

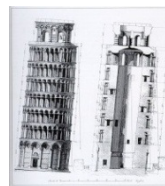


# Is there a positive correlation between comprehensive performance evaluation systems and competitive advantages in healthcare? The case of Region Toscana

**Paolo Tedeschi, Associate Professor & PhD**

**Scuola Superiore Sant'Anna**

**Pisa, Italy**



**Cutting Edge Healthcare Quality for a Competitive Europe – Brussels, 29 Oct. 2009**

## Scuola Superiore Sant'Anna

Scuola Superiore Sant'Anna is a **public University of excellence**, working in the field of **applied sciences**: Economic Sciences, Legal Sciences and Political Sciences for the **Class of Social Sciences**, and Agricultural Sciences, Medical Sciences, and Industrial and Information Engineering for the **Class of Experimental Sciences**.

Undergraduate students are admitted to Scuola Superiore Sant'Anna by a national competitive examination.



Winners are enrolled in the respective degree courses at the University of Pisa and they have to attend the supplementary courses of the School: all these services are provided free of charge by the School.



It offers and oversees quality undergraduate, graduate and continuing education.

Please visit Scuola Superiore Sant'Anna website: [www.sssup.it](http://www.sssup.it)



## MeS - Management and Health Laboratory: the mission

- Established in December 2004 as a partnership with Tuscany Region to develop “**managerial skills**” for the Italian public health care system;
- Develop **research-based knowledge** in partnership with the health care community to assist the health care providers in implementing organisational change and in the creating innovative management techniques (such as a performance evaluation system);
- Train **senior executives** to be competitive in a national and international scenario;

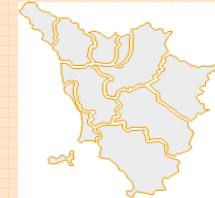
The Lab is directed by Prof. Sabina Nuti.

# Agenda

- **The Tuscan Healthcare System**
- **The Performance Evaluation System**
- **Some results delivered by the evaluation system (improvements, variability, correlations)**
- **Conclusions**

## The Tuscan Healthcare System: some references

- **3.7 millions inhabitants**
- **6,100 millions € for healthcare spending in 2008:**
  - 5% prevention**
  - 43% hospitals services**
  - 52% district & primary care**
- **6 Public Local Health Authorities: 12 Local Health Authorities (L.H.A.) and 4 Teaching Hospitals (T.H.). Both L.H.A. and T.H. participate to clinical and coordination networks called "Area Vasta"**
  - **North West Area Vasta: 1 T.H. and 5 L.H.A. + 1 Estav**
  - **Center Area Vasta: 2 T.H. and 4 L.H.A. + 1 Estav**
  - **South East Vasta: 1 T.H. and 3 L.H.A. + 1 Estav**
- **49,000 employees**
- **3,100 GPs**
- **14,000 private and public hospital beds (3.5 per 1,000 inhabitants)**



[2006]

