

Performance

« Dans le domaine de la **gestion**, la performance est le résultat ultime de l'ensemble des efforts d'une organisation pour faire les bonnes choses, de la bonne façon, rapidement, au bon moment, au moindre **coût**, pour répondre aux besoins et aux attentes des **clients**. »

Medline

"clinical performance" : Début des années 60, 4 600 articles

- compétence des étudiants
- propriétés des DM, méthodes diagnostiques.
- qualité de soins ... 6/100

"clinical performance indicators" : 27 articles

Dobson R. **First clinical performance indicators for Wales show wide variation.** BMJ 1999 17; 318: 1026

-death rates after heart attack: 13.5% - 22.8%

-death rates after hip fracture: 4.1% - 9.6%

-discharge rates for hip fracture within four weeks: 35% - 65%

... readmission rates within 28 days of discharge

... discharges after a stroke

... death rates after an operation

Pourquoi ?

“The tragic events at Bristol cannot be allowed to happen again. Patients and their GPs want to feel sure that their local hospital is up to scratch... We need a system that collects and **monitors information on clinical performance, provides an early warning if things are going wrong**, and then helps to put things right ... Indicators are not a replacement for professional self regulation but they raise questions about clinical practice that doctors and NHS managers will need to investigate.”

John Owen Jones, Health minister

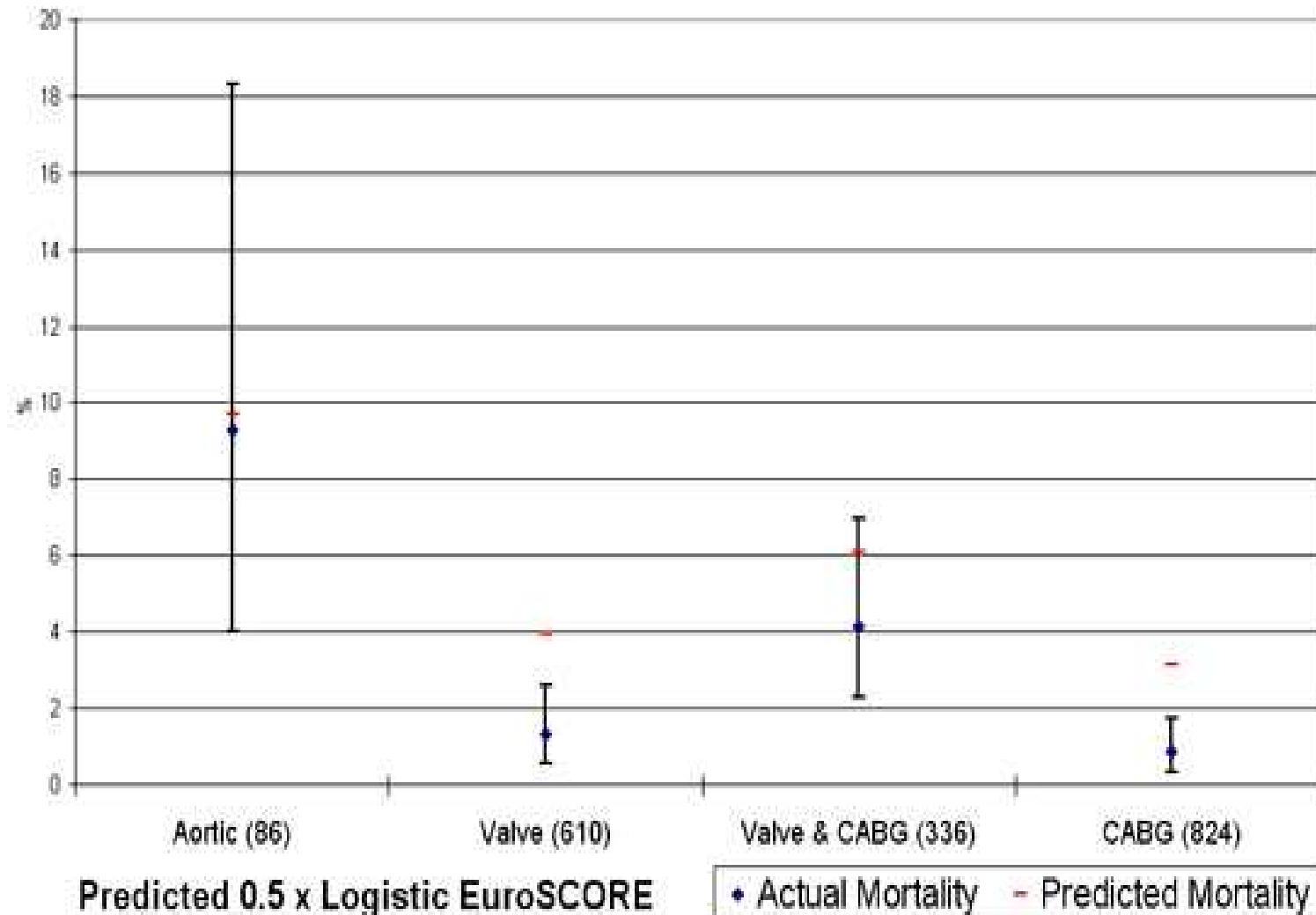
In 1989, as a new consultant anaesthetist, Dr Bolsin identified that too many babies were dying ...

... a fall in mortality rates for children’s heart surgery from 30% to less than 5%. He spent six years ...

