Performance assessment tool for quality improvement in hospitals

- Results from the pilot implementation -

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Content

Background of the project

Experience with pilot implementation

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Background of the project

Basic orientations

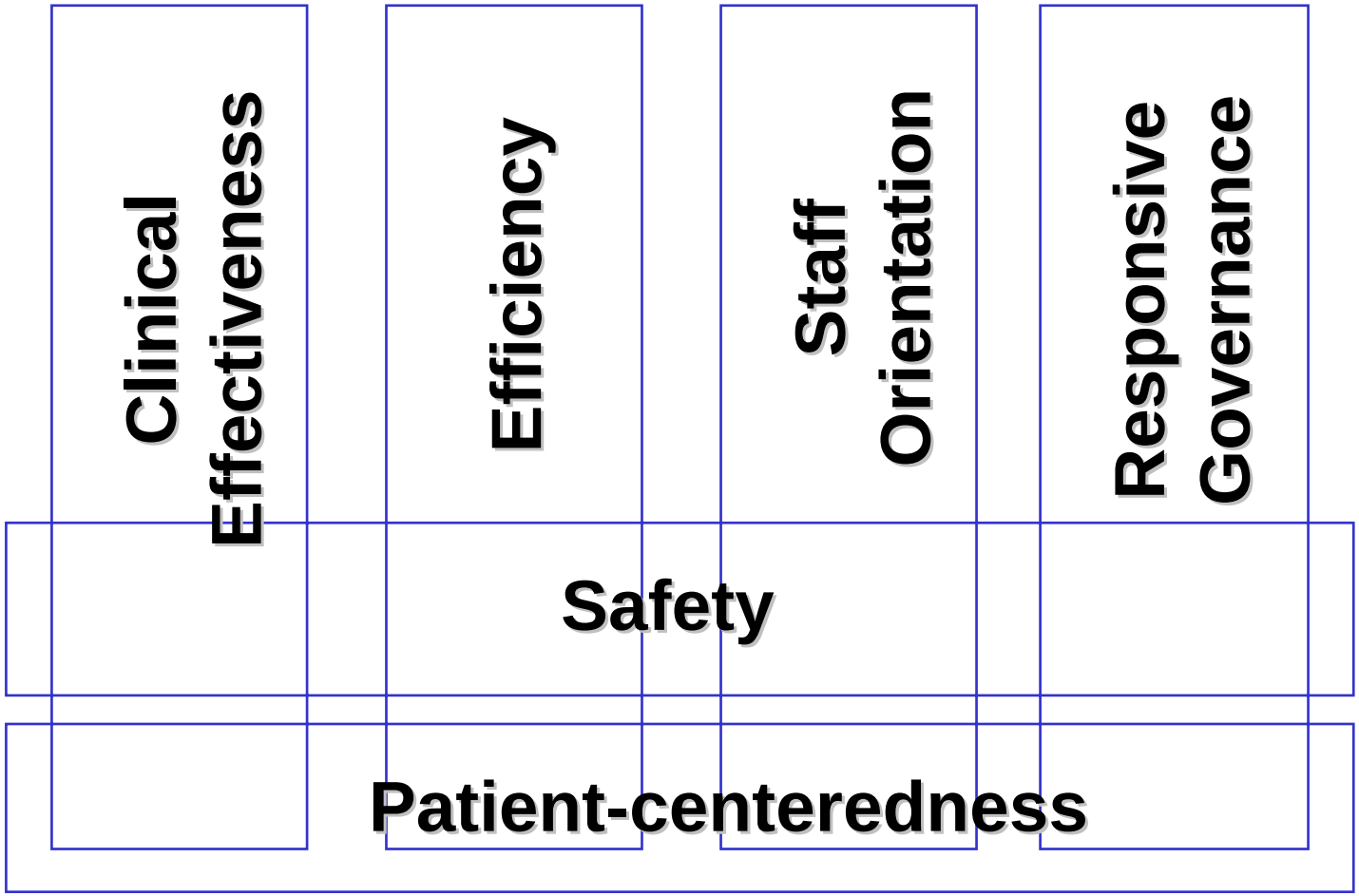
Tool for internal quality improvement to support hospitals in:

- **Assessing their performance**
- **Question their results**
- **Translate them into actions for quality improvement.**

No ranking of providers or countries, no disclosure of data to purchasers or public.

Comparative data based on peer groups of providers.

The PATH model



Key message: performance dimensions and indicators are interrelated.