# The Tuscan Healthcare System

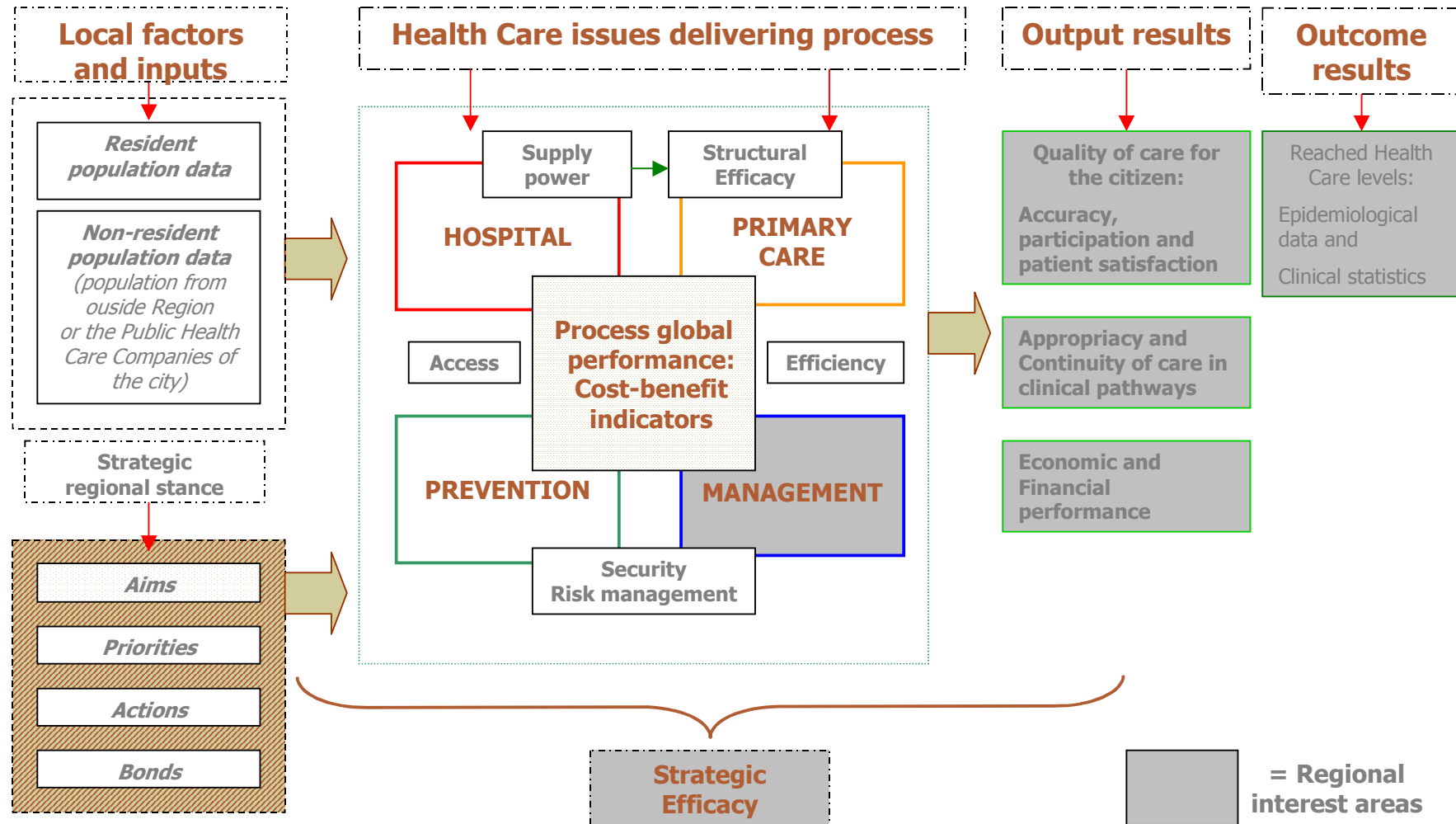
**12 Local Health Authorities**



**4 Teaching Hospitals**

# **The Performance Evaluation System developed in Toscana**

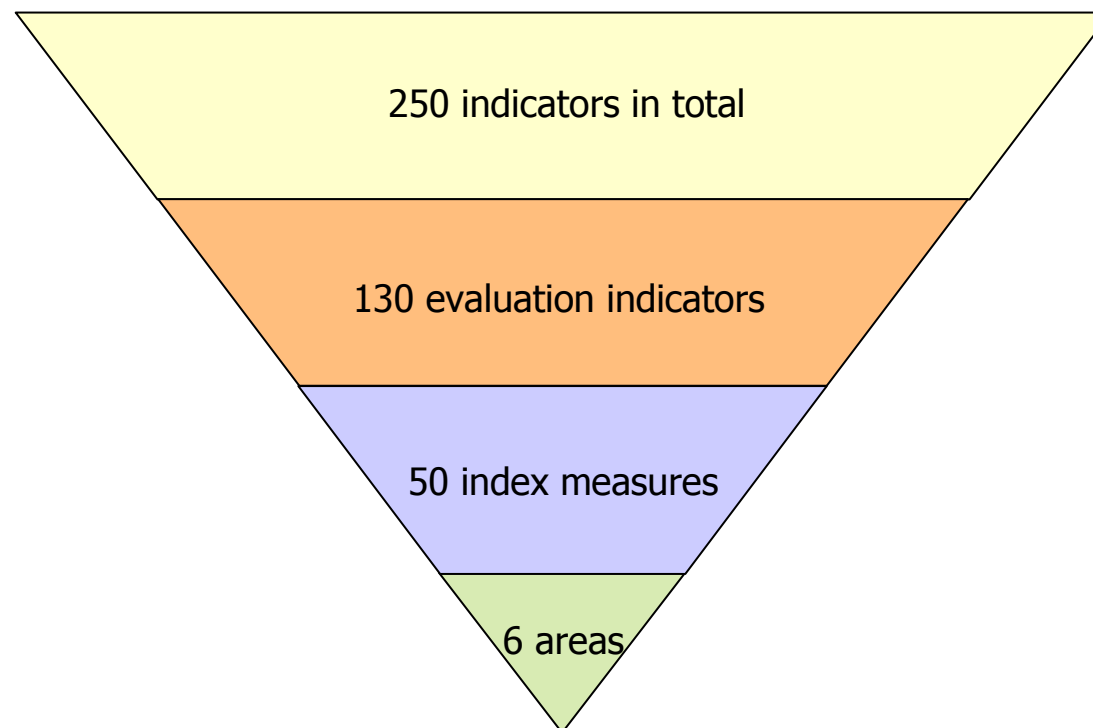
# Assessing performance in healthcare is always a challenge: can we be comprehensive but effective?



# The performance evaluation system

From 2004 MeS-Lab has developed a **multidimensional evaluation system** for Tuscany Region to assess and monitor LHAs and THs performance, and to implement the regional benchmarking and spread out best practices.

The performance evaluation system is based on **benchmarking** and consists of 50 measures, made up of different layers of indicators, classified in six reporting areas.



# The multidimensional reporting system

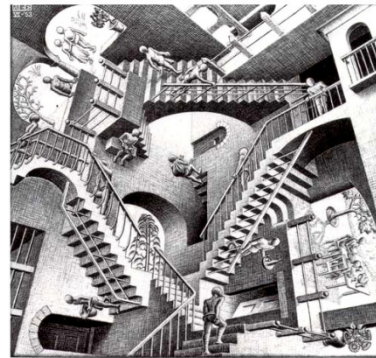
Six areas of performance evaluation have been identified, capable of highlighting the core results of the regional healthcare system, based also on international experiences.

