Azienda Ospedaliero Universitaria Careggi

Patient safety score: International experiences and the Careggi's Project

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*Lab Studi e Ricerca Applicata GRC
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Centre Careggi Hospital

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SICUREZZA DEL PAZIENTE

European Commission

Patient Safety in the EU: 2014

Patients think they can be harmed

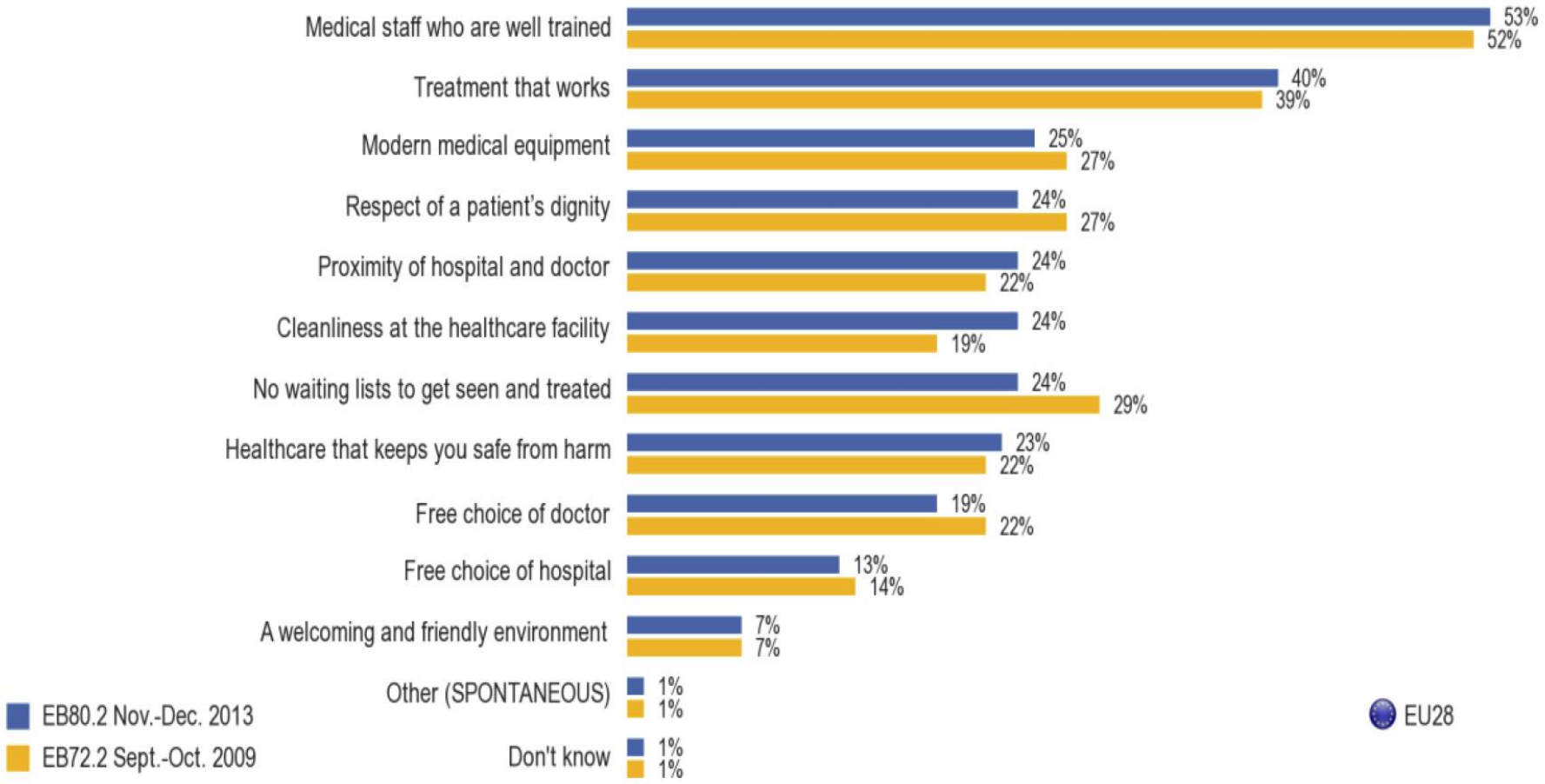
EU citizens who think that **patients could be harmed by hospital care**

91%

of STAKEHOLDERS think patient safety is an issue

The most important criteria for Q&S

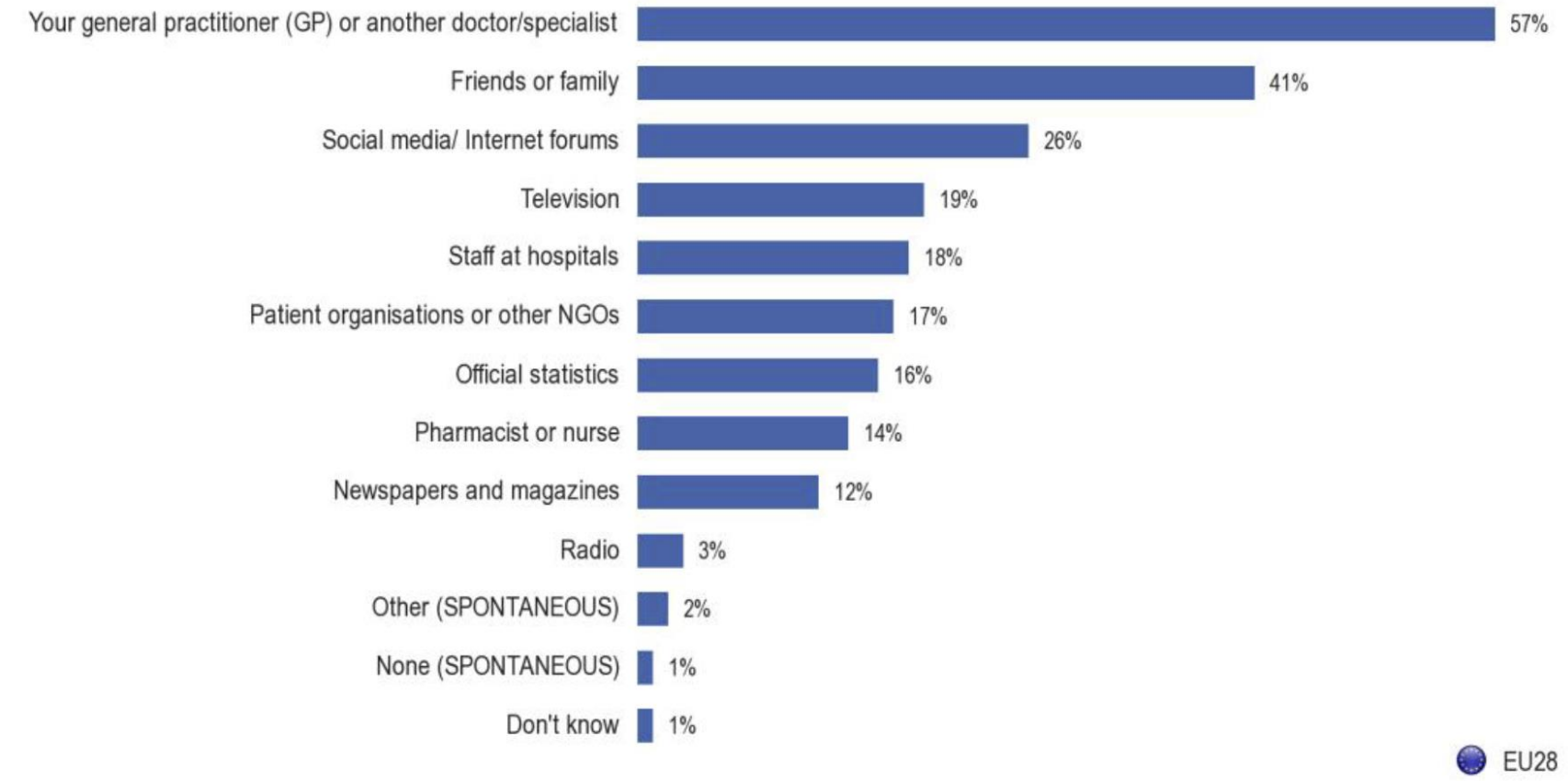
QC1. Of the following criteria, which are the three most important criteria when you think of high quality healthcare in (OUR COUNTRY)?