Set of performance indicators

Clinical effectiveness

Primary Caesarean section delivery rate

Appropriateness of prophylactic antibiotic use

Rate of readmission for selected tracer conditions

Rate of admission after day surgery

Return to ICU for

Safety

Mortality rates for

Formal procedure

Work-related injur

Tracer conditions depend on indicator, e.g. for mortality:

stroke, AMI, community acquired pneumonia, coronary artery bypass graft, total hip replacement

Efficiency

Ambulatory surgery use

Median length of stay for specific procedures

Average inventory in stock for pharmaceuticals

Wastage of blood products

Operating rooms unused sessions

Set of performance indicators

Patient centeredness

Cancelled surgical procedures

Score on patient perception/satisfaction survey

Score on interpersonal apects

Score on client orientation: information and empowerment

Responsive governance

Perceived continuity through patient survey

Women breastfeeding at discharge

Staff orientation

Training expenditures on average number of FTE staff

Budget dedicated to staff health promotion activities

Short and long term absenteeism

Percutaneous injuries on average number of FTE staff

Staff excessive weekly working hours

Descriptive sheets for indicators

Definition

- Numerator and denominator
- Inclusion criteria
- Definition (ICD and content)
- Data collection sources and timeframe

Rationale

- Burden of data collection
- Importance (prevalence, potential for improvement, hospital impact)
- Validity (face validity, construct validity)

Guide for interpretation

- Stratification
- Related performance indicators

Experience with pilot implementation

Objectives of the pilot

Assess model

- Burden
- Benefit

Revise model

- Include / exclude indicators
- Refine definitions
- Propose strategy for implementation on a larger scale
- Disseminate the project

Calendar for pilot

Deadline	Tasks
02/2004	**Participating hospitals identified and coordinators (national/local) appointed**
04/2004	**Check data availability + select tailored indicators + set up data collection mechanisms**
10/2004	**Data collection between October 2004 and August 2005**
08/2005	**August to November 2005: Analysis**
11/2005	**International workshop: review of experience + PATH amendment**
03/2006	**PATH amended version ready to be expanded** **Creation of the international network**

Experience from the pilot implementation

1. 51 hospitals from 6 countries (Belgium, Canada, Denmark, France, Slovakia, South Africa),
2. Timeliness and comprehensiveness of data submission depended highly on organizational context,
3. Insufficient control for local adaptations of indicator definition,
4. Lack of data to adjust for case-mix (SES, severity, co-morbidity),
5. Lack of standardized patient assessment measure affect four indicators.

Construction of peer groups

Distribution of questionnaire on hospital (quality) management systems and functions.

Cluster analysis to group hospitals:

- **Comprehensive analysis: hospital structures and quality systems**
- **Limited analysis: size, catchment area**

Three clusters/peer groups emerged:

- **smaller community hospitals, mixed catchment (9),**
- **community and large multispecialty, all teaching (25),**
- **large, multisite teaching hospitals in urban areas (13).**

Summary of results

1. Indicator specific dashboard

2. Relative performance index

3. Overall performance index

Indicator specific dashboard

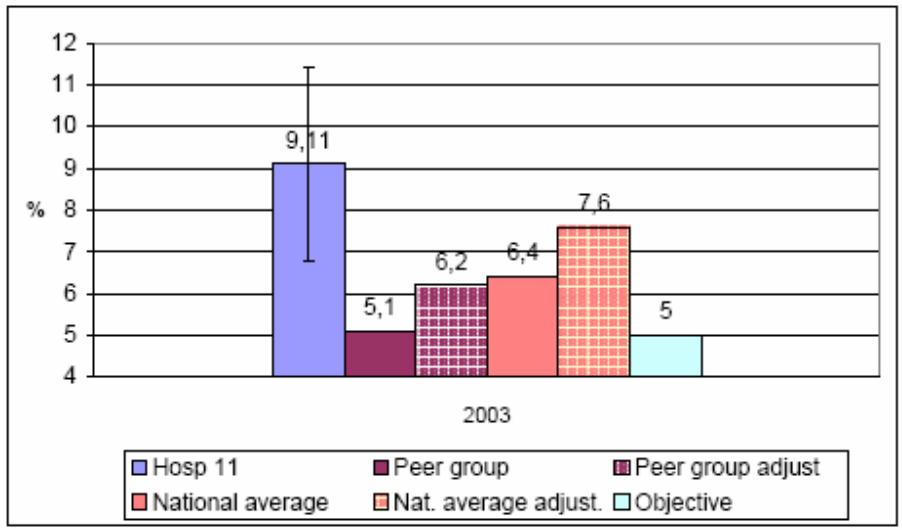
- Example -

Country :
Hospital : 11
Data collect : Année 2003 et janvier 2004 pour prendre en compte les réhospitalisations en lien avec une hospitalisation en décembre 2003

CORE Indicator : Readmission within 30 days ; Risk-adjustment : age and sex
Stratification / tracer : Acute Myocardial Infarction (AMI)

Global rate : 9,11 %
CI : 2,32 %
N : 593

Stratify by sex and age		n	N	%
Male	age 0-14			
	age 15-24			
	age 25-44	2	41	4,88
	age 45-64	12	147	8,16
	age 65-79	16	126	12,70
	age 80-89	5	61	8,20
	age over 89	1	19	5,26
	total	**36**	**394**	**9,14**
Female	age 0-14			
	age 15-24			
	age 25-44	3	12	25,00
	age 45-64	4	18	22,22
	age 65-79	6	79	7,59
	age 80-89	4	56	7,14
	age over 89	1	34	2,94
	total	**18**	**199**	**9,05**



