	4	13
Spain	18	12	30	100
France	14	11	25	83
TOTAL	118	74	192	80

Measures compliance

Type of Questionnaire	Total	% From Expected		
Professional Questionnaires	9.793	89		
Patient Questionnaires	6.536	75		
Chart Reviews	9.082	90		
External Visits	74	100		
Administrative Routine Data	182	95		
Overall	25.731	86		

Content of quality management measures at hospital level

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

Content of quality management measures at pathway level

SER, Specialized expertise and responsibility (3 items visit)	Responsible group for condition management. Clinical leadership
EBOP, Evidence based organization of the pathway (5-10 items visit)	Based on quality standards developed from evidence based guidelines from NICE and SIGN. Measures if organizational measures are in place to allow applying evidence
PSS, Patient safety strategies (9 item visits)	Include: Patient ID, Hand Hygiene, Prevention of needle puncture, medication management, Crash carts (resuscitation trolleys) and availability of reporting system for adverse events
CR, clinical reviews (3 items visit)	Includes: clinical indicators, multidisciplinary audit and professional feed-back

Summary

Baseline assessment of key clinical indicators show major shortcomings and large variation in many indicators. Findings suggest that a substantial proportion of European citizens could be at risk of receiving suboptimal care



Descriptives: Hip Fracture clinical indicators

Chart review

Prophylactic antibiotic treatment given within 1 hour prior to surgical incision (N=2229)	984 (70%)	(48-90)
Prophylactic thromboembolic treatment received on the same day of admission (N=2272)	1532 (70%)	(33-85)
Early mobilization. Patient Mobilized within 24hours or 1 day after surgery (N=1668)	708 (42,7%)	(26-86)
In hospital surgical waiting time < 48 hours (N=2288)	1248 (55%)	(35-84)
% OF RECOMMENDED CARE PER CASE (indicators 1a, 2a, 3a, 4=YES) > 75%	702 (31%)	(18-62)

Descriptives: Stroke clinical indicators

Chart
review

Treated with platelet inhibitor within 48 hours after admission (N=2165)	1948 (94%)	(88-97)
Diagnostic examination within the first 24 hours after admission using CT or MRI scan (N=2340)	2128 (95%)	(84-99)
Mobilised within 48 hours or 2 days after admission (N=2088)	1228 (76%)	(51-90)
APPROPRIATE STROKE MANAGEMENT (2a=YES AND 3a=YES AND 4bi=YES) (N=2377)	1012 (58%)	(36-83)

Summary

IPatient safety strategies are not yet fully implemented

IVariations are higher within countries than between countries both in Patient Safety Strategies and in Evidence Based organization