Special eurobarometer, EC 2014

The main information sources on Q&S

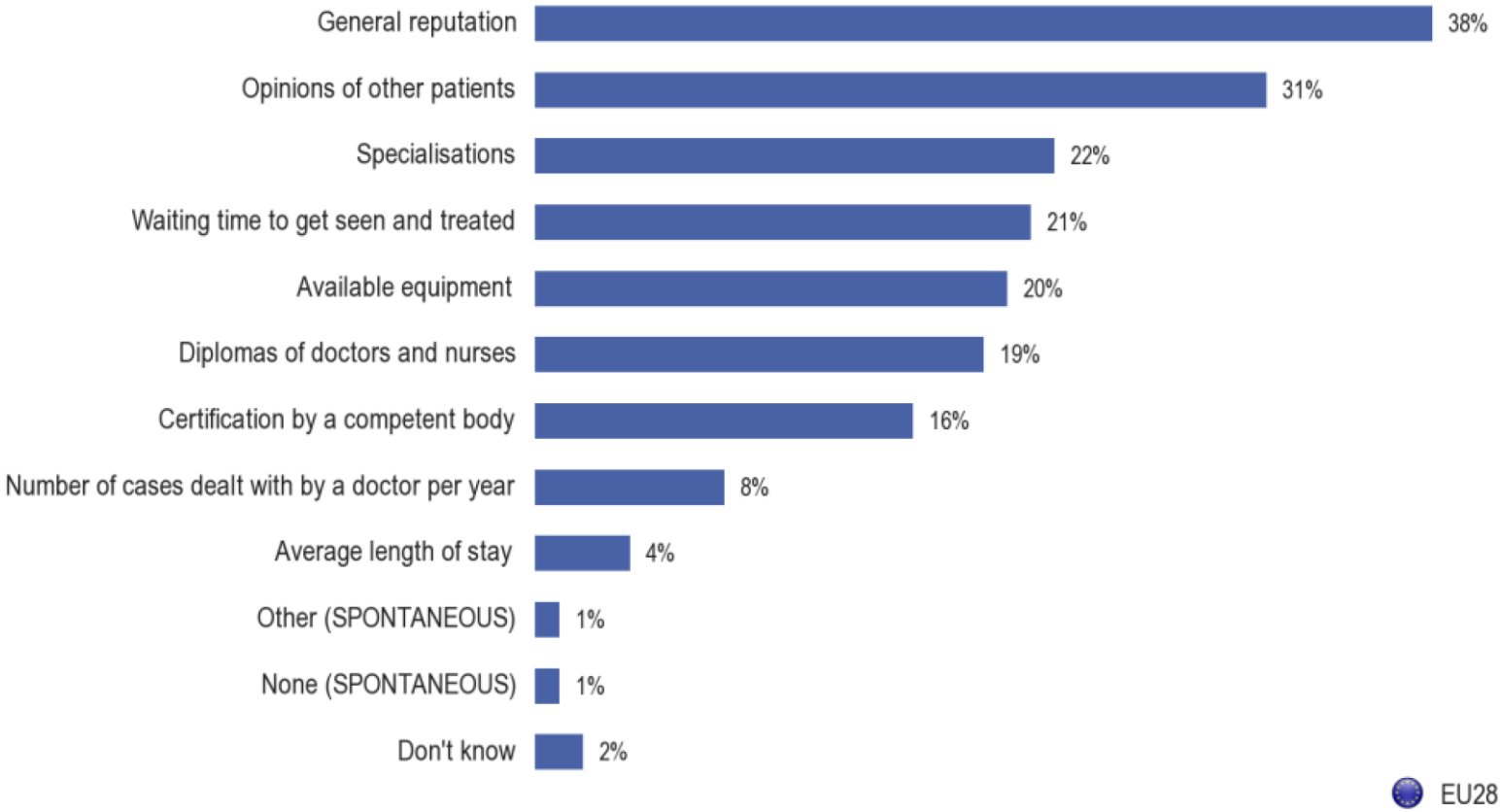
QC4. What are the three main sources you would use to seek information on quality of healthcare?



Special eurobarometer, EC 2014

To assess the Q&S of hospitals

QC5. What information would you find most useful to assess the quality of a hospital?



Special eurobarometer, EC 2014

Volume based vs value based system

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... the only way to control the costs of health care lis to improve the outcomes in a value based system

….. The achievement and the manteinance of results have to be evalutated on the whole clinical pathways

Volume based system vs value based system

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Sylvia M. Burwell
N Engl J Med 2015; 372: 897-899 5 Marzo 2015

Goals:

*have **85% of all Medicare fee-forservice payments tied to quality or value by 2016, and 90% by 2018**. Perhaps even more important, our target is to have **30% of Medicare payments tied to quality or value through alternative payment models by the end of 2016, and 50% of payments by the end of 2018**. Alternative payment models include accountable care organizations (ACOs) and bundled-payment arrangements under which health care providers are accountable for the quality and cost of the care they deliver to patients.*