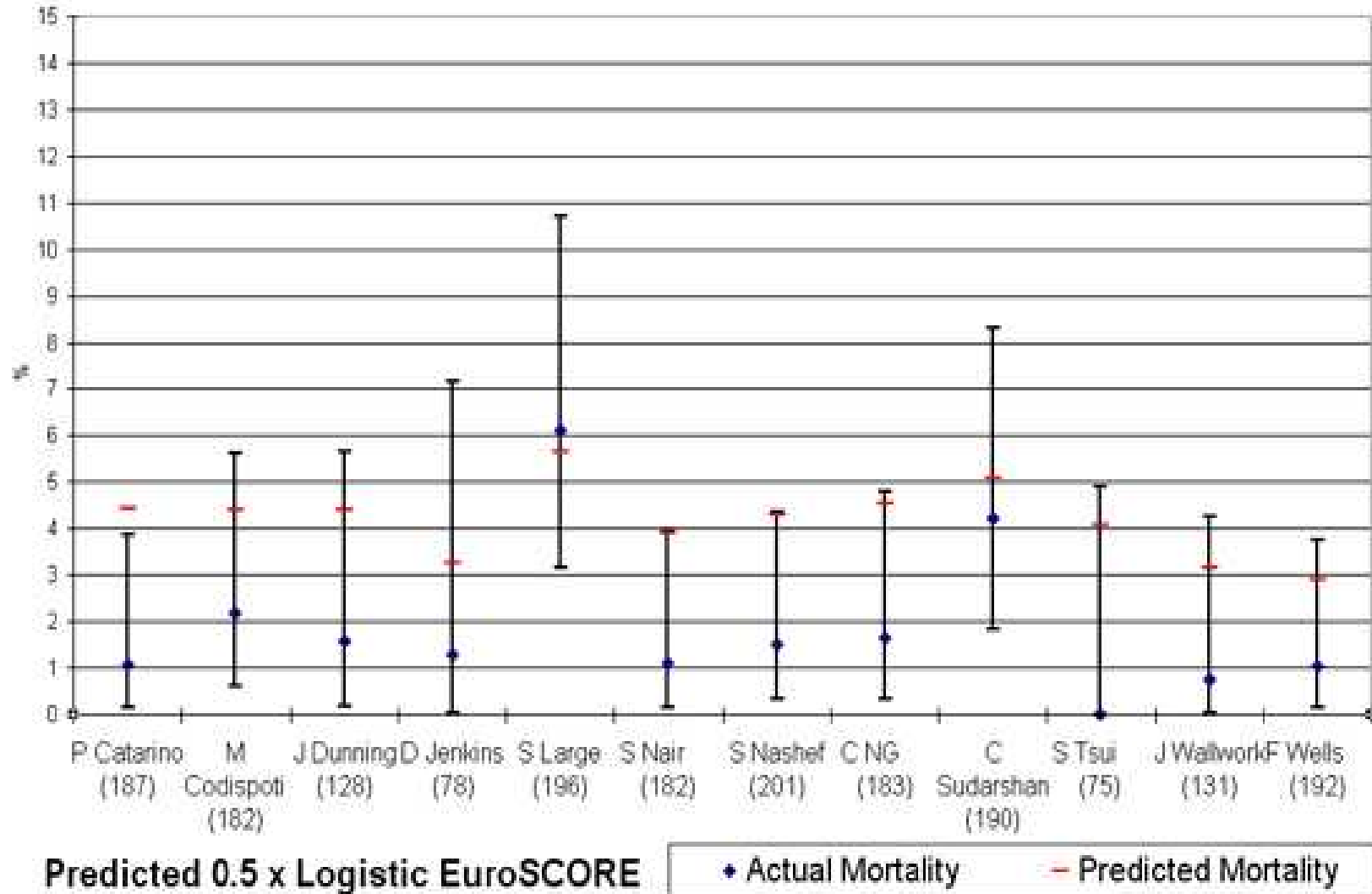
Smith R. BMJ 1998;316:1917–8.

Papworth Hospital (NHS)

Cardiac mortality 1 April 2010 to 31 March 2011



by surgeon



Ailleurs ?

New York State Cardiac Surgery Reporting System

1990 mortalité après pontage coronarien (ajustement multivarié)
Individuel (Newsday)

EuroSCORE I

20 000 patients, 128 hospitals, 8 European countries
97 risk factors in all the patients

Roques F et al. Eur J Cardiothorac Surg 1999;15:816-22.

Adult Cardiac Surgical Database Report 2010 (IV)

European Association for CardioThoracic Surgery

New contributors: Armenia, China ...

No data: France, Denmark, The Netherlands, Austria, Czech Republic

UK : Dr Foster (1)

What's the waiting time for treatment?

How long can I expect to stay in hospital?

What's the risk of me having to return to hospital urgently?

Which hospitals have high rates of MRSA and C Difficile ?

...

Hospital Standardised Mortality Ratio: deaths while in hospital care for 56 conditions (80 % of deaths).

Hospital-level Mortality Indicator: following hospital treatment, in or out of hospital for 30 days following discharge

Deaths after Surgery : patient deaths from a possible complication

Deaths in Low-Risk Conditions: deaths from conditions where patients would normally survive

...

Rate of hip fracture patients not operated on within two days.

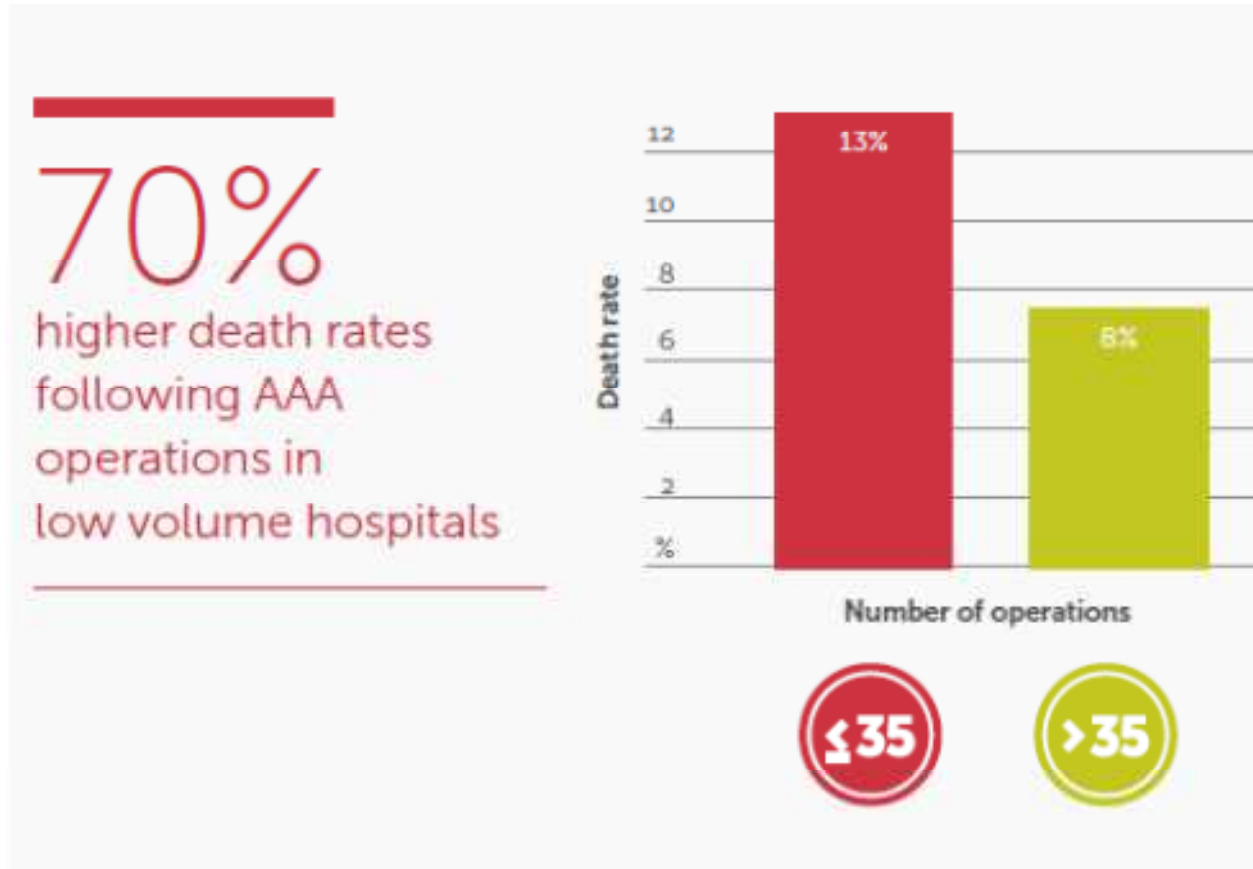
Number of patients with a long length of stay.