**Capacity to pursue regional strategies**

**Population health status**

**Clinical performance**

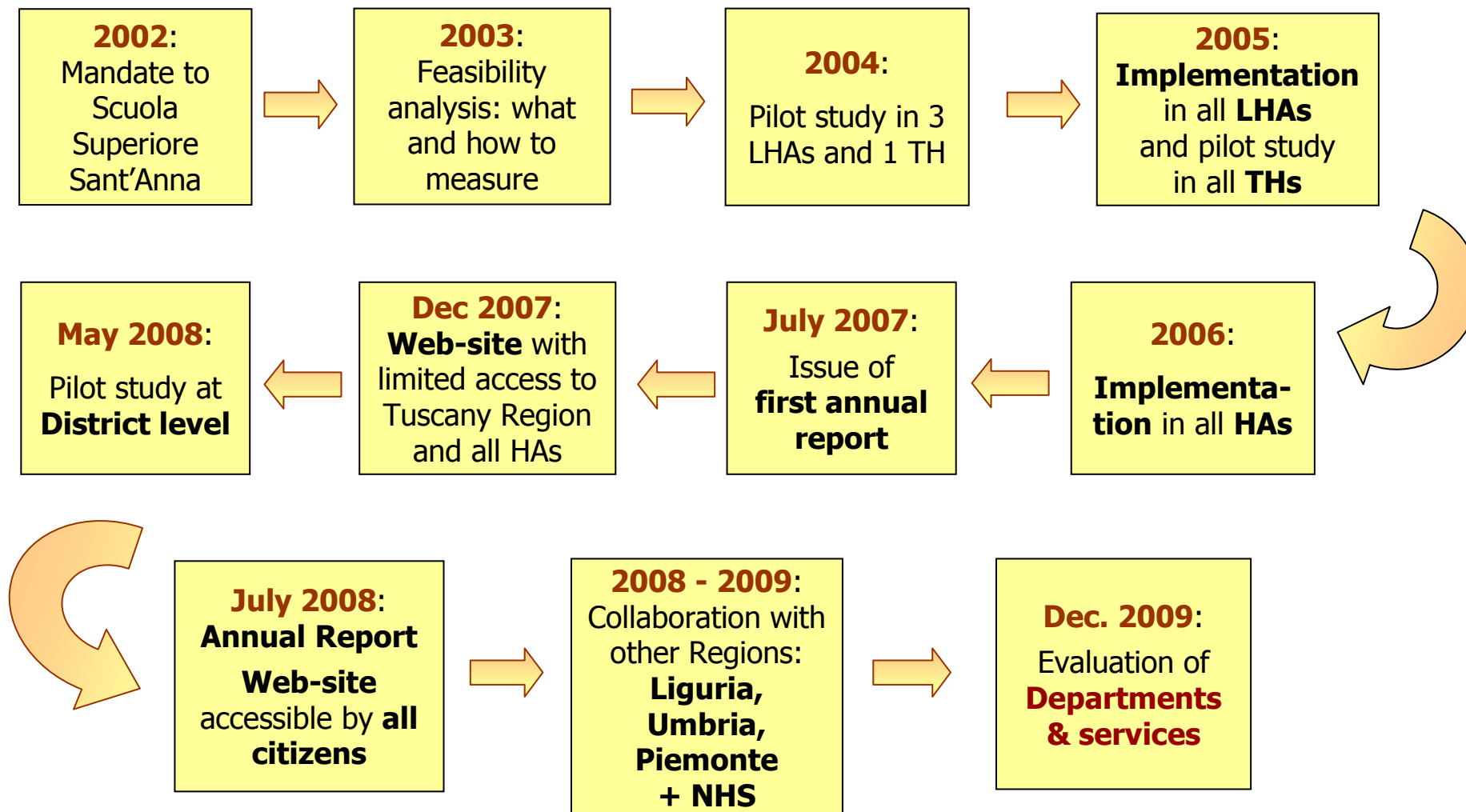
**Efficiency and financial performance**



**Patients Satisfaction**

**Employees Satisfaction**

# The history of the evaluation system



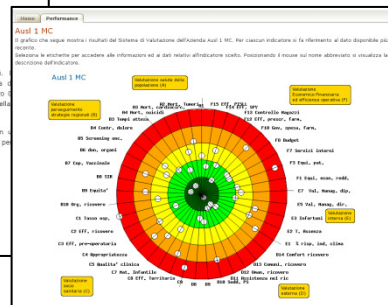
[www.valutazione sanitatoscana.sssup.it](http://www.valutazione sanitatoscana.sssup.it)

# The Performance Evaluation System

Each year the MeS-Lab releases a Report about the **annual performance** of Tuscan Health Authorities, which is sent to the Regional Councilors, to all the actors of the Tuscan healthcare system, to mayors and to all citizens interested.



From December 2007 the evaluation system is available on the **web**, with limited access to the Region and the Tuscan Health Authorities. Every updating or news is visible straight away to all users.




From July 2008 the evaluation system is available to all citizens at:



<http://valutazione sanitatoscana.sssup.it>



## Example of synthetic indicators for each performance area

POPULATION HEALTH STATUS ( A )	
A1	Infant Mortality rate
A2	Mortality rate for cancer
A3	Mortality rate for circulatory disease
A4	Mortality rate for suicide
CAPACITY TO PURSUE REGIONAL STRATEGIES ( B )	
B3	Waiting lists up to 15 days for outpatients services 
B4	Rate of drugs consumption for pain control
B5	Oncological screening
B6	Organ donation
B7	Vaccines distribution
B8	Data transmission time to the regional IS
B9	Equity and access
B10	Organization of the hospitalization process
B11	Case-mix (T.H.)
B12	Attractiveness capacity (T.H.)
B13	Continuity of care in the maternity pathway
B15	Research activity (T.H.)
CLINICAL PERFORMANCE ( C )	
C1	Hospitalization rate
C2	Efficiency assessment for inpatients activities
C3	Efficiency assessment for pre-surgical activities
C4	Appropriateness assessment
C5	Clinical quality assessment
C7	Maternity pathway assessment
C8	Effectiveness of primary care activities
C9	Pharmaceutical prescription appropriateness
C10	Oncological pathway assessment

## List of synthetic indicators for each performance area

PATIENTS SATISFACTION ( D )	
D8	Patient satisfaction with ED
D9	ED withdrawal rate
D10	Level of dissatisfaction with ED 
D11	Patient satisfaction with quality of care during the hospitalization
D12	Patient satisfaction with empathy during the hospitalization
D13	Patient satisfaction with communication during the hospitalization
D14	Patient satisfaction with comfort during the hospitalization
EMPLOYEES SATISFACTION ( E )	
E1	Internal climate survey response rate
E2	Rate of absenteeism
E3	Rate of employees accidents
E5	Senior executives satisfaction with the top management
E7	Employees satisfaction with the management
EFFICIENCY AND FINANCIAL PERFORMANCE ( F )	
F1	Financial Viability
F3	Assets and Liabilities management
F7	Efficiency perception of general support services
F8	Efficiency perception of management information systems
F10	Pharmaceutical expenditure
F11	Clearing mobility rate
F12	Pharmaceutical prescription efficiency
F13	Procedure of internal auditing 
F14	Efficiency of Veterinary Medicine Office
F15	Efficiency of Preventing occupational diseases and accidents Office

## From monitoring to evaluation: the five assesment bands

Scores and colors:

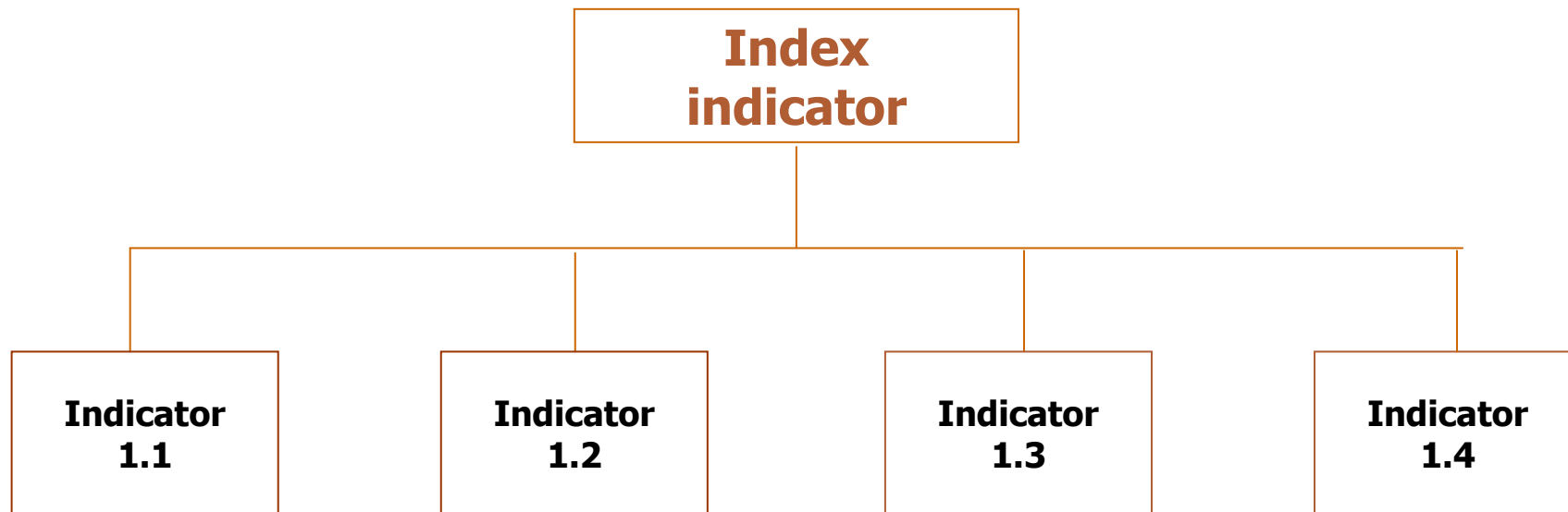
4 - 5	GREEN	→	Excellent Performance (Strength)
3 - 4	LIGHT GREEN	→	Good Performance
2 - 3	YELLOW	→	Performance on average
1 - 2	ORANGE	→	Poor Performance
0 - 1	RED	→	Very poor Performance (Weakness)

## The reference criteria for the assessment bands

- 1. International standards**, if existing (i.e.: Caesarean rate by WHO);
- 2. Regional standards** set out by the Regional Government (i.e. 1 day of hospital stay for pre-op. exams)
- 3. The regional mean**, standardized by several factors to allow comparisons across Health Authorities... as a starting point.

# How to build up the indicators

## “Indicator tree”



# Toscana 2008

Valutazione  
perseguimento  
strategie regionali  
(B)

Valutazione salute della  
popolazione (A)

Valutazione  
Economico-Finanziaria  
ed efficienza operativa (F)

- B3 Tempi attesa specialistica
- B4 Controllo del dolore
- B5 Screening oncologico
- B6 Donazioni di organi
- B7 Copert. vaccinale
- B8 Tempi di latenza
- Org. ricovero B10
- B14 Tempi attesa diagnostica
- B16 Comunicazione e partecipazione
- C1 Governo della domanda
- C2a Performance degenza media
- C3 Efficienza pre-operatoria
- C4 Appropriattezza
- C5 Qualita' clinica

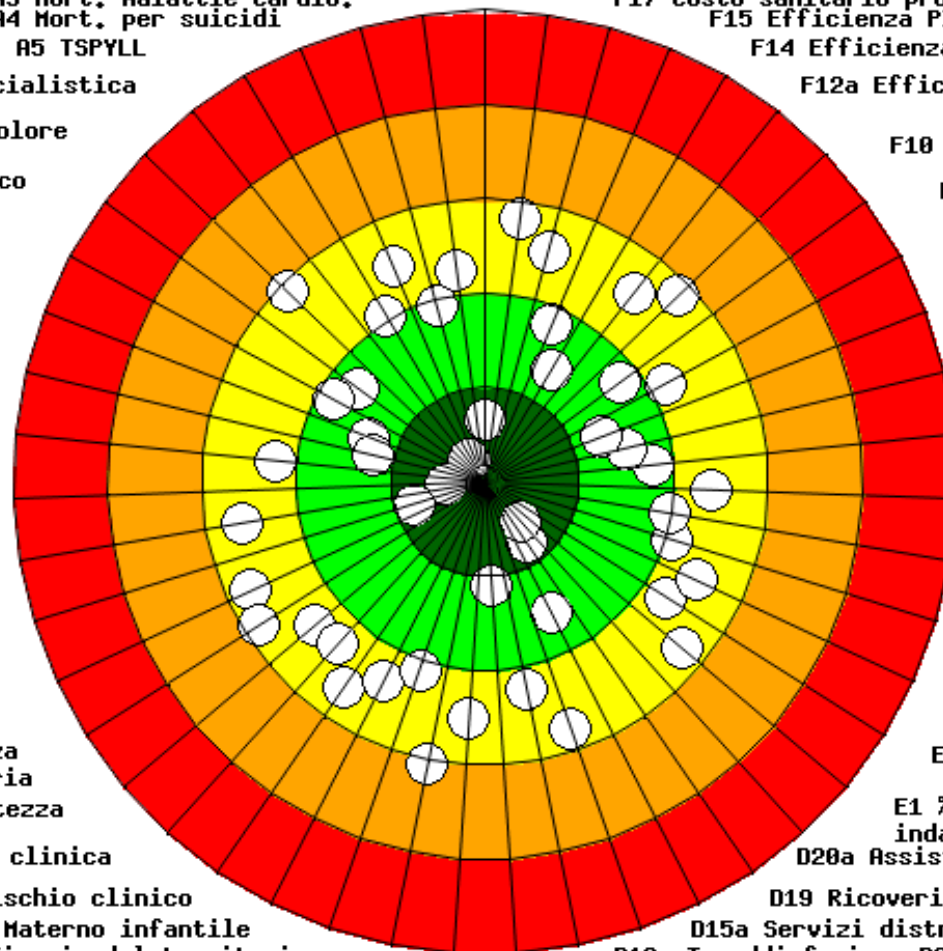
Valutazione socio  
sanitaria (C)