Systems to assess Q&S

AHRQ patient safety indicators

EHCI Outcome indicators

NHS Safety Thermometer

MeS Sistema bersaglio

Agenas Programma Nazionale Esiti

Tartaglia, Vannucci, Springer 2014

AHRQ Patient Safety Indicators

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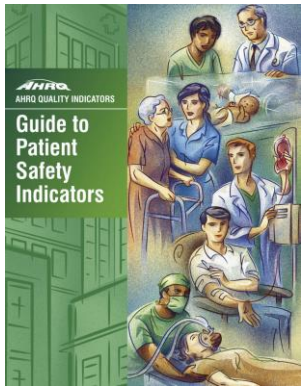
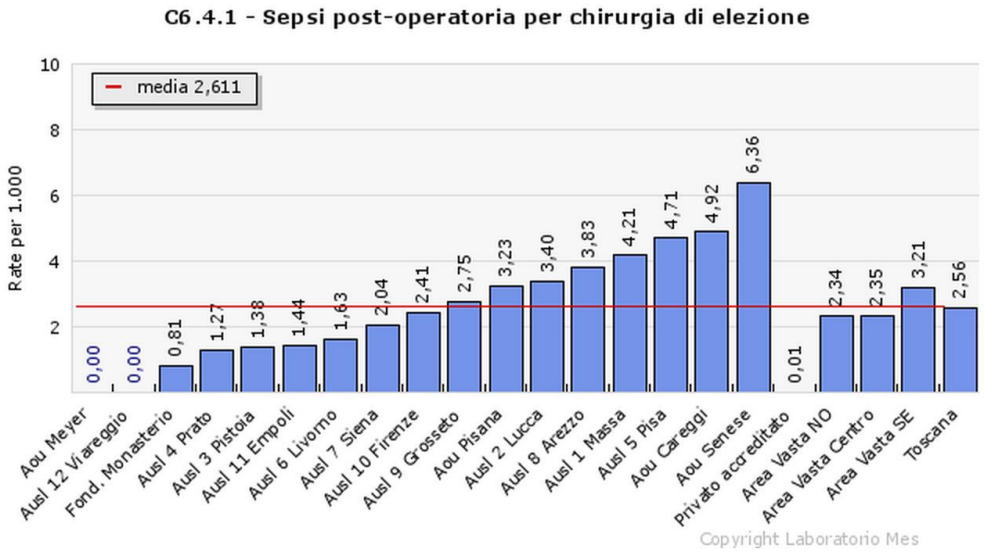
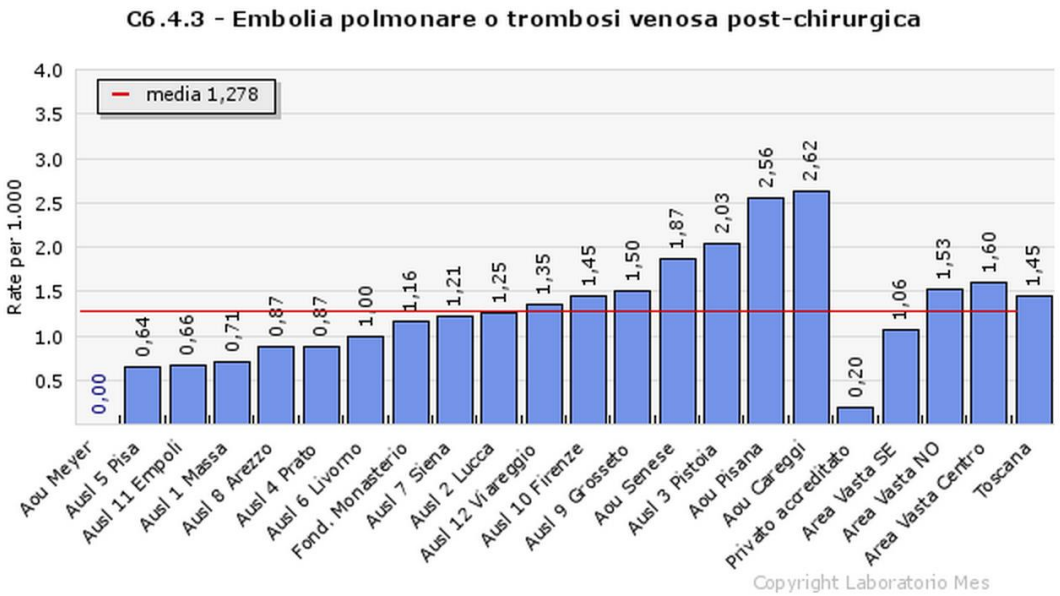


Complications of Anesthesia
Death in Low-Mortality DRGs
Decubitus Ulcer
Failure to Rescue
Foreign Body Left During Procedure
Iatrogenic Pneumothorax
Selected Infections Due to Medical Care
Postoperative Hip Fracture
Postoperative Hemorrhage or Hematoma
Postoperative Physiologic and Metabolic Derangements
Postoperative Respiratory Failure
Postoperative Pulmonary Embolism or Deep Vein Thrombosis
Postoperative Sepsis
Postoperative Wound Dehiscence
Accidental Puncture or Laceration
Transfusion Reaction
Birth Trauma – Injury to Neonate
Obstetric Trauma – Vaginal with Instrument
Obstetric Trauma – Vaginal without Instrument
Obstetric Trauma – Cesarean Delivery

Postoperative sepsis



Postoperative pulmonary embolism



European experience EHCI

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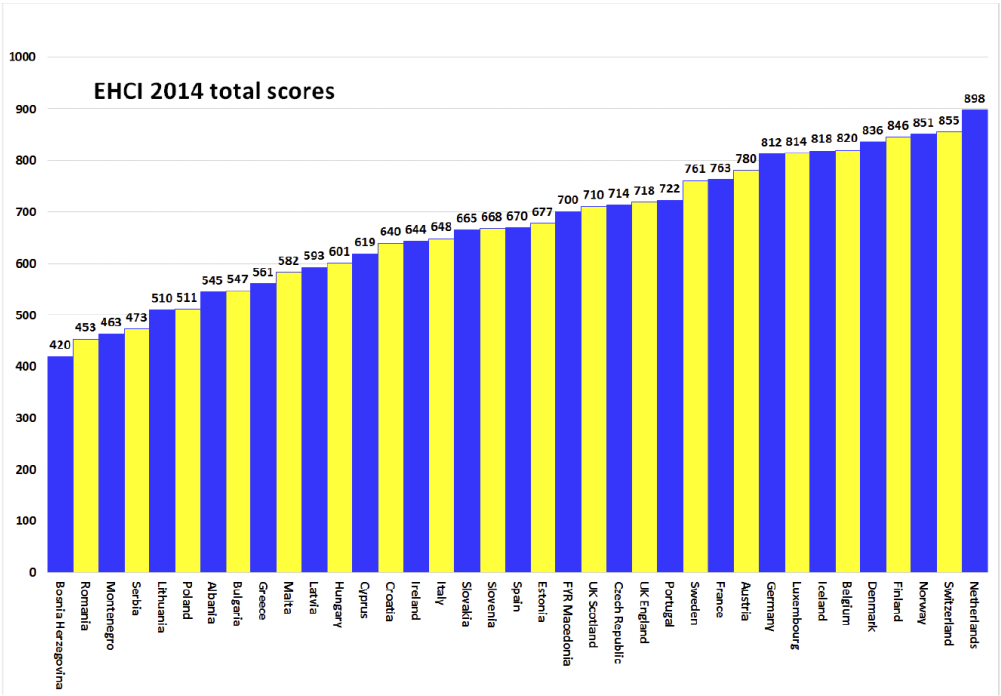