for each hospital for each indicator and tracer

Indicator specific dashboard

- Absenteeism -

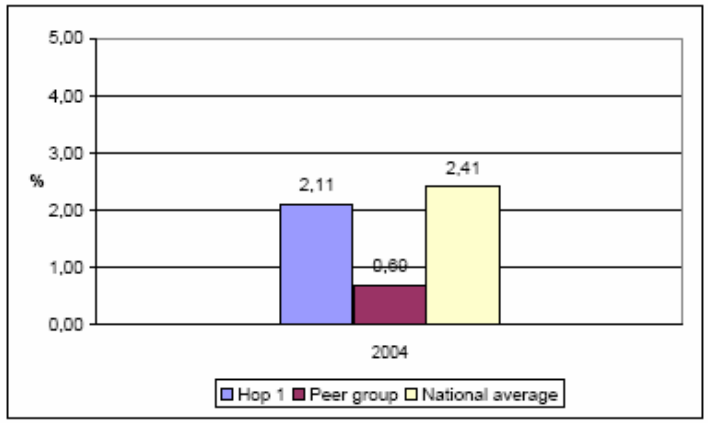
Absent-gnurses (CT)

Country :
Hospital :
Data collect :

CORE Indicator : Absenteeism (short term) ; Risk-adjusment : age and sex
Stratification / tracer : Regulated Nurses

Global rate : 2,11 %
CI : %
N : FTE

Stratify by sex and age		n	N	%
Male	age less than 40			0,00
	age 40-55			
	age over 55			
	total			
Female	age less than 40			2,66
	age 40-55			2,07
	age over 55			1,74
	total			



Reflective of

Staff/CN/haviioural responses
Staff/org. factors
Staff/outcomes/satisfaction & morale

Formative of

Eff/productivity/cost
PC/continuity/safety

Relates to

Staff ratios
Length of stay
Patient survey on interpersonal care
Patient survey – global satisfaction

Indicator specific dashboard

- Readmission <4 days CAP -

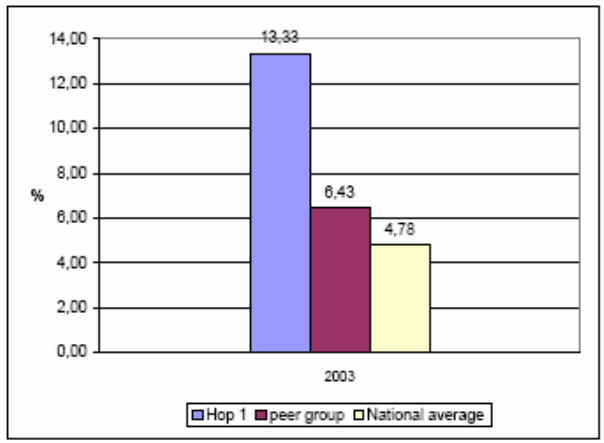
Readm (CAP)

Country :
Hospital :
Data collec

CORE Indicator : Readmission within less than 4 days ; Risk-ajustment : age and sex
Stratification / tracer : CAP

Global rate : 13,33 %
CI : #DIV/0! %
N : 0

Stratify by sex and age		n	N	%
Male	age 0-14	0	0	
	age 15-24	0	0	
	age 25-44	0	0	
	age 45-64	0	0	
	age 65-79	0	0	
	age 80-89	0	0	
	age over 89			
	total	0	0	
Female	age 0-14	0	0	
	age 15-24	0	0	
	age 25-44	0	0	
	age 45-64	0	0	
	age 65-79	0	0	
	age 80-89	0	0	
	age over 89	0	0	
	total	0	0	



Reflective of

CE/outcomes
RG/syst. integration/follow-up
PC/client orient./information/education
PC/client orient/comprehensiveness
Eff/productivity/LOS

Formative of

Eff/appropriateness services

Relates to

Length of stay

Indicator specific dashboard

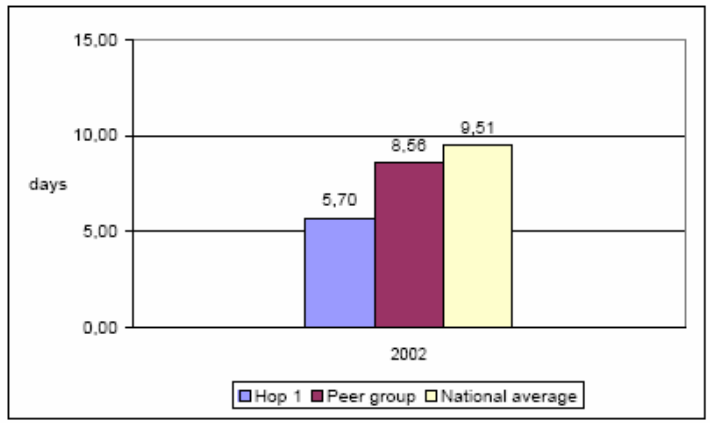
- LOS AMI -

Country :
Hospital :
Data collect :

CORE Indicator : Length of stay (LOS) ; Risk-adjusment : age and sex
Stratification / tracer : Acute Myocardial Infarction (AMI)

Global rate : 5,70 days
CI : n/a %
N : 0

Stratify by sex and age		n	days
Male	age 0-14	0	0
	age 15-24	0	0
	age 25-44	0	0
	age 45-64	0	0
	age 65-79	0	0
	age 80-89	0	0
	age over 89	0	0
	total	0	
Female	age 0-14	0	0
	age 15-24	0	0
	age 25-44	0	0
	age 45-64	0	0
	age 65-79	0	0
	age 80-89	0	0
	age over 89	0	0
	total	0	