Emergency readmissions within 28 days of the initial operation.

Re-do rates (operation re-done within one year of the initial procedure).

The Hospital Guide (Imperial College) <http://www.drfoosterhealth.co.uk/>

UK : Dr Foster (2)



Aintree University Hospitals NHS Foundation Trust
Ashford and St Peter's Hospitals NHS Foundation Trust
Basildon and Thurrock University Hospitals NHS Foundation Trust
Blackpool Teaching Hospitals NHS Foundation Trust
Bradford Teaching Hospitals

US (1) : Joint Com. ORYX initiative

1998

The first national program for the measurement of hospital quality non standardized data on performance measures.

2004

Publicly available for least 2/4 core measure sets (acute myocardial infarction, heart failure, pneumonia, and pregnancy).
Financial penalization of hospitals that did not report.

2012

Minimum of 4 of the 14 core measure sets

acute myocardial infarction, heart failure, pneumonia, surgical care improvement, perinatal care, children's asthma care, hospital outpatient care, venous thromboembolism, stroke, hospital-based inpatient psychiatric services, immunization, the emergency department, substance abuse, tobacco intervention

US (2): Hospital Quality Alliance

2004 : 10 quality indicators selected for Medicare payment updates

Acute myocardial infarction

aspirin within 24 hours at the hospital and at discharge;
betablocker within 24 hours after arrival and at discharge
ACE inhibitor for left ventricular systolic dysfunction

Congestive heart failure

assessment of left ventricular function
ACE inhibitor for left ventricular dysfunction

Pneumonia

timing of initial antibiotic therapy
pneumococcal vaccination
assessment of oxygenation

2012 : 57 inpatient measures, 31 publicly reported.

www.HospitalCompare.hhs.gov

US (3): Best Hospitals

- discharge minimums (volume)
- structural dimension (tools, human ...)
- outcome (risk-adjusted mortality)
- patient safety (five of the constituents of AHRQ's PSI index +1)

Patient Satisfaction

“Whether patients would recommend the hospital to friends and family”

Johns Hopkins Hospital (Baltimore)

Definitely 82%

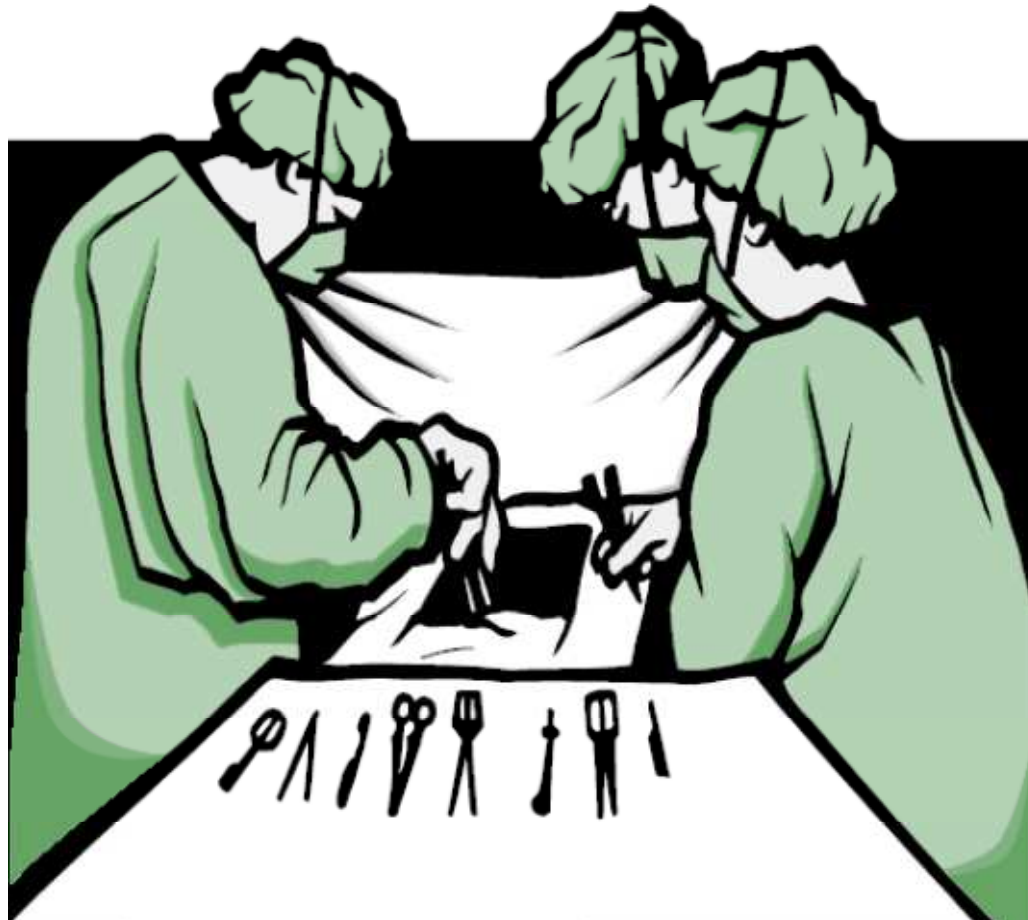
State Average 82%

National Average 69%

<http://health.usnews.com/best-hospitals/rankings>

“UNDER WRAPS!”