Euro Health Consumer Index

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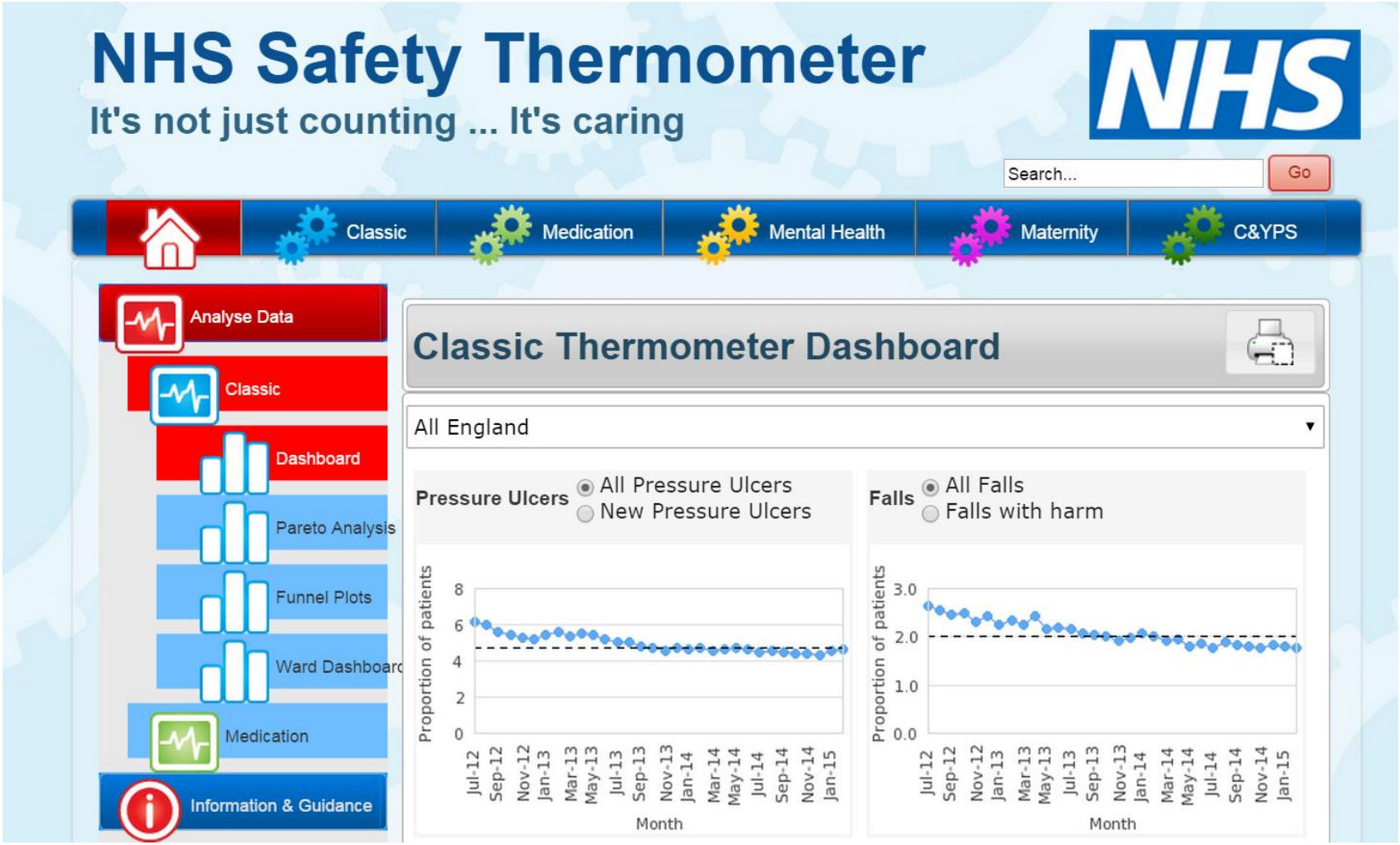
3. Outcomes	3.1 Decrease of CVD deaths																		
	3.2 Decrease of stroke deaths																		
	3.3 Infant deaths																		
	3.4 Cancer survival																		
	3.5 Preventable Years of Life Lost																		
	3.6 MRSA infections					n.a.													
	3.7 Abortion rates				n.a.														
	3.8 Depression																		
	Subdiscipline weighted score	167	125	125	219	115	125	240	240	104	188	83	83	135	198	188	219	229	177	177

NHS Safety Thermometer



Agenas – Programma Nazionale Esiti

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Programma Nazionale Valutazione Esiti (PNE)
Ed. 2013, SDO 2005-2012

agena.s. AGENZIA NAZIONALE PER I SERVIZI SANITARI REGIONALI

Ministero della Salute

Introduzione alla lettura

Il Programma Nazionale Esiti sviluppa nel Servizio Sanitario italiano la valutazione degli esiti degli interventi sanitari...

leggi

Indicatori PNE Ed. 2013

Fonti informative e criteri di record linkage

DEP Lazio

Il Sistema Informativo Ospedaliero raccoglie le informazioni di tutti i ricoveri ospedalieri (in acuzie e post-acuzie) registrati in Italia....

leggi

Metodi statistici

DEP Lazio

Nella maggior parte delle applicazioni gli indicatori di valutazione degli esiti degli interventi sanitari sono espressi come ...

leggi

Appendice

Lista degli acronimi e delle definizioni maggiormente usate per la descrizione degli indici e nelle trattazioni epidemiologiche.