- A1 Mortalita' infantile
- A2 Mortalita' per tumori
- A3 Mort. malattie cardio.
- A4 Mort. per suicidi
- A5 TSPYLL
- C6 Rischio clinico
- C7 Materno infantile
- C8a Efficacia del territorio
- C9 Appr. prescrittiva
- C11a Efficacia cure primarie

- F18 Indice produttivita' RM
- F17 costo sanitario pro capite
- F15 Efficienza PISLL
- F14 Efficienza SPV
- F12a Efficienza prescrittiva
- F10 Spesa farmaceutica
- F8 Valutazione del Budget
- F7 Servizi interni
- F1 Equilibrio economico
- E13 Comunicazione responsabili
- E12 Management per i responsabili
- E11 Comunicazione dipendenti
- E10 Il management per i dipendenti
- E9 Fornazione
- E3 Tasso di infortuni
- E2 % di assenza
- E1 % di risposta indagine clima
- D20a Assist. domiciliare
- D19 Ricoveri ospedalieri
- D15a Servizi distrettuali
- D10a Insoddisfazione PS
- D9 % abbandoni PS
- D8a Livello sodd. PS

Valutazione  
esterna (D)

Valutazione  
interna (E)



# Ausl 12 VI 2008

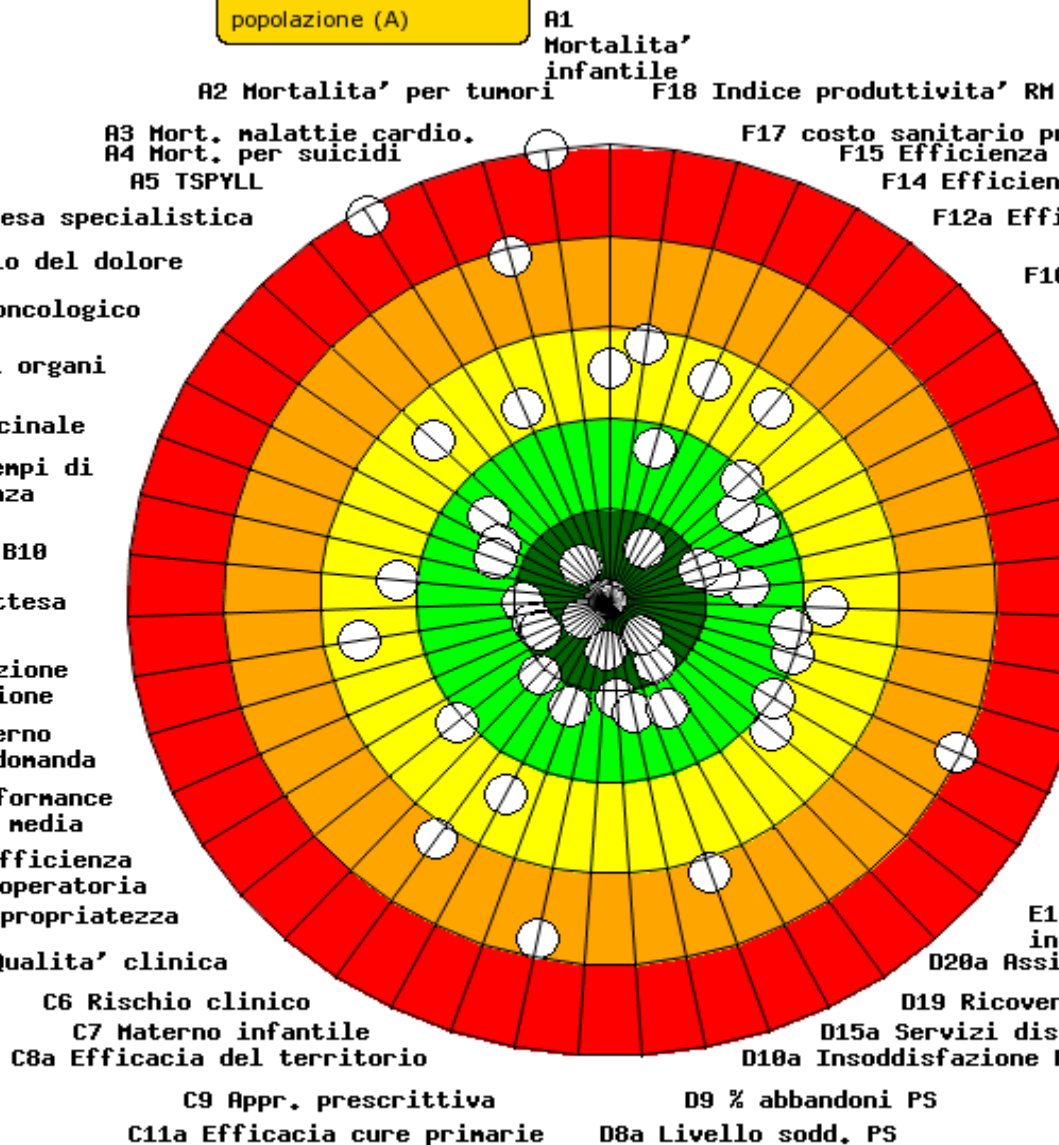
Valutazione  
perseguimento  
strategie regionali  
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Valutazione socio  
sanitaria (C)