Reflective of

PC&CE/internal coordination of care
CE/outcomes/improved health
CE/safety/outcomes/complications
CE/process/clinical pathways
RG/syst integr/discharge preparation
PC/client orient/empowerment/

Formative of

Eff/productivity
PC/client orient/empowerment

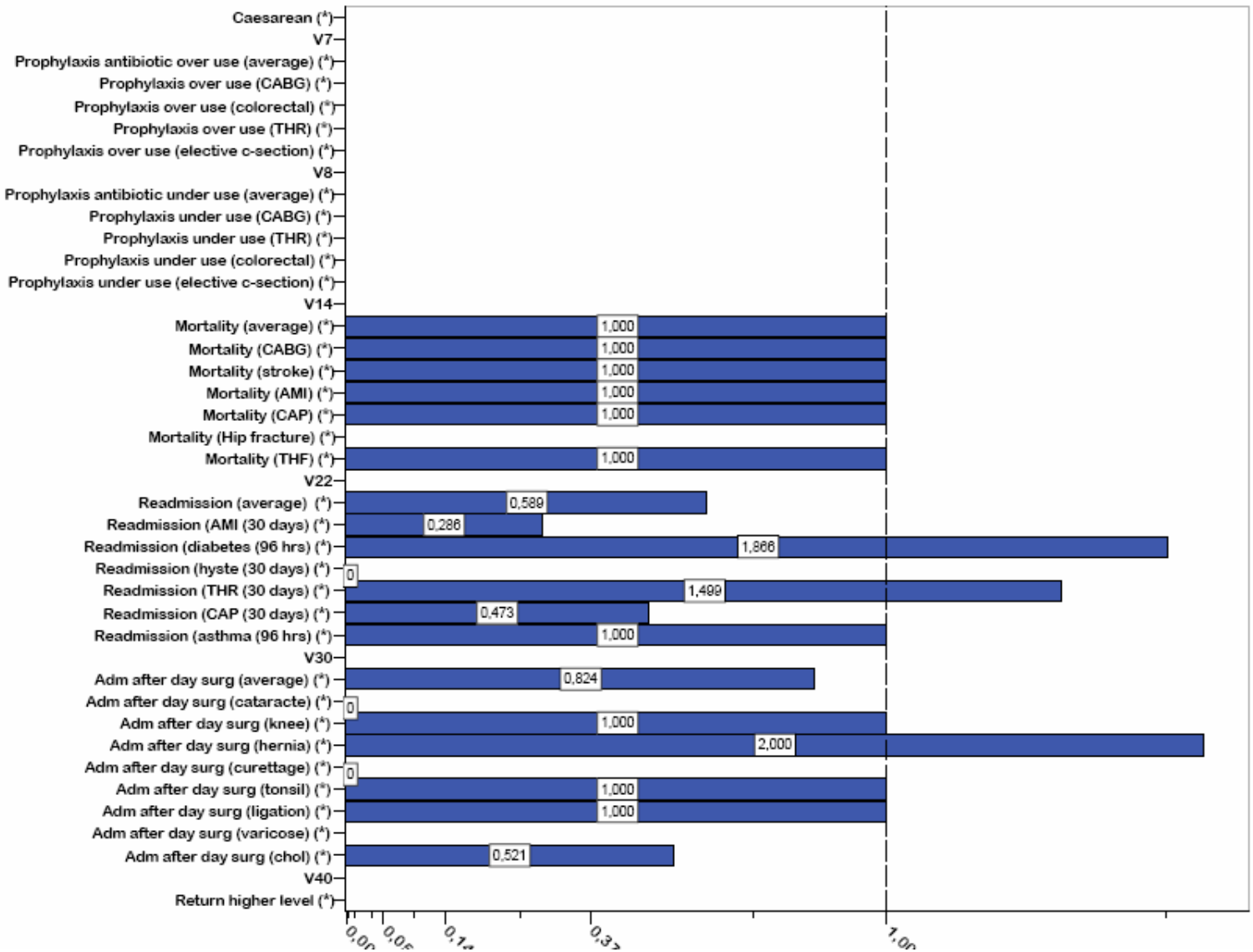
Relates to

Discharge preparation
Waiting time
Readmissions
One-day surgery

Descriptive: transfer rate

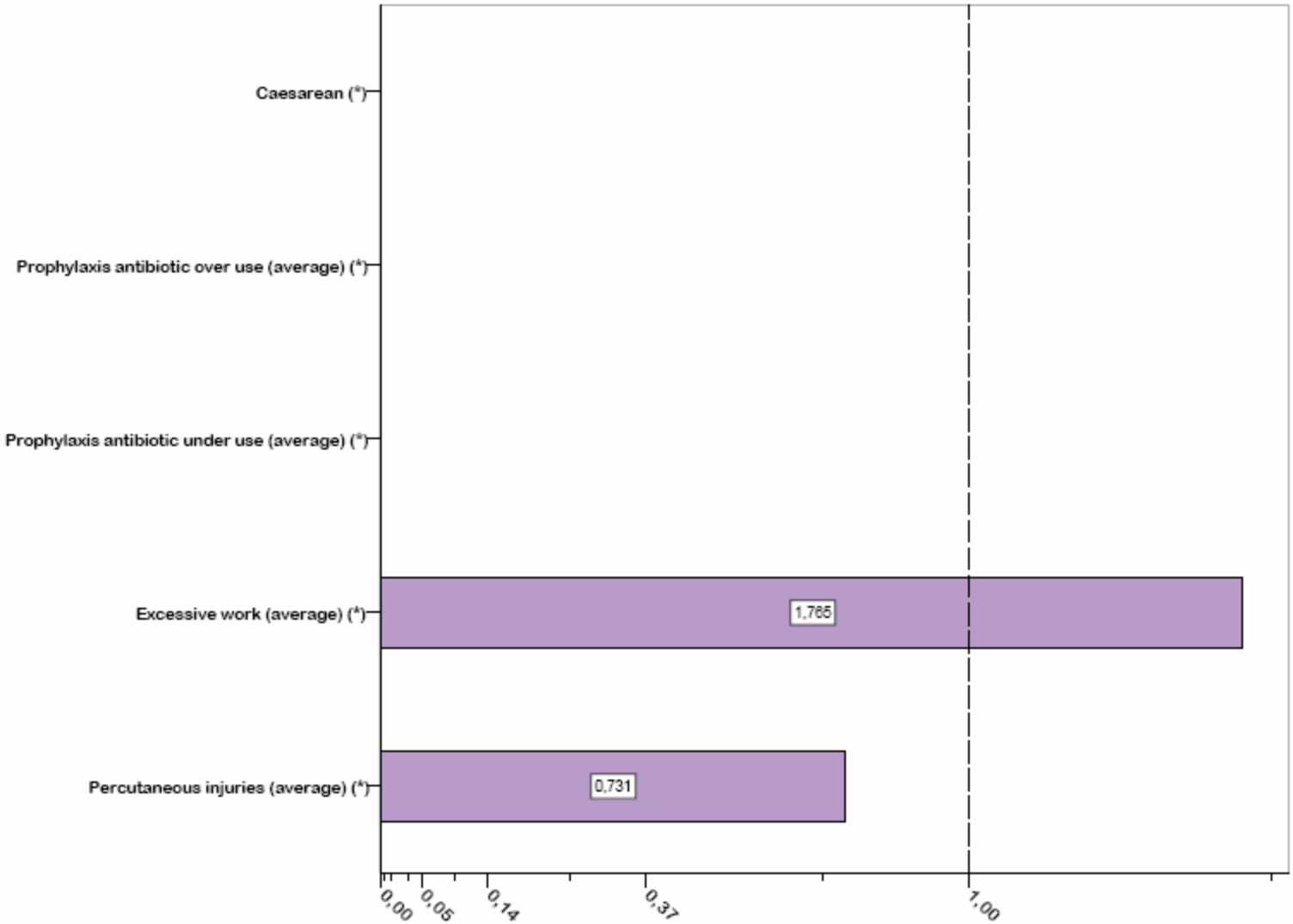
Relative performance index

- Clinical Effectiveness -



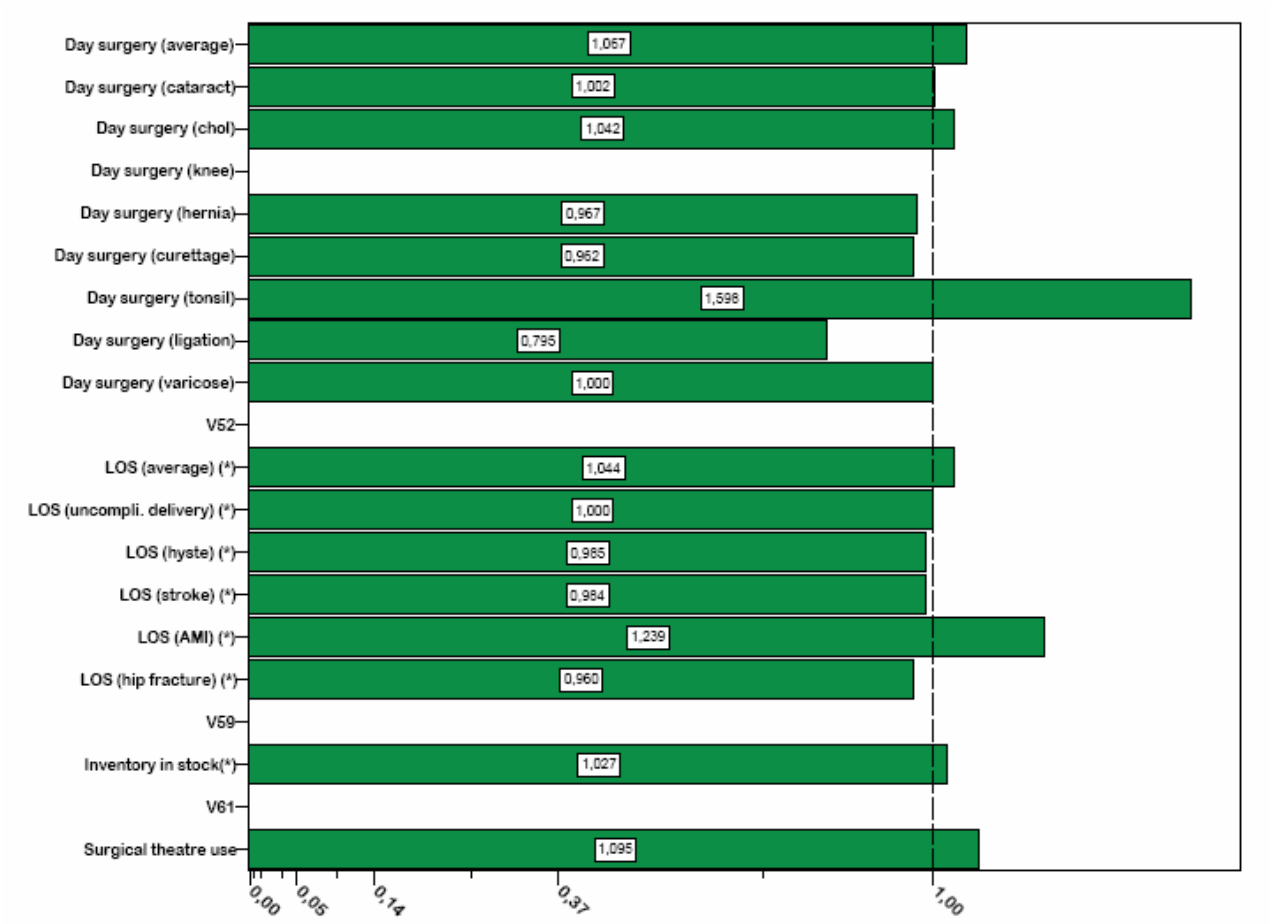
Relative performance index

