Quality indicators

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Outline of this workshop

1. Present information on PI health care.
2. Discuss 'the Dutch case'…!
3. Propose tentative hospital indicator set.
4. Discuss ideas and suggestions.
5. Appraise feasibility of tentative PI-set.
6. Assess its completeness.
7. Agree on actual users of indicators.
8. Reach consensus on final set of PI-set.

Why performance measurement…?

- In many countries, the health care system is demanding ever increasing amounts of public and private resources
- Growing demands for accountability
- Evidence on major 'quality gaps' in health care
- Concerns about access & patient safety

Why performance indicators…?

- To document the quality of care
- To make comparisons
  - Over time
  - Between places (e.g. hospitals)
- To support accountability, regulation, and accreditation
- To support quality improvement
- Transparency for society and patients

Indicator set evaluated against:

- Scientific soundness
  - i.e., reliable, valid, adjusted
- Importance of the quality concern;
- Relevance to various users;
- Potential to foster improvement in health of the patient
- Evidence basis / expert consensus
- Interpretability and actionability
  - the degree to which steps can be taken to address the concern
- Feasibility and ease/ cost-effectiveness of measurement.

Reliability of the indicator

- An indicator is reliable if, when repeatedly applied to the same population, the same result is obtained in a high proportion of the time.

Validity of the indicator

- The extent to which the indictor accurately represents the concept being measured.

Requires:
1) scientific basis for the indicator / consensus
2) distinguishes between poor and good quality
3) construction of the indicator represents concept of measure

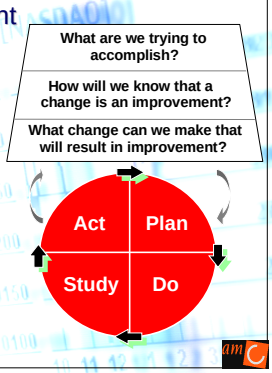
Internal improvement vs external accountability

Performance indicators can be used for internal and/or external reasons.

- *Internal reasons:*
  - for management information to monitor, evaluate or improve hospital functioning (long or short term)
- *External reasons:*
  - for accountability asked by stakeholders (the financier, patients/consumers and the public at large).

Internal quality improvement

- Function:
  - used by providers and managers to monitor and improve health care outcomes
  - for providers and managers to investigate potential problems and approaches for improvement
  - measurement for 'improvement', not measurement for 'judgement'



Different purpose, different characteristics

- Internal
  - need to be specific to the care process at stake
  - sufficiently detailed to captured the impact of 'planned' changes in process
  - 'no' extensive validation needed

Focus and functions: external accountability

(MOH, HIC, HCSA)

Accountability for quality of care provided by:

- 'individual specialist'
- 'specialist group'
- 'group of health care providers' (e.g. department)
- 'hospital'

Different purpose, different characteristics (1)

- External

-lower level of detail and specificity
  - what are the overall outcomes?
  - average waiting times?
  - global costs?
  - overall patient satisfaction figures?

- requires extensive validation (case-mix and care context adjustment)
  - best surgeon with highest mortality because most complex patients…
  - a GP in deprived neighbourhood with low vaccination rates because low compliance of patients 'or' high workload of acute patients and no time left for prevention…

Different purpose, different characteristics (2)

- External
  - adjustment for care context: age, sex, gender, ethnicity, SES, severity and range of complaints, stage of disease etc.
  - requires large numbers...!
  - Prevent perverse effects: creaming and dumping (selecting those who will guarantee high scores, denying difficult patients)

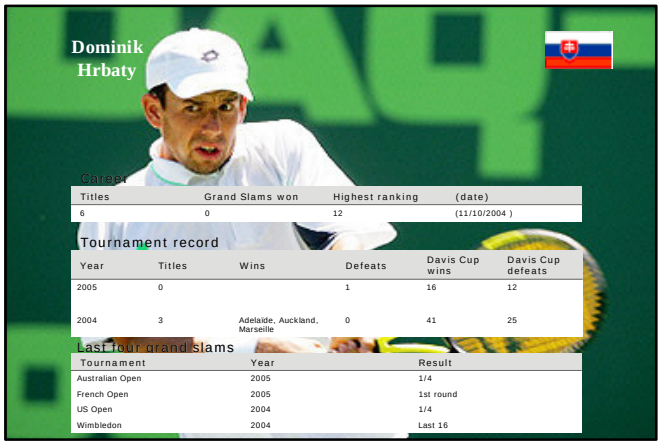
Explaining variation…

Explaining factors	Sources of variation
Differences in patient types	Confounding / bias due to patient characteristics
Differences in measurement	Differences in case definitions, outcome and risk factors
Chance	Random variation due to (limited number) cases (low 'N') en (low) frequency of occurrence
True differences in Quality of Care	Use of (evidence-based) effective interventions / treatment