leggi

30 days mortality in aortocoronary bypass

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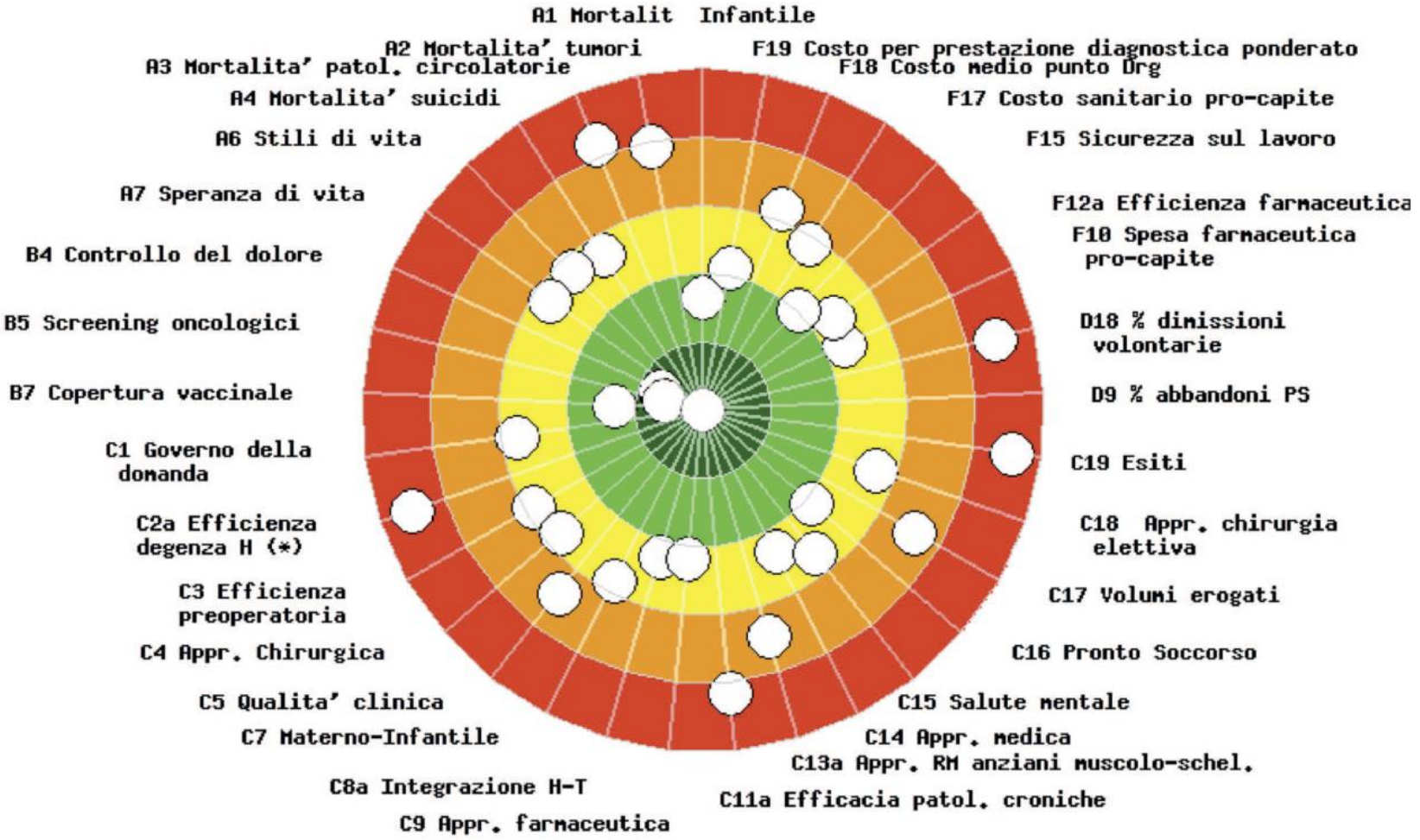
STRUTTURA	PROVINCIA	REGIONE	N	% GREZZA	% ADJ	RR ADJ	P
Italia		Italia	29651	2.43	-	-	-
A.O.U.U. Senese - Siena	SI	Toscana	140	0.00	-	-	-
A.O.U.U. Pisana - Pisa	PI	Toscana	227	5.29	4.72	1.94	0.026
A.O.U.U. Careggi - Firenze	FI	Toscana	471	1.91	1.78	0.73	0.363
CCA Villa Maria Beatrice Hospital SRL - Firenze	FI	Toscana	271	1.85	2.36	0.97	0.950
E.R. Ospedale del Cuore G. Pasquinucci - Pisa	PI	Toscana	408	0.98	0.89	0.37	0.049