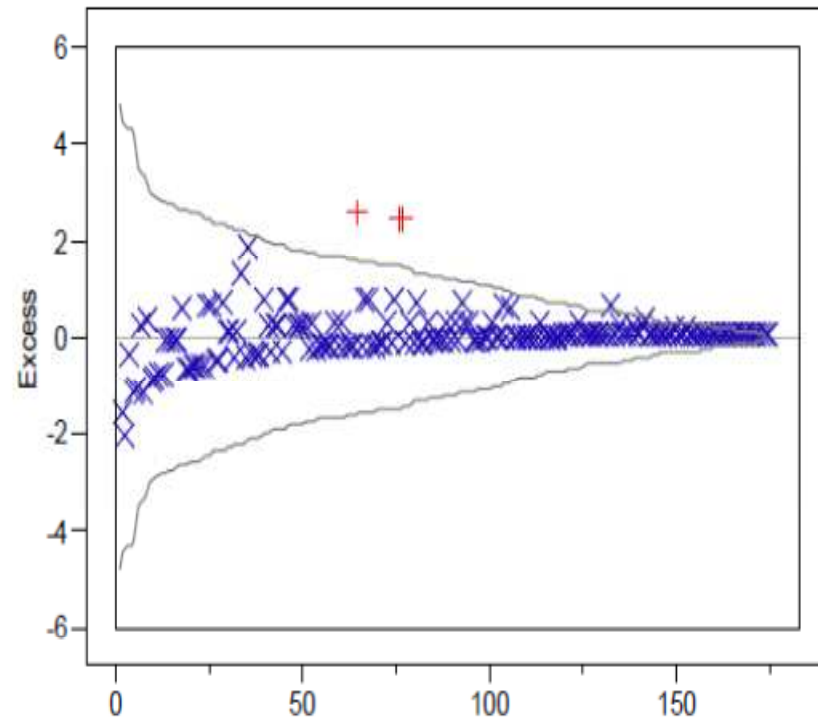
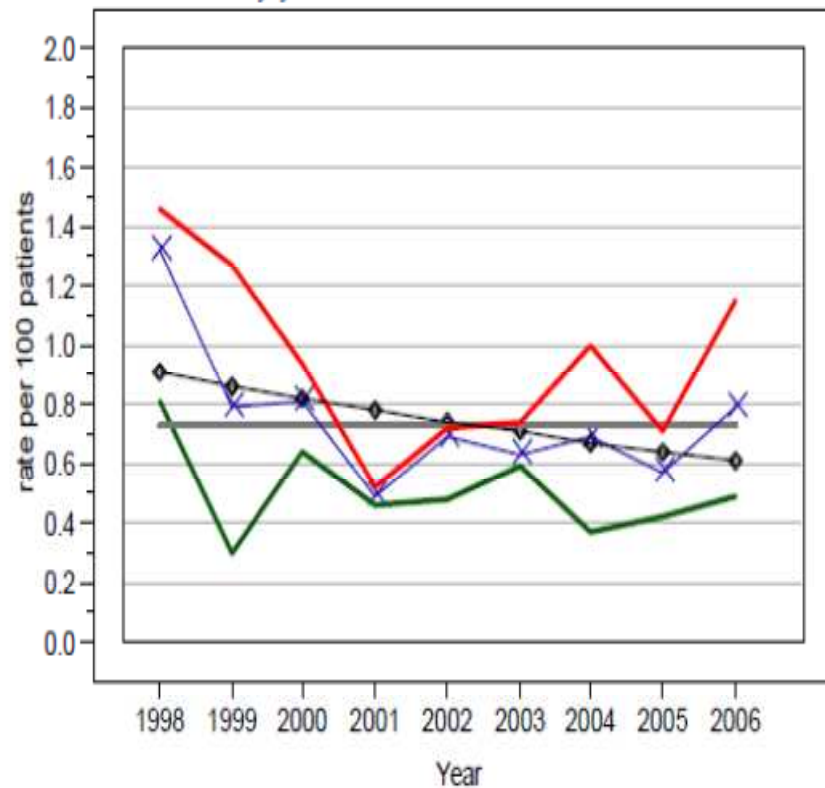
Performance Indicators of Western Australian Public Hospitals
REPORT NO 4 – AUGUST 1996
Office of the Auditor General



Council on Healthcare Standards

Significant haemorrhage after tonsillectomy. 2008

Rates and centiles by year



Platine

CHU Lille (Juin 2012) data 2010

Score agrégé de la lutte contre les infections nosocomiales	95/100	★ ★ ★
Indice composite de lutte contre les infections nosocomiales	100/100	★ ★ ★
Indicateur de consommation de produits hydro Alcooliques	272 /100	★ ★ ★
Surveillance des infections du site opératoire	60/100	★ ★ ☆
Indice Composite de bon usage des antibiotiques	95/100	★ ★ ★
Staphylocoque doré Indice triennal de SARM (SARM)	0,57	★ ★ ☆
Tenue du dossier patient	82/100	★ ★ ☆
Délai d'envoi du courrier de fin d'hospitalisation	53/100	★ ☆ ☆
Evaluation de la douleur	57/100	★ ☆ ☆
Dépistage des troubles nutritionnels	91/100	★ ★ ★
Tenue du dossier anesthésique	79/100	★ ★ ☆
Prescription med. infarctus du myocarde (BASI)	95/100	★ ★ ★

<http://www.platines.sante.gouv.fr/>

Piarron de Chamousset (1717-73)

Year	Hôtel-Dieu		Charity Hospital	
	Admissions	Deaths	Admissions	Deaths
1737	20 731	2 843	2 441	341
1738	20 283	5 084	2 413	290
1739	26 750	5 844	2 343	259
1740	27 079	7 894	2 362	374
1741	27 567	7 125	2 499	303
1742	23 944	5 893	2 293	352
1743	17 524	4 028	2 233	294
1744	15 721	3 510	2 100	281
1745	16 653	3 644	2 040	309
1746	17 729	4 198	2 233	273
1747	17 506	4 244	2 138	266
1748	19 691	4 784	2 115	284
Total	251 178	61 091	27 210	3626

Data Sources Construction

Administrative Databases

Medicare & Medicaid Services Nationwide Inpatient Sample, PMSI, SNIIR-AM

Underreport:

majority of patients with documented deep vein thrombosis had no reported vascular ultrasound

Haut ER et al. JAMA 2012;307:2589-90

Lack of relevant clinical details:

age (80%) and gender (57%) were the most commonly used factors in risk adjustment for Hospital Episode Statistics

Sinha S. Eur J Public Health 2012 In press

Medical Records

Veterans, Audipog (1980)

Patient Surveys

Surveillance Epidemiology and End Results

EUROSCORE, EUROASPIRE

Data mining (Informatique décisionnelle)

« KDD » Knowledge Discovery in Databases

(Extraction de Connaissances à partir de Données)

Variables (1) : risk-adjustment

Score ASA

1 to 5 (AAA)

“ASA correlation was only fair in all groups (Kappa indices: 0.21-0.4)”

“Scores are limited by inter observer inconsistency”

risk-adjustment

	Cardiopathies isch. (+ /100 000 standardisé)	Cardiologues (n / M habitants)	PIB (€/ habitant)
Picardie	43,2	7.0	23 900
Nord Pas de Calais	47.6	8.5	24 900
Ile de France	31,4	11.9	47 100

Variables (2) : Mortality

- risk-adjustment**

Stroke : 58% of the 782 hospitals first classified as having higher than expected mortality were reclassified to having the expected mortality rate after incorporating severity (NIHSS score) into the model.