	Quality improvement	Accountability
Who?	- Professional teams - QI-teams - Managers	- Insurer - Financier - Patient - Professional teams
Why?	- Understanding the care process - Understanding of patient experiences - motivation - Baseline measurement - Evaluation of changes	- Comparison - Basis for choices - Reinforcement - Stimulate changes
What? *Scope:* *Indicator:* *Period:*	- Specific for object or process - Few - Easy to collect - Estimation - Short, present, prospective	- Specific for object or process - Very few (core set) - Less easy to collect - Precise and valid - long, retrospective
How? *Selection:* *Sample:* *Data collection:* *Confidentiality:*	- Internal - Small - Simple, quick, low cost - confidential	- External - Large - More complex, higher costs - Transparent

Characteristics of differences in applying performance measurement in health care

Solberg e.a. 1997



Career

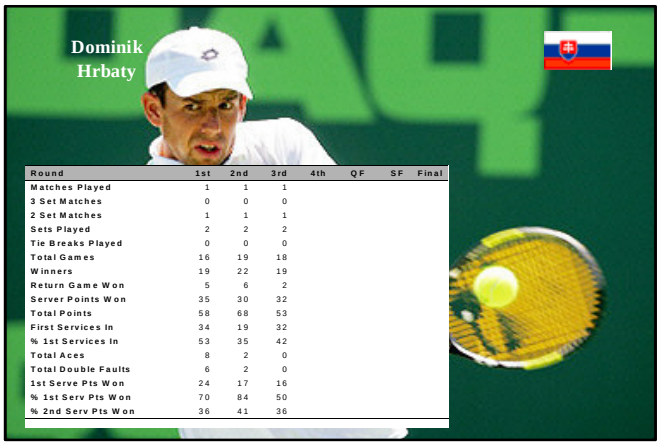
Titles	Grand Slams won	Highest ranking	(date)
6	0	12	(11/10/2004)

Tournament record

Year	Titles	Wins	Defeats	Davis Cup wins	Davis Cup defeats
2005	0		1	16	12
2004	3	Adelaide, Auckland, Marseille	0	41	25

Last four grand slams

Tournament	Year	Result
Australian Open	2005	1/4
French Open	2005	1st round
US Open	2004	1/4
Wimbledon	2004	Last 16



Round	1st	2nd	3rd	4th	QF	SF	Final
Matches Played	1	1	1				
3 Set Matches	0	0	0				
2 Set Matches	1	1	1				
Sets Played	2	2	2				
Tie Breaks Played	0	0	0				
Total Games	16	19	18				
Winners	19	22	19				
Return Game Won	5	6	2				
Server Points Won	35	30	32				
Total Points	58	68	53				
First Services In	34	19	32				
% 1st Services In	53	35	42				
Total Aces	8	2	0				
Total Double Faults	6	2	0				
1st Serve Pts Won	24	17	16				
% 1st Serv Pts Won	70	84	50				
% 2nd Serv Pts Won	36	41	36				

Performance indicators hospitals 2004

Dutch Health Care Inspectorate

Inspectorate's vision

*'**rapidly** producing a **feasible** set of indicators, **obligatory** for all hospitals, that could and would be used in such a way that the aims (!) would be fulfilled, while **preventing 'side effects'** such as misinterpretation, defensive or perverse reactions'*

Start project: 2003
Indicator set: - Clinical effectiveness
- Patient safety

Two basic conditions…

1) Cooperation with hospitals and professionals

important: - *defensive reactions from the field*
- *prevent perverse reactions (manipulation of numbers)*

2) 'No' large-scale project

- *'no' practically usable indicators after 'many years of groundwork'*
  - ð *'no' lengthy and costly process of exhaustive validation*
  - ð *'no' need for evidence-based indicators only*
  - ð *'no' extensive literature reviews*
  - ð *'no' complicated case-mix adjustment strategies*

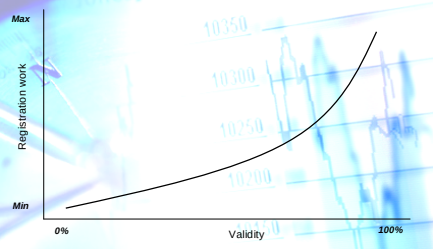
Four important lessons…(lesson 1)