POLICY CONSEQUENCES OF THESE FINDINGS CAN BE RELEVANT FOR PATIENT MOVEMENT IN EUROPE



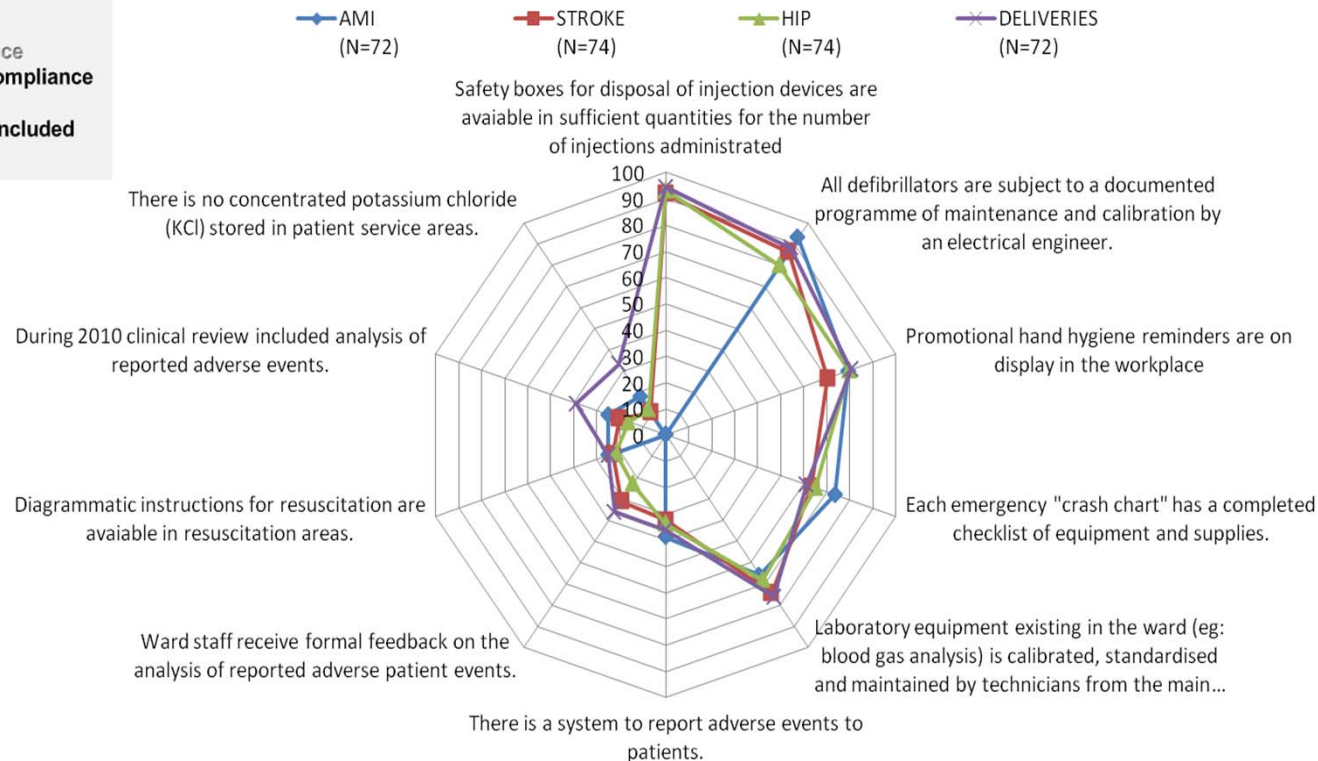
Patient Safety Procedures

Overall Compliance at pathway level

Source: audit

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



Relationship between quality systems at *hospital* level and clinical indicators

Independent variable	Dependent variable	OR (95% CI)
Quality Management Systems Index (0-27)	Therapy given in AMI Care (binary, ref=no)	1.2 (1.02-1.4)
Directly admitted to specialized stroke unit	1.4 (1.04-2.0)	
Quality Management Systems Compliance Index (0-16)	75% or more recommended care received in hip fracture	1.2 (1.0-1.3)
Instrumentation during vaginal delivery	0.9 (0.7-0.99)	
Clinical Quality Implementation Index (0-14)	Treatment with aspirin/antiplatelet <=48 hours after hospital arrival	1.1 (1.02-1.3)

Relationship between quality systems at *departmental* level and clinical outcomes (AMI). **Very strong**

Independent Variable	Dependent variable	OR (95% CI)
Specialized expertise and responsibility (Score 0-4)	Therapy given	2.2 (1.1-4.4)
	Beta blocker prescribed at discharge	1.9 (1.3-2.9)
Evidence Based organization of pathway (Score 0-4)	Therapy given on time	2.3 (1.1-2.9)
	Beta blocker prescribed at discharge	1.8 (1.1-2.9)
Patient Safety Strategies (Score 0-4)	Therapy given on time	3.3 (1.3-8.4)
	ACE inhibitor prescribed at discharge	7.3 (1.02-43.8)
Clinical review (Score 0-4)	Therapy given on time	2.0 (1.3-3.0)
	Statin prescribed at discharge	1.8 (1.2-2.8)
	Appropriate medications prescribed at discharge	1.5 (1.0-2.2)

Conclusions Patient level outcomes

Association analysis suggests that QMS at hospital level (distal effect) has a weak relationship with 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. *We need to include patient centered care in our quality programs*

The analysis of the role of external evaluation is still ongoing.

**QUESTIONNAIRES AND THE APPRAISAL GUIDE ARE AVAILABLE
IN OUR WEB SITE (www.duque.eu)**