MeS – Target based system



MeS – Target based system

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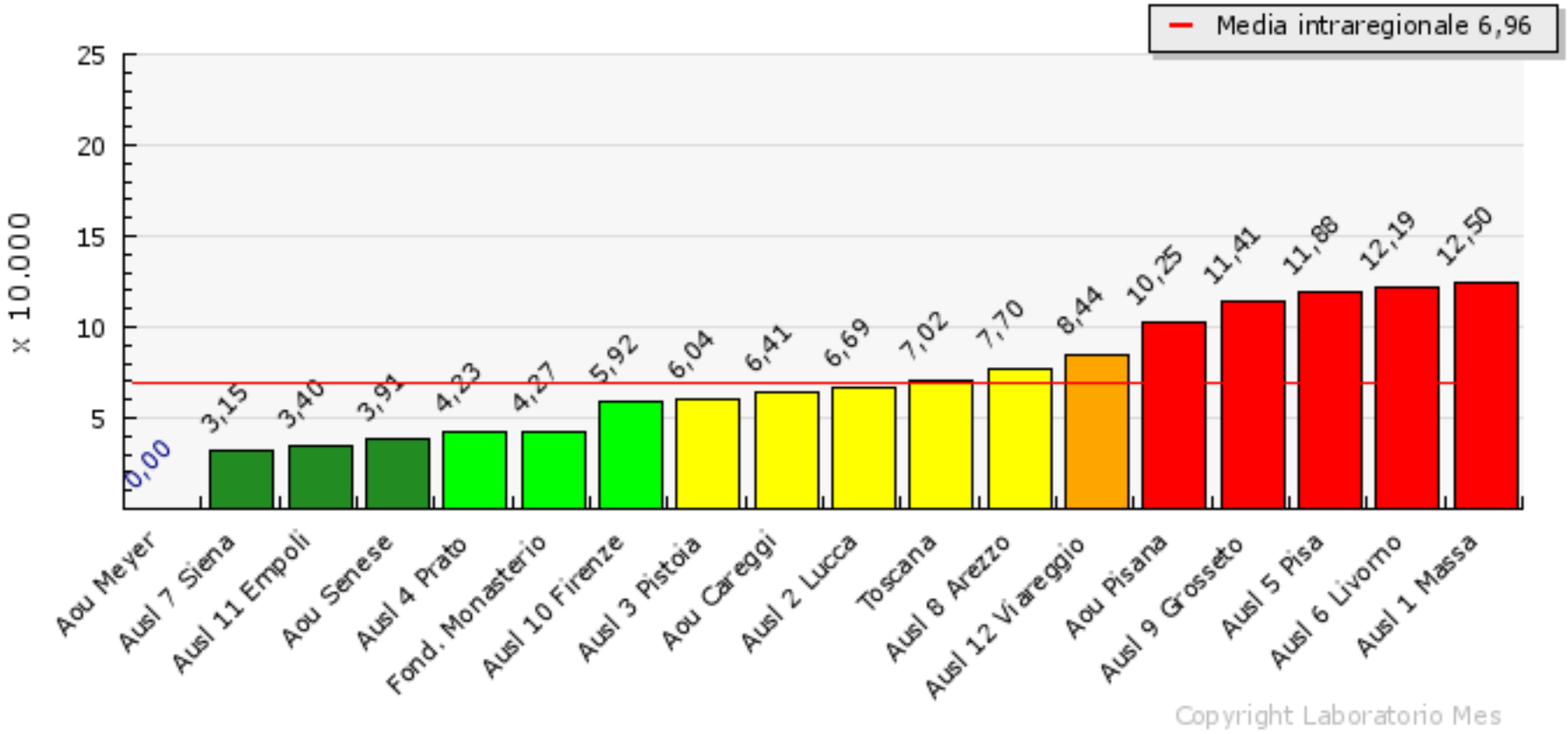
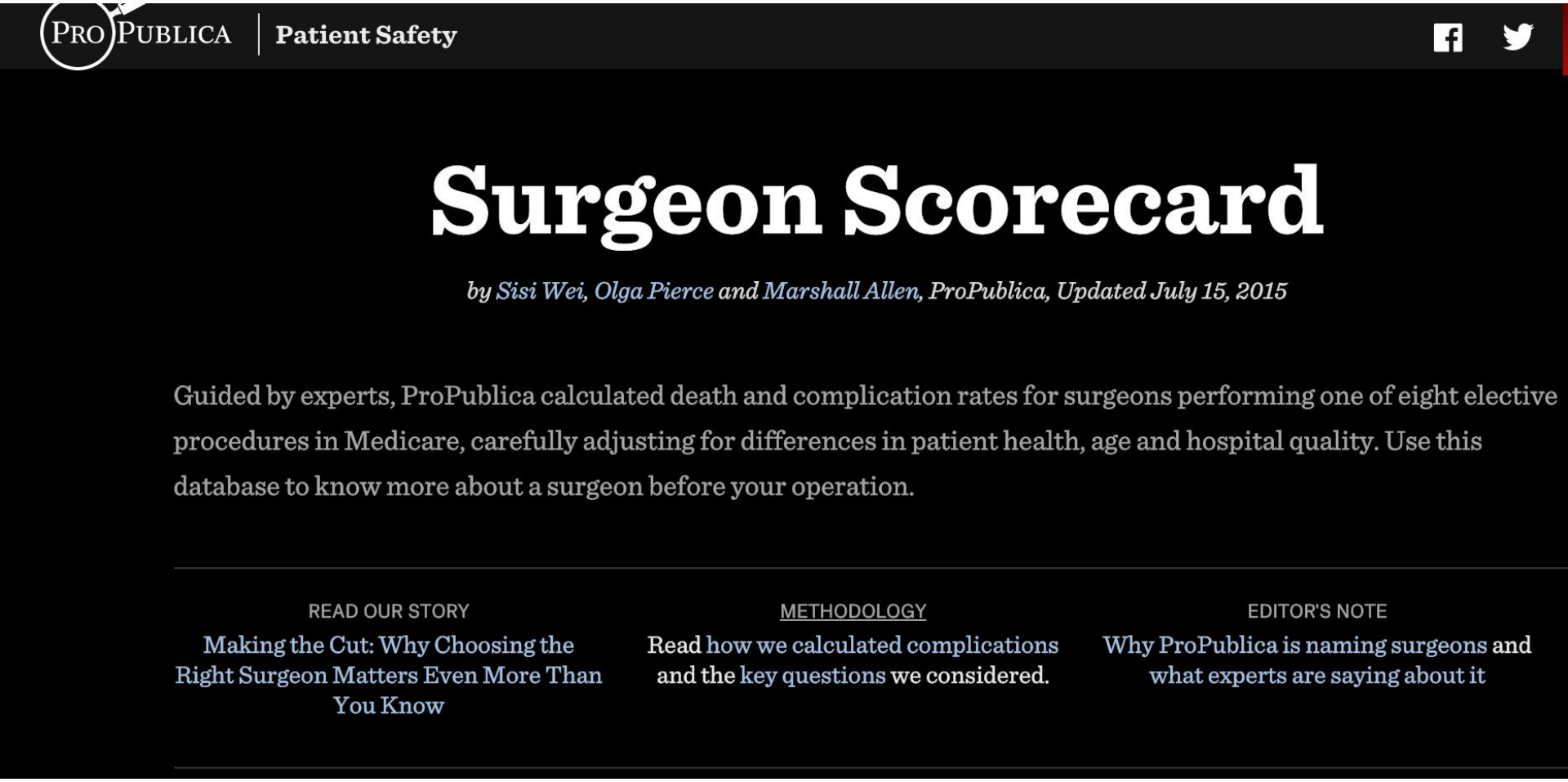
C6	**Rischio clinico e sicurezza del paziente**
C6.1	Indice di richieste di risarcimento
C6.1.1	*Indice di richieste di risarcimento - eventi in strutture ospedaliere*
C6.1.2	*Indice di richieste di risarcimento - eventi in strutture territoriali*
C6.1.3	*Capacità di gestione del risarcimento*
C6.2	Sviluppo del sistema di incident reporting:
C6.2.1	Indice di diffusione degli audit
C6.2.2	Indice di diffusione delle rassegne di Mortalità e Morbilità
C6.4	***Sicurezza del paziente:***
C6.4.1	*Sepsi post-operatoria per chirurgia d'elezione*
C6.4.2	*Mortalità intraospedaliera nei dimessi con Drg a bassa mortalità*
C6.4.3	*Embolia polmonare o trombosi venosa post-chirurgica*
C6.5	Livello di diffusione delle buone pratiche
C6.6	Capacità di controllo delle cadute dei pazienti

Rate of compensations 2014



ProPublica's Surgeon Scorecard



Da NEJM N Engl J Med. 2015 Settembre 2

Scoring No Goal — Further Adventures in Transparency

Lisa Rosenbaum, M.D.

ProPublica's Surgeon Scorecard

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A. ROSENFIELD

4130 LA JOLLA VILLAGE DR, STE 306, LA JOLLA, CALIFORNIA 92037-1481 | 858-455-6460
(address information updated May 2, 2013)

Related Hospitals:

SCRIPPS MERCY HOSPITAL
SCRIPPS MEMORIAL HOSPITAL LA JOLLA

Knee Replacement

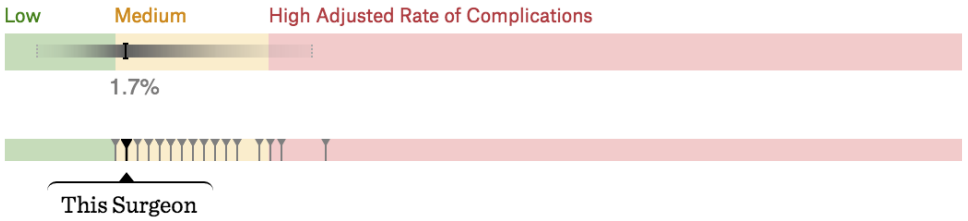
Total knee replacement (ICD-9-CM code 81.54)

Replace diseased knee joint with an artificial knee. The most common reason for a knee replacement is osteoarthritis, which is a breakdown of the cartilage in the joint. More information

This Surgeon

PERFORMED PROCEDURE	COMPLICATIONS	RAW COMPLICATION RATE
103 times	0	0*

ADJUSTED COMPLICATION RATE



SURGEONS PERFORMING THIS PROCEDURE WITHIN 25 MILES →
SEE AREA HOSPITALS »

A coach in operating theater

ANNALS OF MEDICINE | OCTOBER 3, 2011 ISSUE

PERSONAL BEST

Top athletes and singers have coaches. Should you?