- Safety -



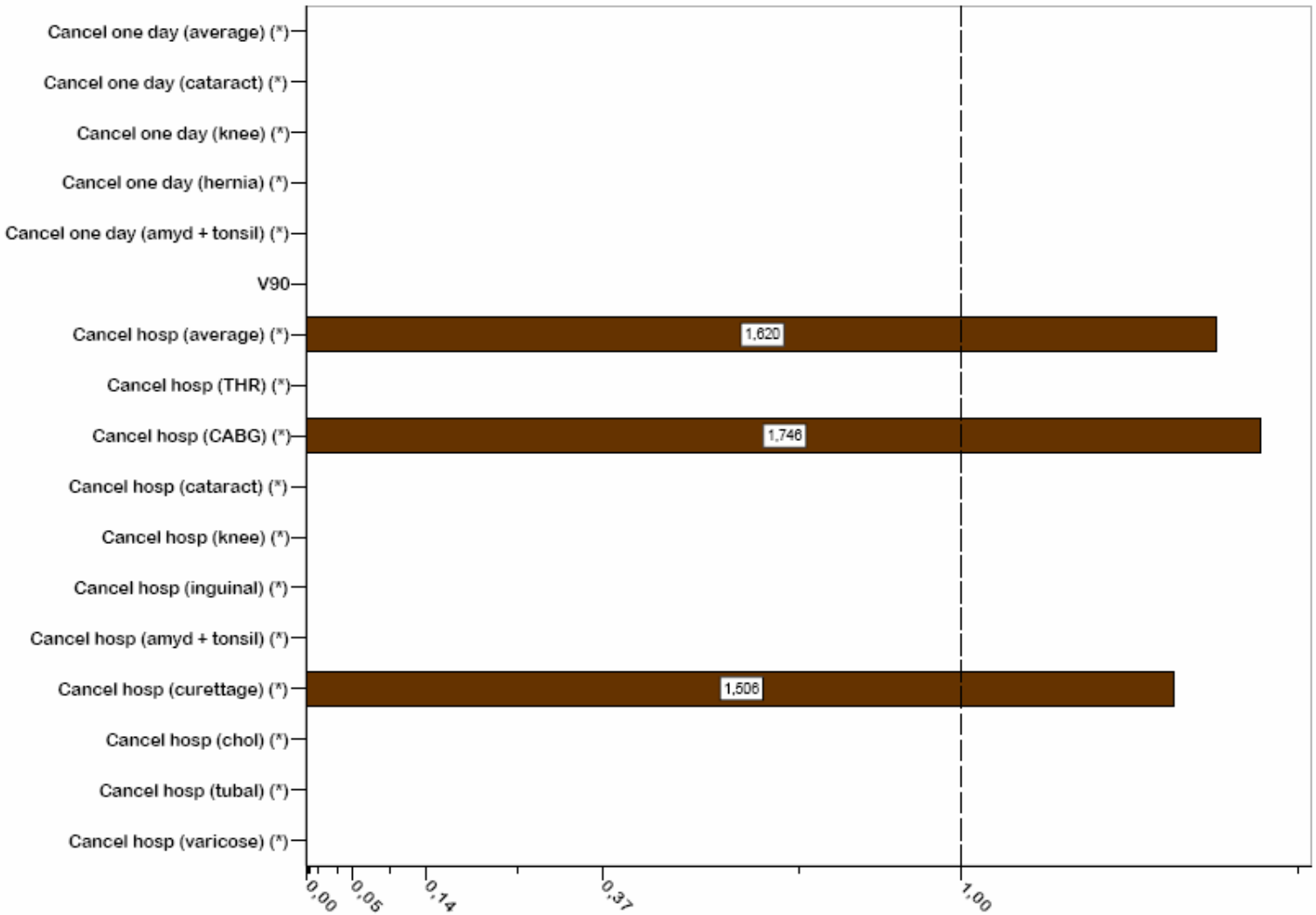
Relative performance index

- Efficiency -



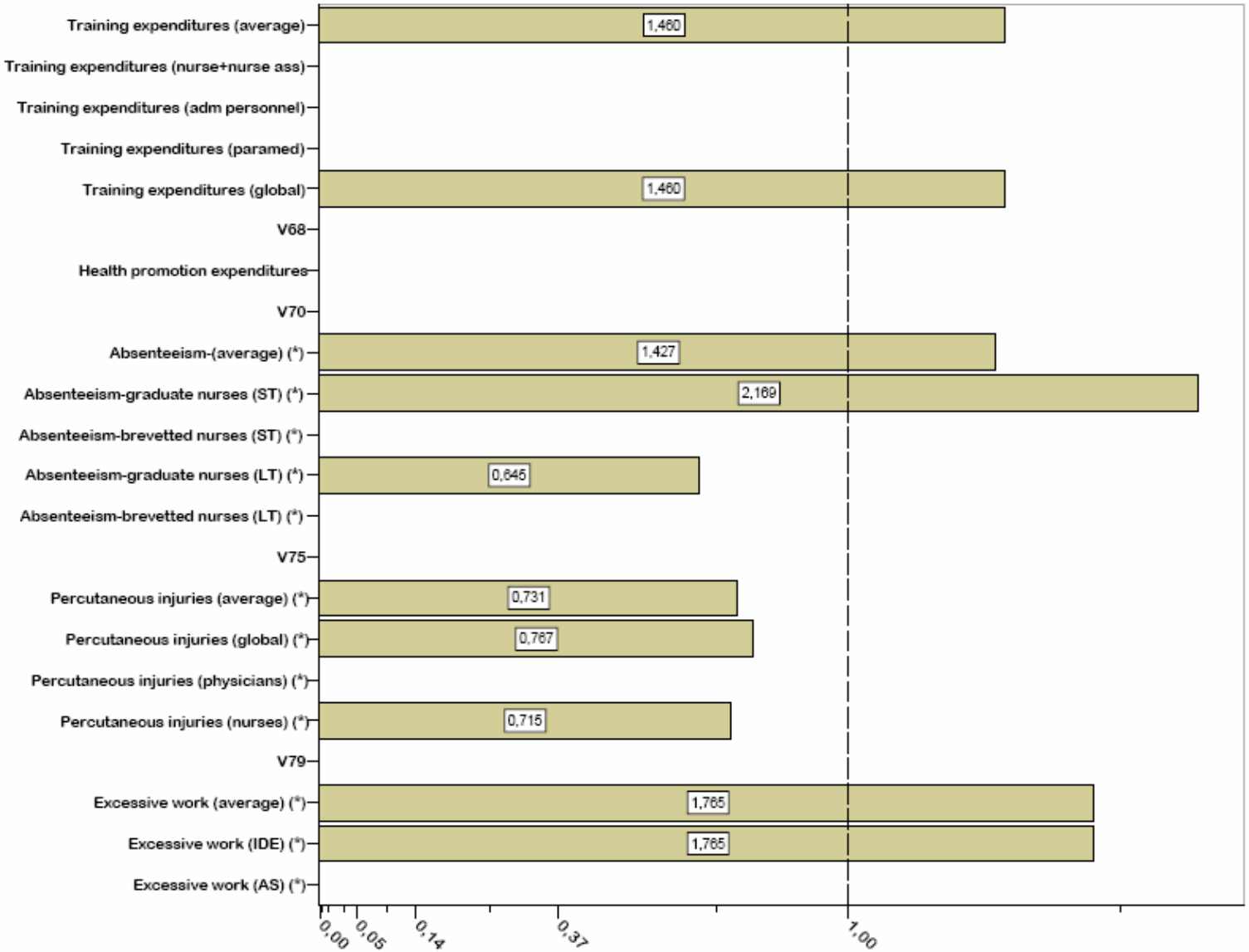
Relative performance index

- Patient centeredness -



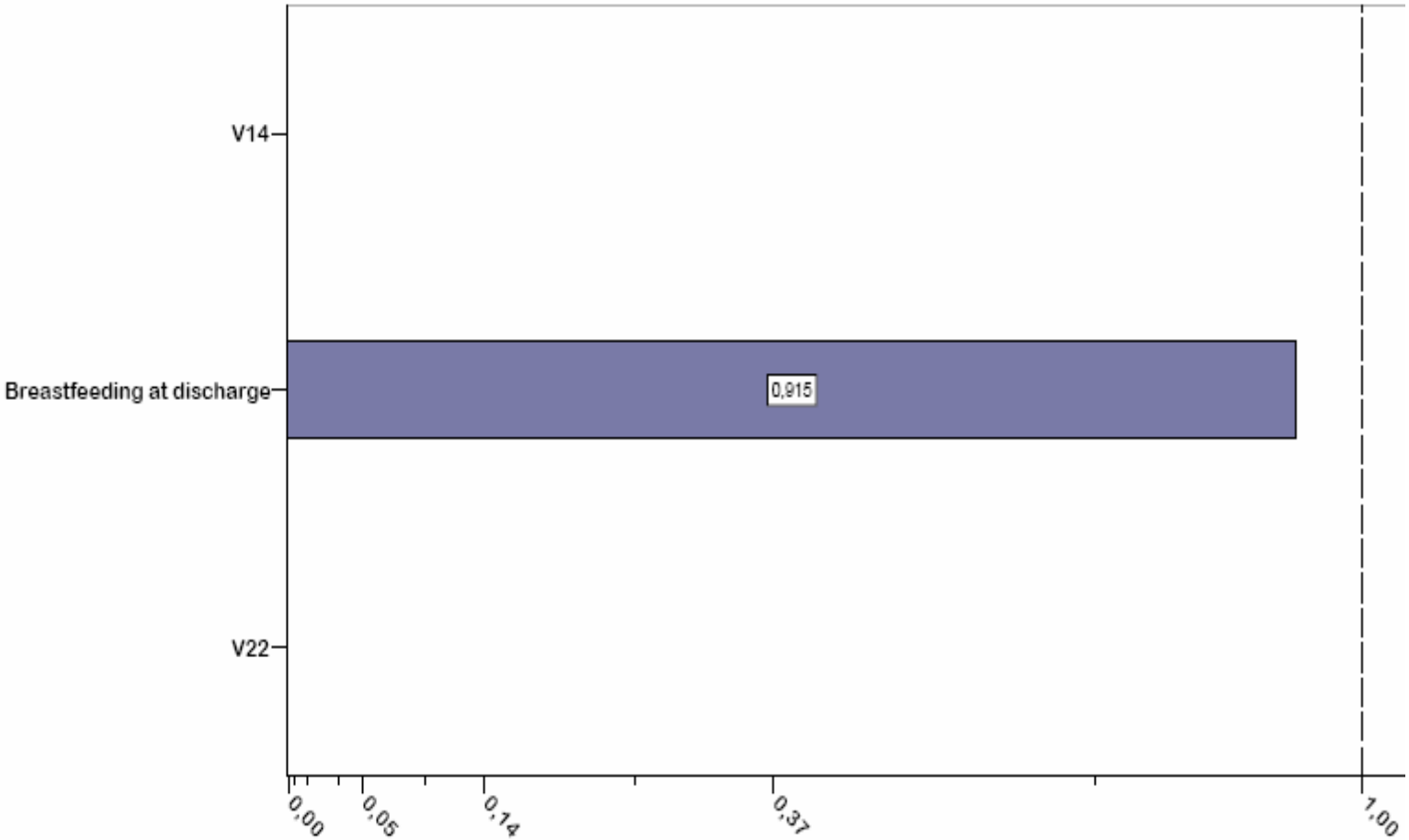
Relative performance index

- Staff orientation -



Relative performance index

-Responsive governance-



Overall performance index
- For each hospital -

dimension	Low Performance (*1)	Average Performance	High Performance (*2)	TOTAL
Clinical effectiveness and safety	0	0	2	2
Efficiency	0	4	0	4
Staff orientation and safety	0	2	1	3
Responsive governance	0	1	0	1