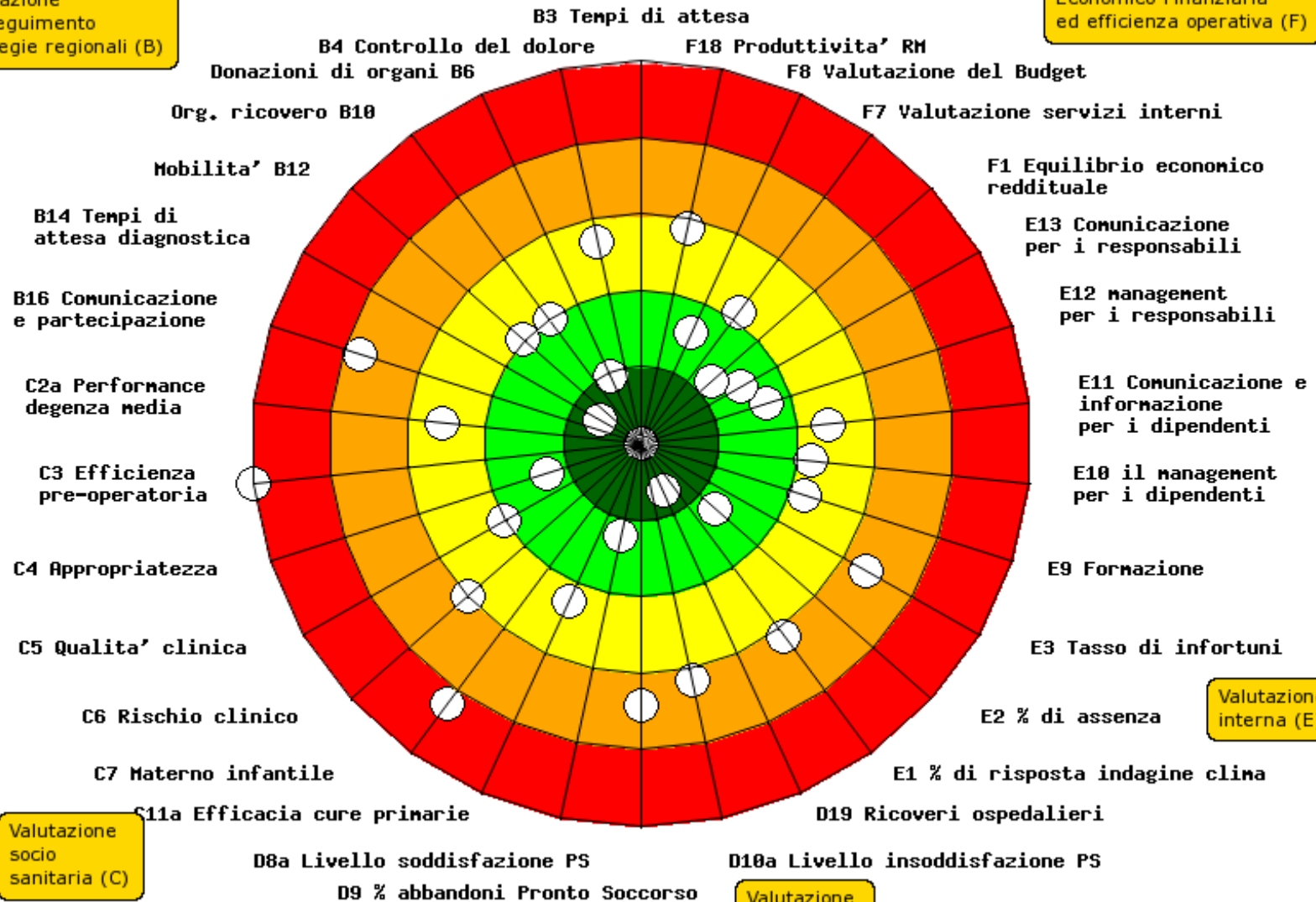
Valutazione  
interna (E)

Valutazione  
esterna (D)

# AOU Pisana 2008

Valutazione  
perseguimento  
strategie regionali (B)

Valutazione  
Economico-Finanziaria  
ed efficienza operativa (F)



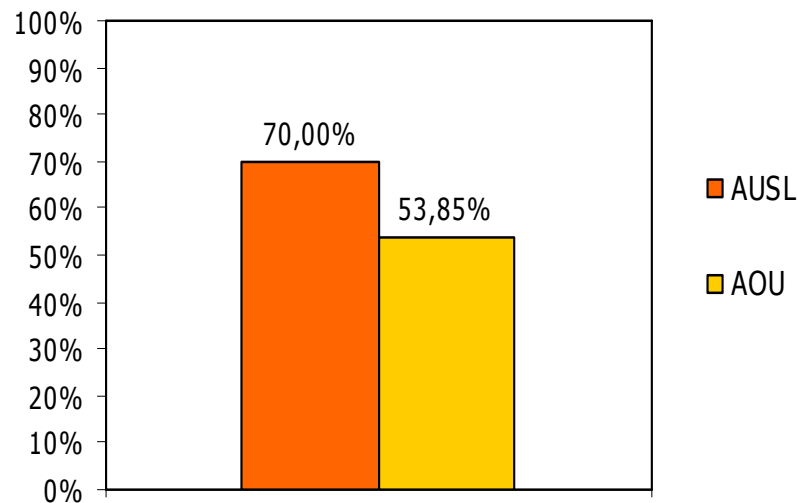
Valutazione  
interna (E)

Valutazione  
socio  
sanitaria (C)

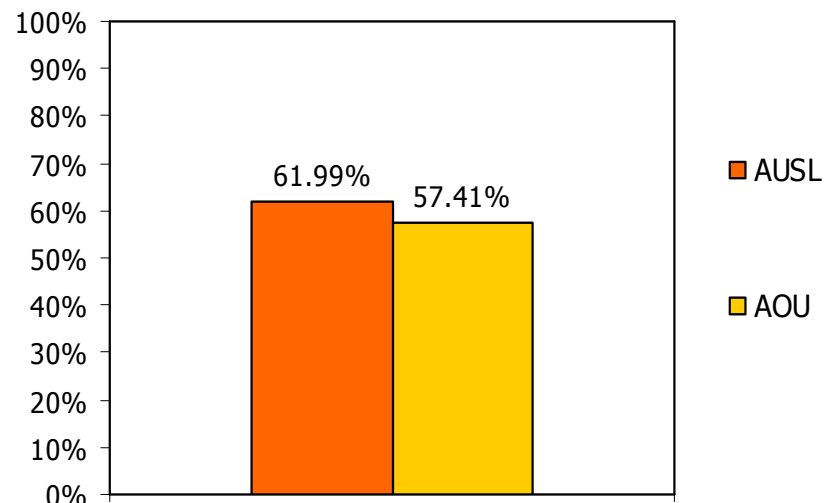
Valutazione  
esterna (D)