BY ATUL GAWANDE

Hospital Safety Score

REGIONE TOSCANA GRC Gestione Rischio Clinico SICUREZZA DEL PAZIENTE

ORIGINAL ARTICLE

Safety in Numbers: The Development of Leapfrog's Composite Patient Safety Score for U.S. Hospitals

J. Matthew Austin, PhD[1], Guy D'Andrea, MBA[2], John D. Birkmeyer, MD[3], Lucian L. Leape, MD[4], Arnold Milstein, MD[5], Peter J. Pronovost, MD, PhD[6], Patrick S. Romano, MD[7], Sara J. Singer, MBA, PhD[8], Timothy J. Vogus, PhD[9], and Robert M. Wachter, MD[10]

Hospital Safety Score

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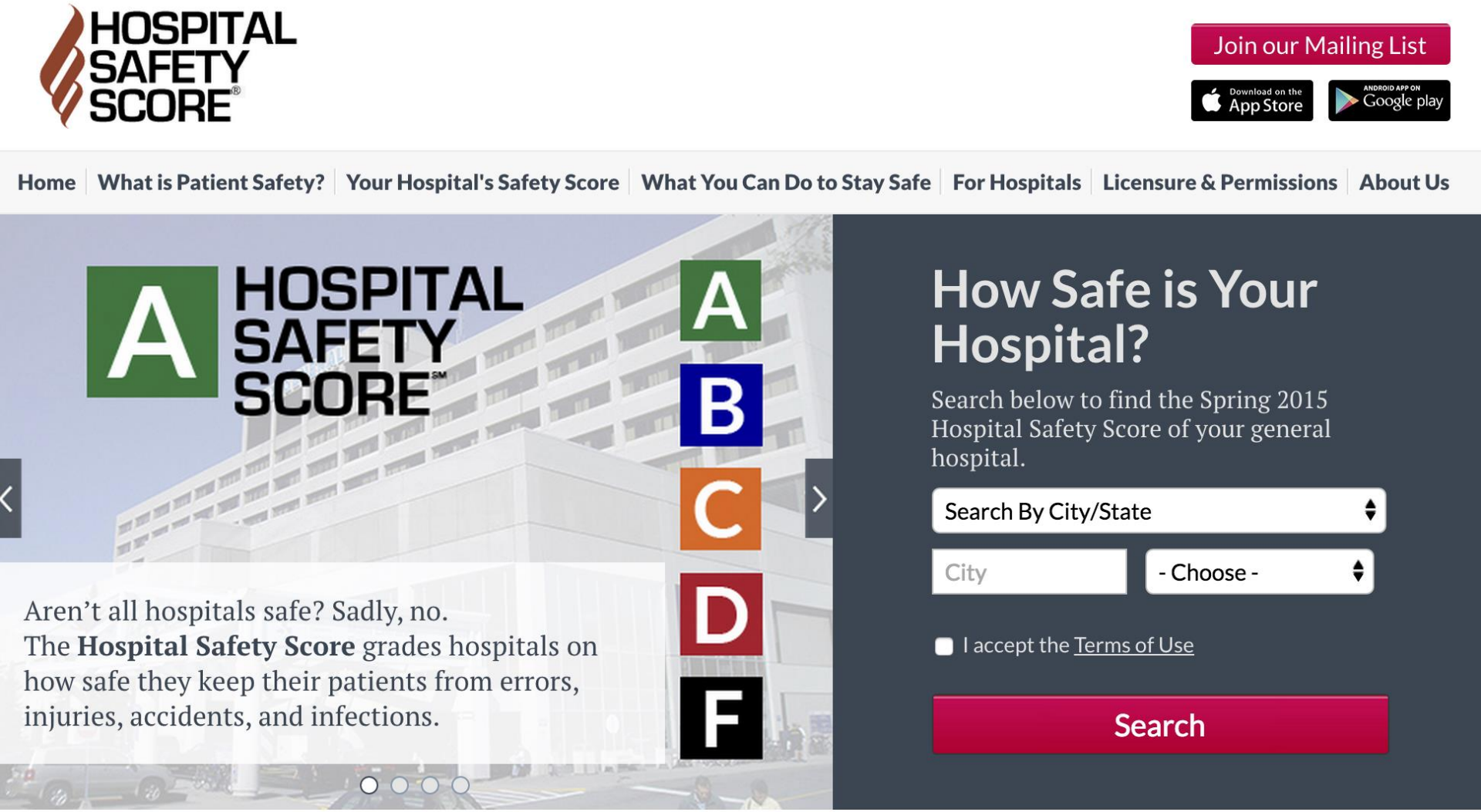
SICUREZZA DEL PAZIENTE



Hospital Safety Score

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Process Measures

represent how often a hospital gives patients recommended treatment for a given medical condition or procedure. For example, “Use antibiotics right before surgery” measures how often a hospital gives patients an antibiotic within one hour before surgery. Structural Measures represent the environment in which patients receive care. For example, “Doctors order medications through a computer” represents whether a hospital uses a special computerized system to prevent medication errors.

Outcome Measures

represent what happens to a patient while receiving care. For example, “Dangerous object left in patient’s body” measures how many times a patient undergoing surgery had a dangerous foreign object, like a sponge or tool, left in his or her body.

Hospital Safety Score

REGIONE TOSCANA GRC Gestione Rischio Clinico SICUREZZA DEL PAZIENTE

Measure Name	Primary Data Source	Data Collection Period	Secondary Data Source	Data Collection Period
Process and Structural Measures (15)				
Computerized Physician Order Entry (CPOE)	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	HIT Supplement[ii]	2013
ICU Physician Staffing (IPS)	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	AHA Annual Survey[i]	2013
Safe Practice 1: Leadership Structures and Systems	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 2: Culture Measurement, Feedback & Intervention	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 3: Teamwork Training and Skill Building	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 4: Identification and Mitigation of Risks and Hazards	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 9: Nursing Workforce	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 17: Medication Reconciliation	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 19: Hand Hygiene	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
Safe Practice 23: Care of the Ventilated Patient	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	N/A	N/A
SCIP INF 1: Antibiotic within 1 Hour	CMS Hospital Compare	04/01/2013 - 03/31/2014	N/A	N/A
SCIP INF 2: Antibiotic Selection	CMS Hospital Compare	04/01/2013 - 03/31/2014	N/A	N/A
SCIP INF 3: Antibiotic Discontinued After 24 Hours	CMS Hospital Compare	04/01/2013 - 03/31/2014	N/A	N/A
SCIP INF 9: Catheter Removal	CMS Hospital Compare	04/01/2013 - 03/31/2014	N/A	N/A
SCIP VTE 2: VTE Prophylaxis	CMS Hospital Compare	04/01/2013 - 03/31/2014	N/A	N/A