1) The more 'valid' the indicator, the more 'work' to construct and report

For indicator developers:
- *extensive literature reviews*
- *precise risk-adjustment strategies (case-mix / care context)*
- *all potential confounders taken into consideration*
- *consensus process procedures (e.g. RAND appropriate method)*

For indicator users:
- *more precise and extensive data registration*

Validity and registration

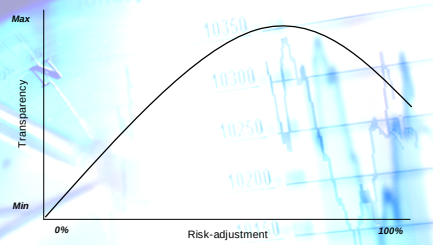


Four important lessons…(lesson 2)

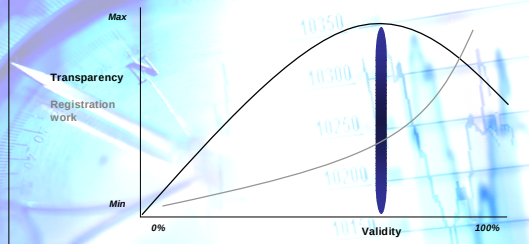
2) Increasing validity and thus comparability (complex statistical procedures and risk-adjustment) decreases transparency

- *Statistical processing to make numbers 'more' comparable decreases the direct meaningfulness of the numbers.*

Validity and transparency



Validity, registration and transparency



Four important lessons…(lesson 3)

3) Trying to make them 'really' comparable, the more results are challenged and defensive reactions

- *If comparability is main aim, critics will challenge the indicator scheme*
- *Risk-adjustment strategies can always by contested*
- *Always reasons for confounding not foreseen*

Four important lessons…(lesson 4)

4) The more direct and serious the consequences of high or low scores, the more manipulation and perverse reactions.

- *Star rating in NHS: creative use of data 'massage'.*
- *Induced by high pressure to perform (financial incentives / punishment).*

ð *Systems 'less' punitive, 'less' manipulation and perverse reactions.*

Goals…

- Create a first 'screening' instrument for the Inspectorate of the quality of care delivered in individual hospitals.
- Enhance transparency of the hospital sector.
- Stimulate hospitals to improve their scores.

…while,

- Keeping hospitals and professionals on board.
- Doing all this in a short time frame.

Starting points…

- Indicators do not constitute a cockpit for the inspectorate, but:
  - ð leads to request for (more) explanation
  - ð additional investigation
  - ð start of dialogue
- Indicators should stimulate 'internal' quality improvement
- Results made 'public' by hospitals themselves
- Feasibility first…!

Dutch Hospital Performance Indicator SET

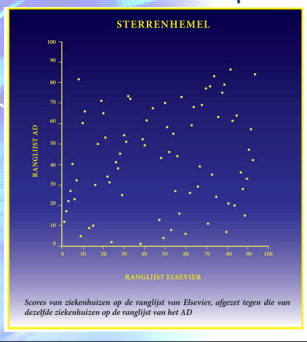
Hospital-wide
- *Pressure Ulcer*
- *Blood transfusion*
- *Medication safety*
- *Information technology*
- *Wound infections*
- *Complication registration*
- *Risk inventory*

EW, OT, ICU*
- *Post-operative pain*
- *Volume of high risk interventions*
- *Laparoscopic surgery*
- *Cancelled operations*
- *Unplanned re-operations*
- *Intensive care*

Conditions/intervention
- *Pregnancy*
- *Diabetes*
- *Heart failure*
- *AMI*
- *Stroke*
- *Hip fracture*
- *Total hip replacement*
- *Mamma tumour*
- *Cataract surgery*
- *Refraction surgery*

**Emergency ward, Operation theatre, Intensive Care Unit*

Information made public…'Starry Sky'…!



Scores van ziekenhuizen op de ranglijst van Elsevier, afgezet tegen die van dezelfde ziekenhuizen op de ranglijst van het AD

- No. 8 in Elsevier, but no. 82 in AD Newspaper…!
- Correlation coefficient: 0.19
- A lot of confusion among public

Elsevier: *opinion of professionals*

AD: *Inspectorate indicator set*

Healthcare Commission

Home Indicator listing for acute trusts **All Cancers: 2 week wait**

All Cancers: 2 week wait

Percentage of patients seen within two weeks of urgent GP referral for suspected cancer to first outpatient appointment with a specialist

Rationale

The NHS Cancer Plan sets the ultimate goal that no patient should wait longer than one month from an urgent referral for suspected cancer to the beginning of treatment except for good clinical reasons. A series of staged milestones and targets have been set out between 2000 and 2005 including "a maximum 2 week wait from an urgent GP referral for suspected cancer to date first seen for suspected cancers by end of 2000".