Fonarow CG et al. JAMA 2012;308: 257-64

- “meaningless” for many specialties” + “blunt tool”**

“Among 1000 adult patients dying in acute hospitals in England, death was considered preventable in 5.2% of cases”

Hogan H. BMJ Qual Saf 2012 in press

- “outdated”**

DALY Disability-Adjusted Lifer Years (WHO)

Espérance de vie corrigée de l'incapacité

Tobacco, Alcohol, Obesity

http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/

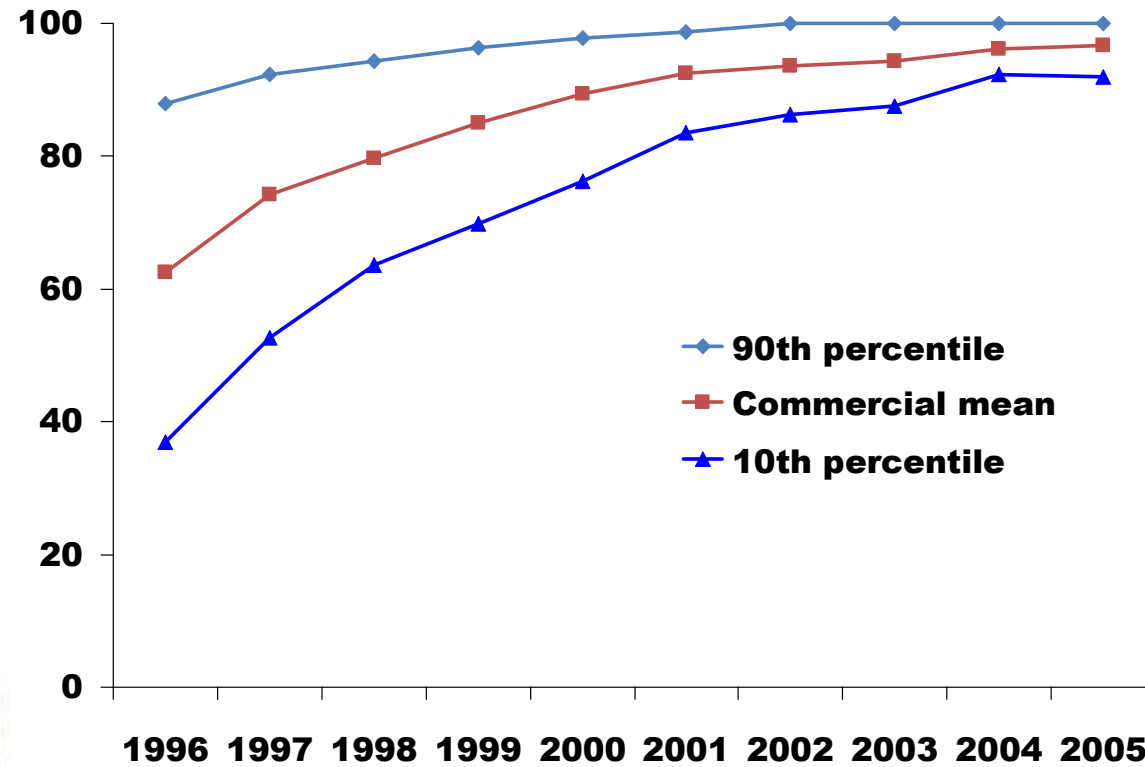
Variables (3) : processus

BASI (IPAQ 2009)

« Prise en charge hospitalière de l'IM après la phase aiguë »

- Aspirine / clopidogrel après infarctus
- **Bêta-bloquant après infarctus**
- IEC après infarctus,
- **Statine après infarctus**
- Sensibilisation aux règles hygiéno-diététiques
- **Délivrance de conseils pour l'arrêt du tabac**

betablocker



Lee TH. N Engl J Med 2007;357:1175-7

société européenne de cardiologie

EUROASPIRE I 1995/96

-76 centres, 22 pays européens

-13 935 dossiers médicaux

-8 845 patients interviewés

-à 6 mois

Kotseva K. Lancet 2009; 373: 929–40

EUROASPIRE III 2006/07

moins de la moitié des patients (44,8%) se sont vu proposer de participer à un programme de réhabilitation cardiaque