Hospital Safety Score

REGIONE TOSCANA GRC Gestione Rischio Clinico SICUREZZA DEL PAZIENTE

Measure Name	Primary Data Source	Data Collection Period	Secondary Data Source	Data Collection Period
Outcome Measures (13)				
Foreign Object Retained	Data.cms.gov	07/01/2010 – 06/30/2012	N/A	N/A
Air Embolism	Data.cms.gov	07/01/2010 – 06/30/2012	N/A	N/A
Pressure Ulcer – Stages 3 and 4	Data.cms.gov	07/01/2010 – 06/30/2012	N/A	N/A
Falls and Trauma	Data.cms.gov	07/01/2010 – 06/30/2012	N/A	N/A
CLABSI	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	CMS Hospital Compare	01/01/2013 – 12/31/2013
CAUTI	2014 Leapfrog Hospital Survey	01/01/2013 – 06/30/2014	CMS Hospital Compare	01/01/2013 – 12/31/2013
SSI: Colon	CMS Hospital Compare	01/01/2013 – 12/31/2013	N/A	N/A
PSI 4: Death Among Surgical Inpatients	CMS Hospital Compare	07/01/2011 – 06/30/2013	N/A	N/A
PSI 6: Iatrogenic Pneumothorax	CMS Hospital Compare	07/01/2011 – 06/30/2013	N/A	N/A
PSI 11: Postoperative Respiratory Failure	Data.cms.gov	07/01/2010 – 06/30/2012	N/A	N/A
PSI 12: Postoperative PE/DVT	CMS Hospital Compare	07/01/2011 – 06/30/2013	N/A	N/A
PSI 14: Postoperative Wound Dehiscence	CMS Hospital Compare	07/01/2011 – 06/30/2013	N/A	N/A
PSI 15: Accidental Puncture or Laceration	CMS Hospital Compare	07/01/2011 – 06/30/2013	N/A	N/A

Hospital Safety Score

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Cape Cod Hospital

PO Box 640, 27 Park Street
Hyannis, MA 02601
Map and Directions

This Hospital's Grade

STRAIGHT A'S

A

SINCE 2012

Learn how to use the Hospital Safety Score

▶ Show Past Grades

Detailed table view

Safety Problems with Surgery | Staff Follows Steps to Make Surgery Safer | Infections and Safety Problems | Right Staffing to Prevent Safety Problems | Hospital Uses Standard Safety Procedures

Click Each Measure to Learn More

Hospital Performs Below Average — Above Average

Use antibiotics right before surgery	Use correct antibiotics before surgery	Stop antibiotics soon after surgery	Remove catheter soon after surgery	Take steps to prevent blood clots
				

Patient Safety Score in intensive care units

A modality for assessing the safety in critical care

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Aim of the safety score project

Building a composite scoring system, used as an index of performance can objectively quantify the characteristics of "patient safety" of own intensive care unit

Comparisons of statistical series of single center or towards inter-centers with evaluation over time of performance of an individual unit and/or the direct comparison between different units.

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The model

Dimensions:

Quality and safety

- **Unit organization**
- **Process**
- **Outcomes**

Two levels:

- cross-section indicators

- specific clinical indicators

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Formula of final scoring

Final Scoring

A composite safety score for each hospital was calculated by multiplying the weight for each measure by the hospital's z-score on that measure. We added 3 to each hospital's final score to avoid possible confusion with interpreting negative patient safety scores. The final calculation of the safety score was as follows:

$$\text{Safety Score} = 3 + \text{Weight}_{\text{Measure1}} \times \text{Z-Score}_{\text{Measure1}} + \text{Weight}_{\text{Measure2}} \times \text{Z-Score}_{\text{Measure2}} + \text{Weight}_{\text{Measure3}} \times \text{Z-Score}_{\text{Measure3}} + \ldots + \text{Weight}_{\text{Measure n}} \times \text{Z-Score}_{\text{Measure n}}$$

In April 2012, Leapfrog applied the final scoring methodology to the most recent available data.[i]

Matthew Austin et al.., 2010

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aouc

Partecipants

Intensive Care Unit Careggi hospital (Prof. R. De Gaudio)

Intensive Care Unit Santa Maria Nuova hospital (Dr. A. Sarti)

Intensive Care Unit Prato hospital (Dr. G. Consales)

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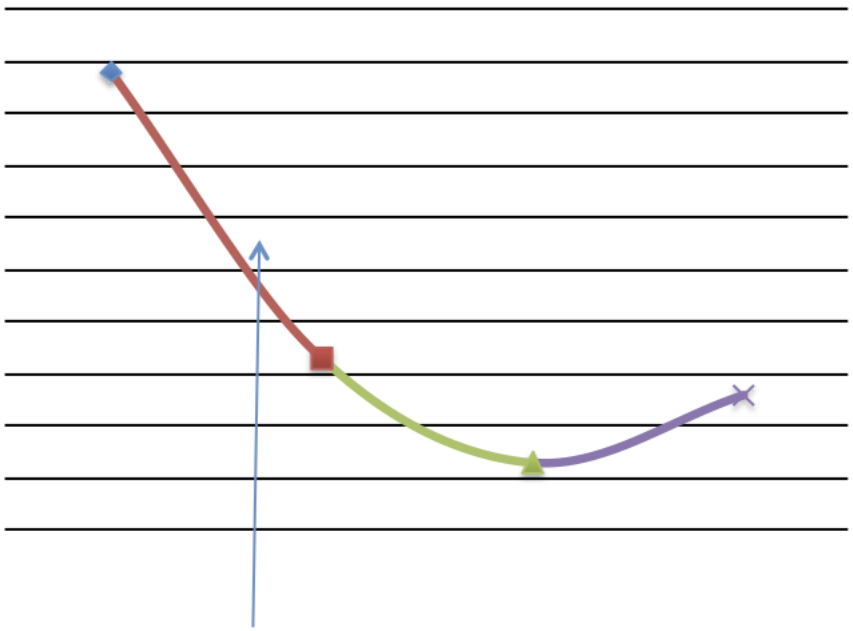
Preliminary results only for one unit

Terapia Intensiva Oncologica, DAI Anestesia e Terapia Intensiva, AOUC



From 4 to 6 beds

Patient safety score 2014	
I quarter	0.48
II quarter	-0.07
III quarter	-0.27
IV quarter	-0.14

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Strenght and weakness

Strenght

- Reaserch based score
- Simple to calculate
- Real time results
- Score integrate quality and quantity variables
- Direct and indirect costs evaluation

Weakness

- Few available data
- Long term evaluation (variability in the life span of health care organizations)

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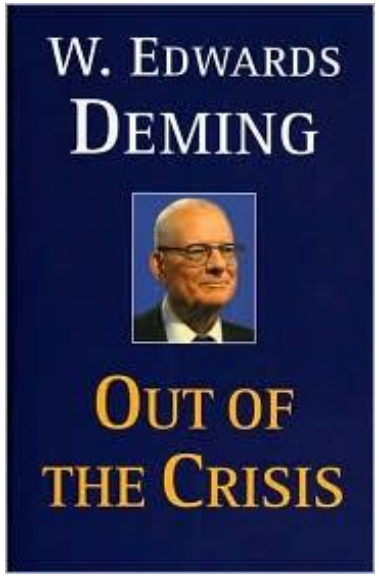
Thank you for your attention



In God we trust, all others must bring data

Edward Deming