# Changes and improvements

**% of indicators improving from 2006 to 2007**



**% of indicators improving from 2007 to 2008**

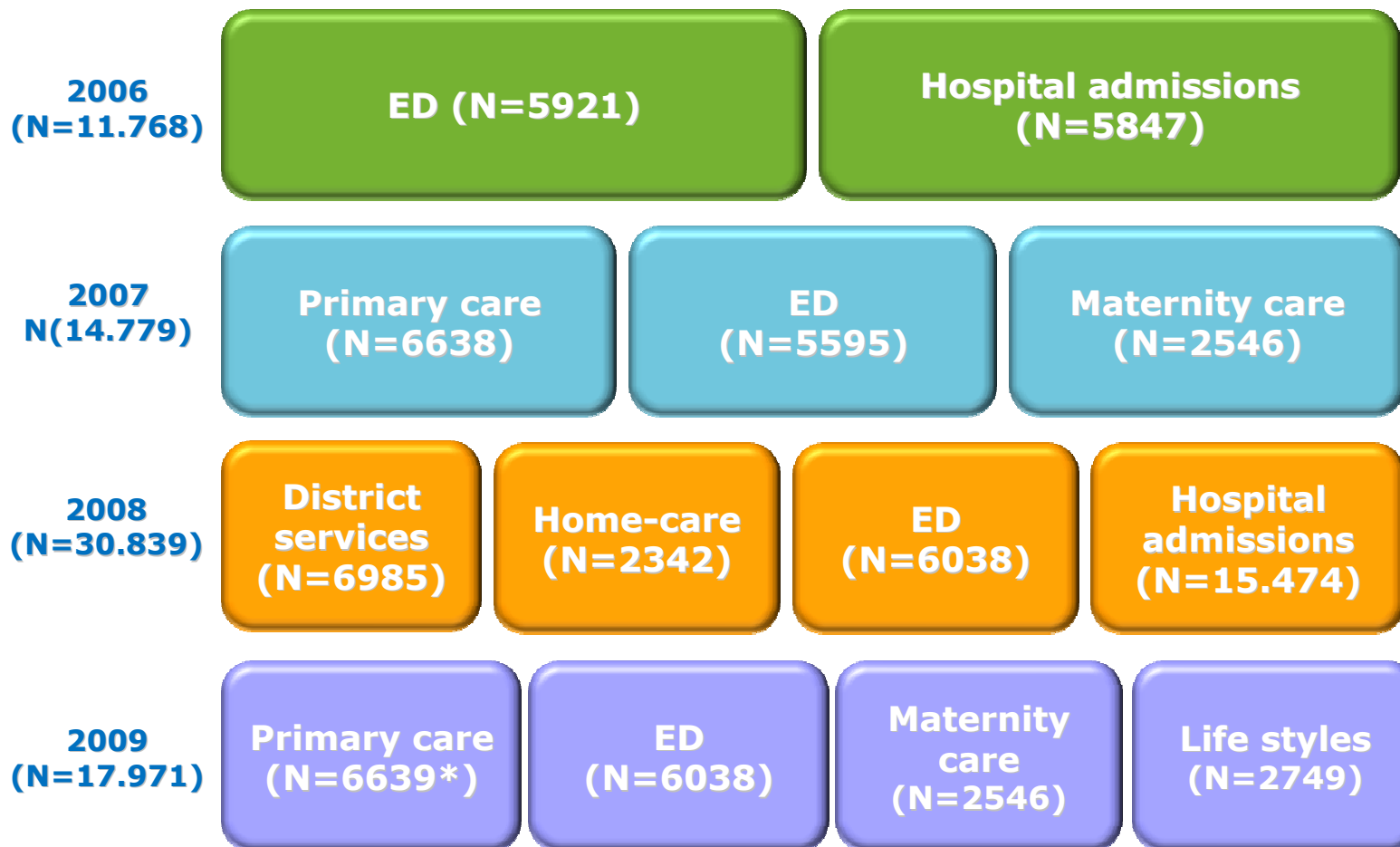


The percentage of the improved performance highlights the impact the evaluation system has on health organisations.

ML of €	2004	2005	2006	2007	2008
<b>Regional economic result</b>	<b>-54</b>	<b>-83</b>	<b>-106</b>	<b>-29</b>	<b>-20</b>



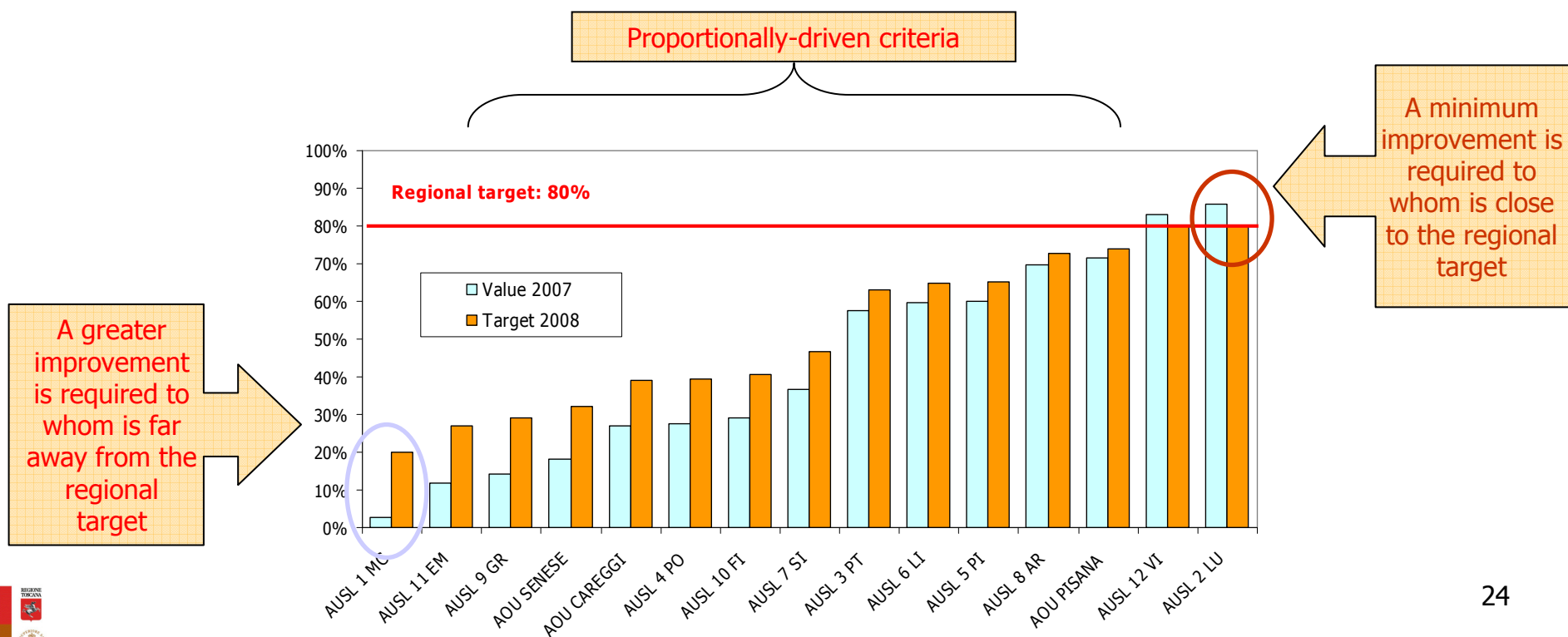
## Patient satisfaction surveys (based on CATI techniques)