France (32,4%) au 16ème rang sur 22

Kotseva K et al. Eur J Prev Cardiol 2012 in press

Variables (3) : seuil

LDL cholestérol inférieur à 1 g/l

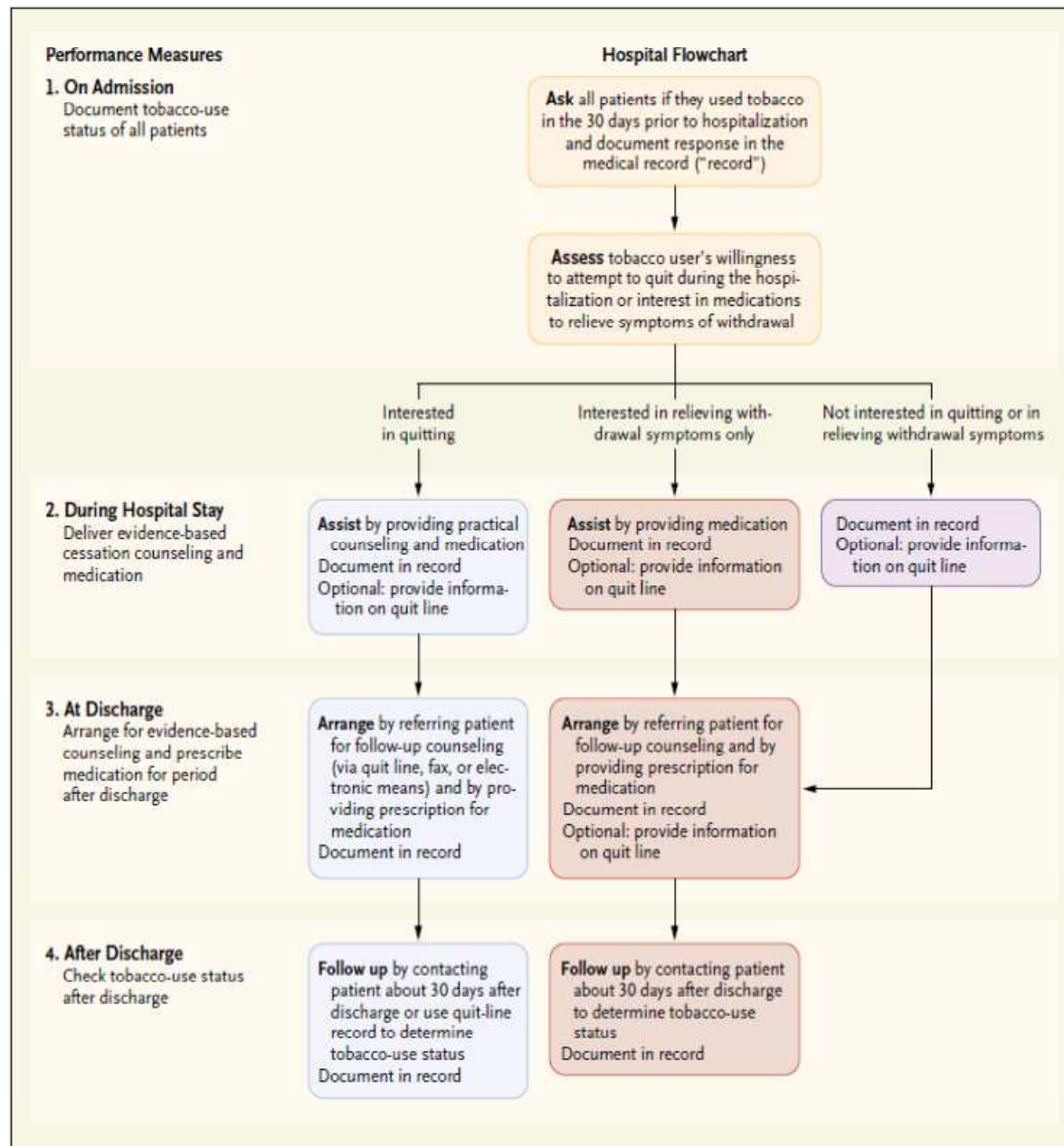
(moins de 85 ans en post-infarctus)

Critère d'évaluation substitutif

Variable continue : 1,1 vs 0,9 ?

Non linéaire

Multifactoriel



The New Joint Commission Tobacco Cessation Performance Measure-Set.

Fiore MC et al. N Engl J Med 2012;366:1172- 4

Et la pertinence ?

30% actes inutiles en France

Sondage 2012

more than one out of five implantable cardioverter-defibrillators do not meet evidence-based criteria for implantation

Al-Khatib SM et al. JAMA 2011;305:43-9

25 % des malades décédés en soins palliatifs ont une chimiothérapie < 60 jours avant le décès (médiane : 22 j)

2009 non publié

mortalité périnatale

(+ foetales et néonatales précoces)

France (2009) : 13,8 pour 1 000 naissances

mortalité infantile

(décès dans la première année de vie)

France : 5^{ème} rang en 1998

France : 14^{ème} en 2009.

EBM vs multimorbidity

The most common chronic condition experienced by adults is multimorbidity, the coexistence of multiple chronic diseases or conditions.

-In patients with coronary disease, it is the sole condition in only 17% of cases.

- 3 in 4 patients aged >65 years have multiple chronic conditions

- 1 in 4 adults younger than 65 years

Tinetti ME et al. JAMA 2012;307:2493-4

“Disease-oriented programmes are now known to cause fragmentation—a catastrophe for patients with multimorbidity.”

Salisbury C. Lancet 2012;380:7-9

79 y woman

osteoporosis, osteoarthritis, type 2 DM, hypertension, COPD (moderate)

Time	Medications†	Other
7:00 AM	Ipratropium metered dose inhaler 70 mg/wk of alendronate	Check feet Sit upright for 30 min on day when alendronate is taken Check blood sugar
8:00 AM	500 mg of calcium and 200 IU of vitamin D 12.5 mg of hydrochlorothiazide 40 mg of lisinopril 10 mg of glyburide 81 mg of aspirin 850 mg of metformin 250 mg of naproxen 20 mg of omeprazole	Eat breakfast 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
12:00 PM		Eat lunch 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
1:00 PM	Ipratropium metered dose inhaler 500 mg of calcium and 200 IU of vitamin D	
7:00 PM	Ipratropium metered dose inhaler 850 mg of metformin 500 mg of calcium and 200 IU of vitamin D 40 mg of lovastatin 250 mg of naproxen	Eat dinner 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
11:00 PM	Ipratropium metered dose inhaler	

12 separate medications (19 dpd), 5 times a day

Type of Disease	Medications With Potential Interactions	Type of Interaction		
		Medication and Other Disease	Medications for Different Diseases	Medication and Food
Hypertension	Hydrochlorothiazide, lisinopril	Diabetes: diuretics increase serum glucose and lipids*	Diabetes medications: hydrochlorothiazide may decrease effectiveness of glyburide	NA
Diabetes	Glyburide, metformin, aspirin, and atorvastatin	NA	Osteoarthritis medications: NSAIDs plus aspirin increase risk of bleeding Diabetes medications: glyburide plus aspirin may increase the risk of hypoglycemia; aspirin may decrease effectiveness of lisinopril	Aspirin plus alcohol: increased risk of gastrointestinal tract bleeding Atorvastatin plus grapefruit juice: muscle pain, weakness Glyburide plus alcohol: low blood sugar, flushing, rapid breathing, tachycardia Metformin plus alcohol: extreme weakness and heavy breathing Metformin plus any type of food: medication absorption decreased
Osteoarthritis	NSAIDs	Hypertension: NSAIDs: raise blood pressure†; NSAIDs plus hypertension increase risk of renal failure	Diabetes medications: NSAIDs in combination with aspirin increase risk of bleeding Hypertension medications: NSAIDs decrease efficacy of diuretics	NA
Osteoporosis	Calcium, alendronate	NA	Diabetes medications: calcium may decrease efficacy of aspirin; aspirin plus alendronate can cause upset stomach Osteoporosis medications: calcium may lower serum alendronate level	Alendronate plus calcium: take on empty stomach (>2 h from last meal) Alendronate: avoid orange juice Calcium plus oxalic acid (spinach and rhubarb) or phytic (bran and whole cereals): eating these foods may decrease amount of calcium absorbed (>2 h from last meal)
Chronic obstructive pulmonary disease	Short-acting β-agonists	NA	NA	NA