Patient centredness	0	0	1	1
Safety	0	1	0	1
total	0	8	4	12

dimension	Low Performance (*1)	Average Performance	High Performance (*2)	TOTAL
Clinical effectiveness and safety	0%	0%	100%	100%
Efficiency	0%	100%	0%	100%
Staff orientation and safety	0%	67%	33%	100%
Responsive governance	0%	100%	0%	100%
Patient centredness	0%	0%	100%	100%
Safety	0%	100%	0%	100%
total	**0%**	**67%**	**33%**	**100%**

Future directions

Results and way forward

A fully revised framework after pilot implementation including:

- **a refined core set of performance indicators + experience in use of tailored indicators**
- **a consolidated indicator manual to all participating hospitals consisting of:**
    - **Indicator definitions**
    - **Exclusion & inclusion criteria**
    - **ICD-10 and CCI codes**
    - **Desired length of time for data collection**
- **tools and strategies for interpretation and quality improvement.**

Results and way forward

1. **WHO CC Ancona, Italy: Establishing Internet platform to collect, analyze and report data.**
2. **WHO Kracow, Poland: Administration and training on implementation and interpretation of performance measures in hospitals.**
3. **Steering group and academic centres of excellence to advance reporting of results.**
4. **WHO Regional Office for Europe: research and support.**

Conclusion

- International pilot implementation yielded problems around data collection and interpretation.
- Quality improvement starts with data collection.
- Clear strategy required to guide further process of data collection to learn from results and link with other quality improvement strategies.
- Many possibilities to present data; however, main question is how data is used.

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