# CEOs' Rewarding system

From 2006, the **rewarding sistem** of the Tuscan Health Authorities CEOs is connected to the performance evaluation system. At the beginning of the year, the Regional Deputy and CEOs sign an **agreement** about the target to pursue and the connected reward.

**Targets** are differentiated for each Health Authorities, according to the level of performance.



## CEOs' Rewarding system

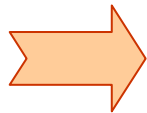
During the year MeS-Lab makes available a **quarterly monitoring system** of the targets connected to the CEOs' rewarding system to verify the trend timely and systematically.

Azienda USL X						Andamento 2008 rispetto al 2007 e vs ob. 2008
	RISULTATI 2006	RISULTATI 2007	1 SEMESTRE 2008		OBIETTIVI 2008	
<b>Valutazione sanitaria</b>						
Tasso di ricovero per polmonite ≥ 60 anni	494	412	414	*	424	✓✓
Tasso di ricovero per BPCO ≥ 65 anni	305	239	241	*	251	✓✓
Tasso di ricovero per scompenso cardiaco ≥ 65 anni	1537	1441	1519	*	1437	↓
Tasso di ricovero per diabete con cc a lungo periodo > 17 anni	21,62	26,16	32	*	23,67	↓
Degenza media pre-operatoria (grezza)	1,25	1,19	1,19		1,13	=
Percentuale drg medici dimessi da reparti chirurgici	21,63%	19,89%	18,86%		18,13%	✓
Percentuale colecistectomie laparoscopiche in Day-Surgery e RO 0-1 gg	39,38%	59,03%	70,10%		65,00%	✓✓
Percentuale fratture dell'anca operate entro 2 giorni dall'ammissione	27,59%	42,86%	48,89%		52,10%	✓
Percentuale parti cesarei depurato	14,20%	19,12%	13,11%		17,21%	✓✓
Percentuale di ricoveri degenza >30gg per popolazione residente	1,13%	0,97%	1,05%		0,90%	↓
Indice di performance degenza media	-0,70	-1,02	-0,96		-1,02	↓
<b>Conseguimento strategie regionali</b>						
Tempi di attesa prestazioni di diagnostica (% visite entro 30gg)		96%	83,75%		>90%	↓
					50% I sem.	
Completezza schede SDO: livello di scolarizzazione			72,69%		80% II sem	✓✓
<b>Obiettivi di Area Vasta</b>						
Percentuale fughe extra Area Vasta	5,39%	5,40%	5,20%		5,00%	✓
*proiezione su base annuale						
Stima completezza invio dati SDO (Schede di Dimissione Ospedaliera): 97,77%				✓✓ obiettivo raggiunto		
Stima completezza invio dati CAP (Certificato di Assistenza al Parto): 92,29%				✓ trend in miglioramento		
				= stabilità		
				↓ trend in peggioramento		

## 2006 CEOs' Rewarding system

The **rewarding system** concerns the 20% of the CEOs' wage.

The **2006 rewarding system** was based on a dichotomic criteria, that is for each indicator the reward was assigned only if the target was completely achieved (with a 1% tolerance).



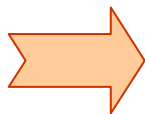
**CEOs gained among 49% and 73%**

**2006:** Financial area represents **50%** of the reward

## 2007 CEOs' Rewarding system

The **2007 rewarding system** was based on the following criteria:

- i. for each indicator the reward was assigned according to the **level of achievement**;
- ii. on the basis of the **benchmarking**: if the performance is better than the regional average a 50% is assigned, and for the remaining 50% the previous criteria is applied;
- iii. The reward is however assigned at 100% to that Health Authorities with the regional **best practice**.



**CEOs gained among 61% and 91%**

**2006:** Financial area represents **22%** of the reward

## Correlations: some findings

Correlations among all the indicators have been explored, considering the '0-5' scores of 2005 and 2006 separately.

Significant correlation ( $p < 0.05$ ) were found:

- 1. Hospitalization rate and Clinical Quality**  
( $r = 0.69$ ,  $p < 0.05$ )
- 2. Hospitalization rate and Effectiveness of primary care activities** ( $r = 0.64$ ,  $p < 0.05$ )
- 3. Appropriateness and Patient Attraction Rate**  
( $r = 0.69$ ,  $p < 0.05$ )
- 4. Climate Survey Response rate and Patient attraction Rate**  
( $r = 0.68$ ,  $p < 0.05$ )

**So, what about the correlation between implementing a comprehensive performance evaluation systems and competitive advantages in healthcare?**

***Working for the Italian Ministry of health on the national hospital admissions database, we found out that Regions who perform well on a multidimensional level are also financially balanced... and the opposite as well!!!***



## Conclusions

- The performance evaluation system has introduced a “**rhythm**” to the change process as it measures the effectiveness of the system.
- It can not be an exhaustive tool, but it is one of the **management tools** helpful to push the organization to overcome being “auto-referential” .
- It is not meant to do a ranking, but to play even between regional politicians and top managers for the **governance** of the system.
- It introduced a real **pay-for-performance starting from CEOs and now also affecting professionals (both specialists and GPs)**.
- It is **unique** in Italy: it supports evidence-based policy making and is also attracting pharmaceutical international investments.

*In our experience: if we don't measure, we cannot manage and therefore we risk to waste health and money as we are unable to improve!!!*

*The next quantum-leap will be the evaluation of primary care services.*