Boyd CM et al. JAMA. 2005;294:716-24

Hospi-Diag

67 Indicateurs de performance (ANAP et ATIH)

- Activité
- Qualité
- Organisation/process
- RH
- Finance

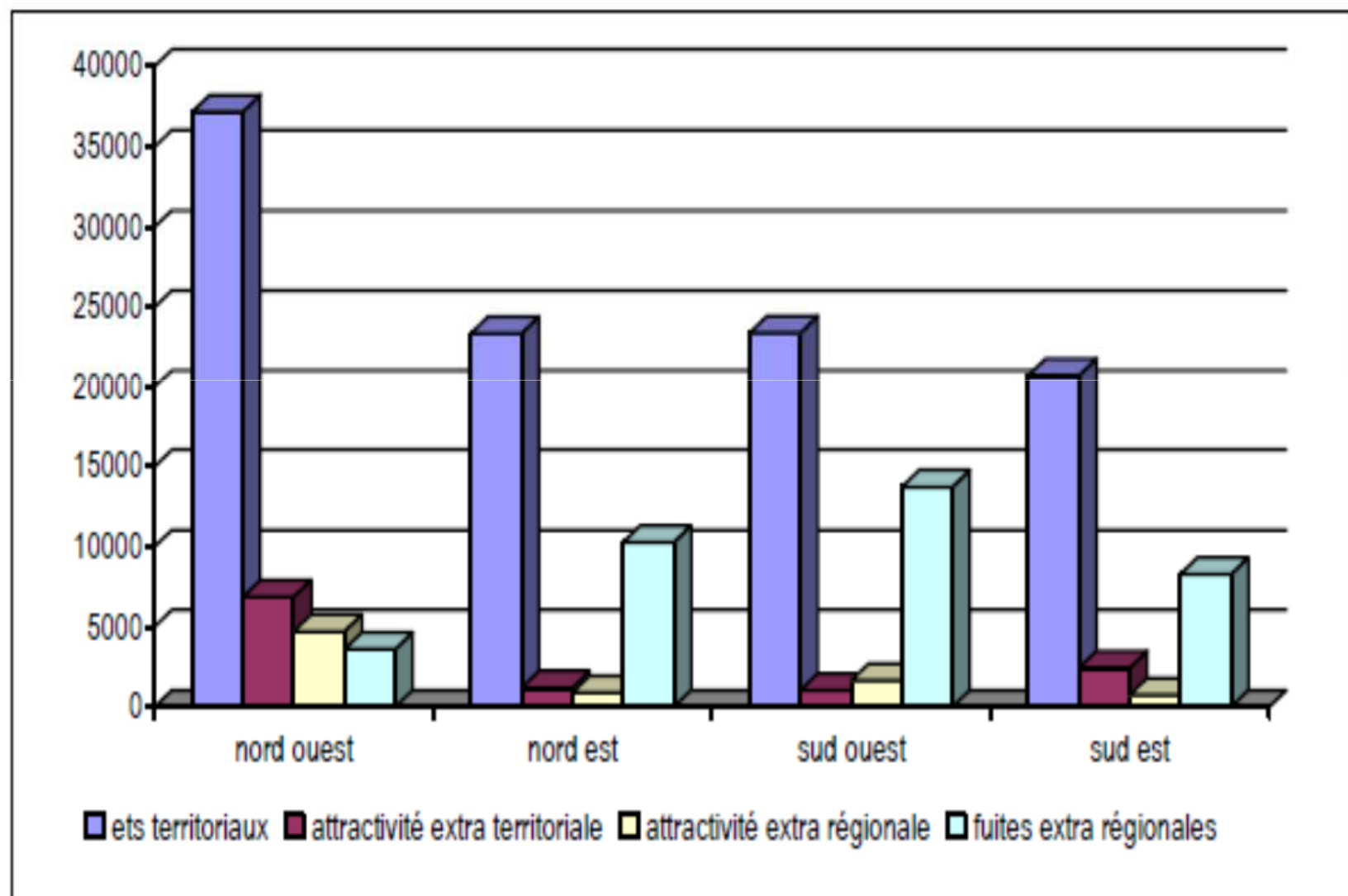
Classement le Point (2012)

- les 100 hôpitaux les plus endettés
(2011: 24 M € , doublement entre 2004 et 2010)
- les 100 blocs a plus faible productivité chirurgicale
- les records des charges administratives :
Rethel : 38,1% (moyenne France 24,5%)

« ... depuis 2007, la gravité des arrêts (durée) a progressé de 9%, leur fréquence (nombre d'arrêts pour 100 agents) de 12% et l'exposition (proportion d'agents absents) de 7% »

CNRACL 2012

Région ~~de la~~: attractivité et fuites des séjours des patients de chaque territoire de santé



US (4)

“Provider cost performance is not associated consistently with clinical performance.”

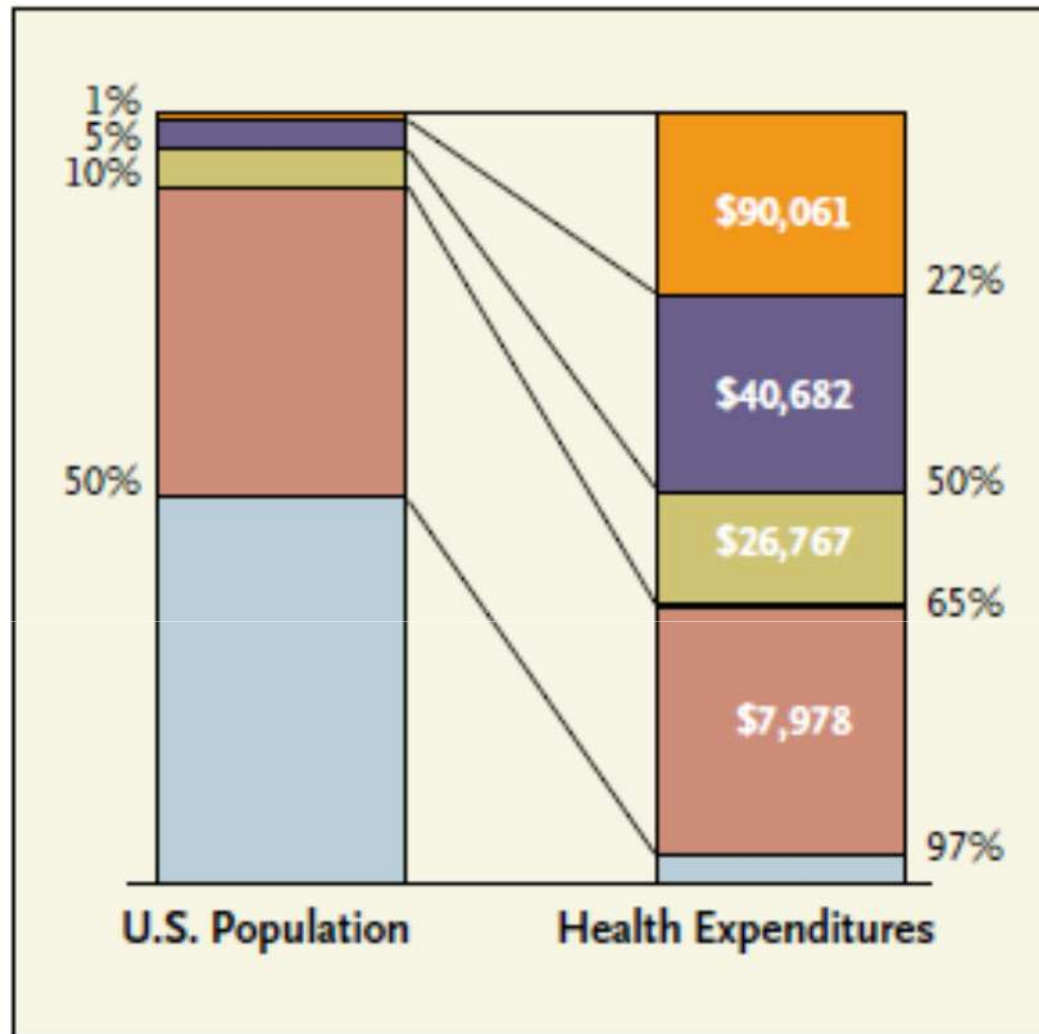
chronic illnesses: diabetes mellitus, hypertension, and asthma

Powe NR et al. Med Care 1996;34:798-810

Physicians Quality Reporting System

Incentive payment to practices (2%)

Penalties in 2015 (2%) on 2013 performance

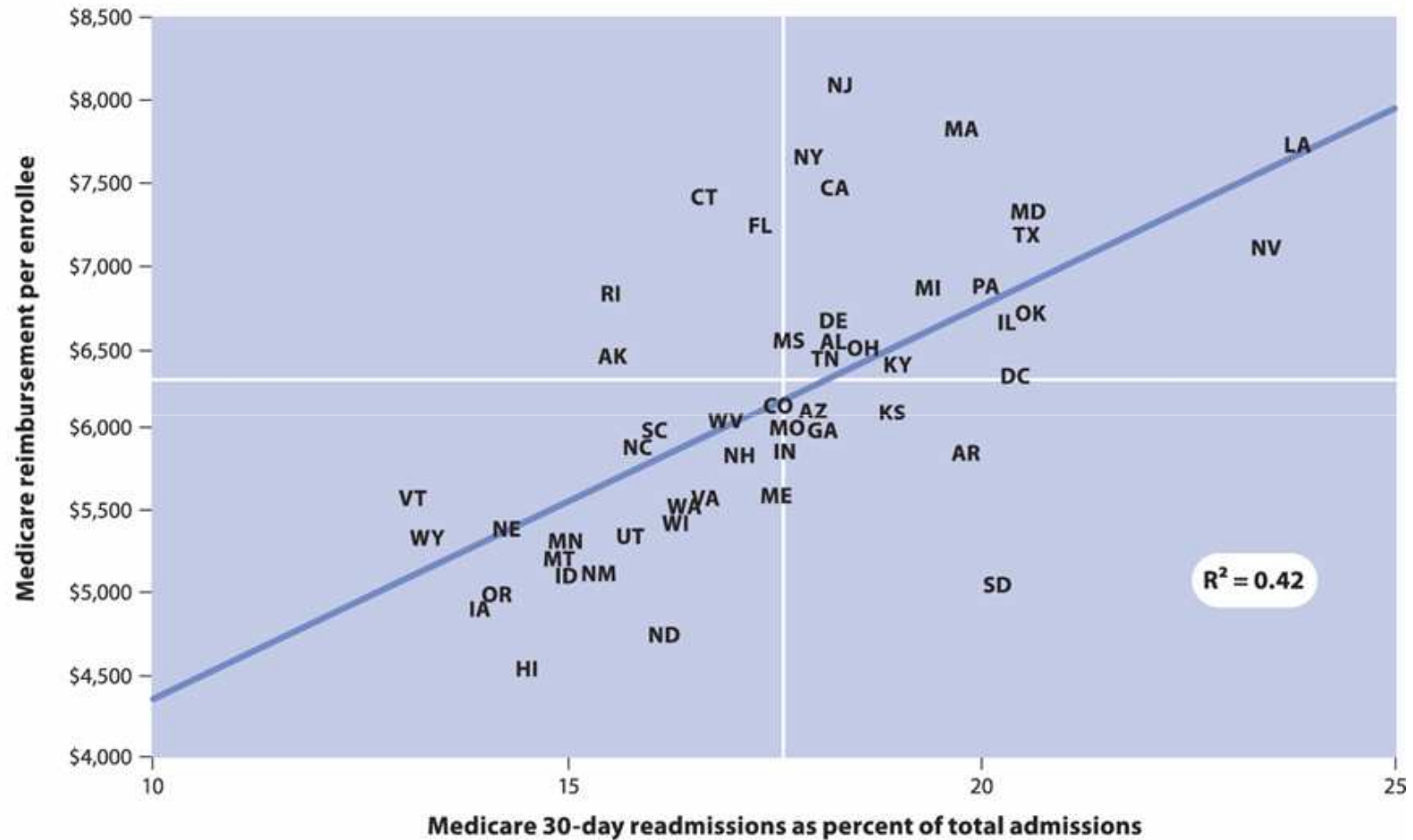


Distribution of Health Care Expenditures for the U.S.

Blumenthal D. N Engl J Med 2012;366:1953-5

AVOIDABLE HOSPITAL USE AND COSTS

Medicare Reimbursement and 30-Day Readmissions by State, 2003



DATA: Medicare reimbursement – 2003 Dartmouth Atlas of Health Care; Medicare readmissions – 2003 Medicare SAF 5% Inpatient Data
SOURCE: Commonwealth Fund State Scorecard on Health System Performance, 2007