Thresholds

Legend		
Achieved	✓	98% or more
Underachieved	-	Greater than or equal to 90% and less than 98%
Significantly underachieved	x	Less than 90%

If trusts have seen a small numbers of patients (less than 50 in the denominator of the indicator construction) then trusts with 1 breach are considered to have achieved the target for the purposes of ratings.

Healthcare Commission

Home Search results **Bedford Hospitals NHS Trust**

Bedford Hospitals NHS Trust

Performance rating: 3 stars

Key target	
12 hour waits for emergency admission via A&E post decision to admit	✓
All Cancers: 2 week wait	
Financial management	✓
Hospital cleanliness	✓
Improving Working Lives	✓
Outpatient and elective (inpatient and day case) booking	✓
Outpatients waiting longer than the standard	✓
Patients waiting longer than the standard for elective admission	✓
Total time in A&E: 4 hours or less	✓

Healthcare Commission

Home Indicator listing for acute trusts **Thrombolysis - 30 minute door to needle time**

Thrombolysis - 30 minute door to needle time

Percentage of eligible patients receiving thrombolysis within 30 minutes of hospital arrival

Rationale

The Coronary Heart Disease NSF identified action to improve the speed of treatment with thrombolysis (clot-dissolving therapy) following heart attack as one of the immediate priorities for action. The NSF outlines the target that by April 2002, 75% of eligible patients to receive thrombolysis within 30 minutes of hospital arrival.

Thresholds

Legend	
Band 1 - poor	less than 60%
Band 2	-
Band 3	greater than or equal to 60% and less than 75%
Band 4	-
Band 5 - good	Greater than or equal to 75%

Healthcare Commission

Home Search results **Addenbrooke's NHS Trust**

Addenbrooke's NHS Trust

Performance rating: 3 stars

Clinical focus	
Deaths following a heart bypass operation	N/A
Deaths following selected non-elective surgical procedures	3
Emergency readmission following discharge (adults)	2
Emergency readmission following discharge for a fractured hip	3
Infection control	3
Thrombolysis - 30 minute door to needle time	

The Slovak Hospital Indicator Set

- Partly based on PATH indicators (pre-tested)
- Workshops, hospital pilot, other meetings
- Visits of project staff to the Netherlands
- Other indicator sets (MOH, international sets, etc).

31 indicators
- *Clinical effectiveness and safety (n=18)*
- *Efficiency (n=8)*
- *Staff orientation and staff safety (n=3)*
- *Patient centeredness (n=2)*

Clinical effectiveness and safety

		MoH*	HIC*	HCSA*
1.	Mortality for Stroke (PATH)	X	X	X
2.	Mortality for AMI (PATH)	X	X	X
3.	Mortality for Pneumonia (PATH)	X	X	X
4.	Mortality for Trauma (E/O), TRISS	X	X	X
5.	Mortality for Asthma	X	X	X
6.	Mortality for Mors in Tabula	X	X	X
7.	Admission after day surgery for inguinal hernia (PATH)		X	
8.	Admission after day surgery for cataract (PATH)		X	
9.	Readmission for AMI (PATH)		X	
10.	Readmission for Pneumonia (PATH)		X	
11.	Readmission for Asthma (PATH)		X	
12.	Readmission for DM (PATH)		X	
13.	Readmission for inguinal hernia (PATH)		X	
14.	Caesarean section (PATH)	X	X	X
15.	Rate of one shot Antibiotic prophylaxis use for colorectal cancer by elective procedures		X	X
16.	Bedsores rate incurred in relation to admission			
17.	Infection control – nosocomial infections			
18.	Complications after transfusion			

Efficiency

		MoH	HIC	HCSA
19.	Length of stay for stroke (PATH)		X	
20.	Length of stay for AMI (PATH)		X	
21.	Length of stay for elective cholecystectomy (PATH)		X	
22.	Waiting list for carcinoma of GIT		X	
23.	Waiting list for carcinoma of uterus		X	
24.	Waiting list for carcinoma of prostate		X	
25.	Occupancy rate and average treatment time			
26	Laboratory services (x-rays, ct scans)			

Staff orientation and safety

		MoH	HIC	HCSA
27.	Work related injuries (PATH)			X
28.	Training expenditures	X		
29.	Sudden abdominal accidents			

Patient Centeredness

		MoH	HIC	HCSA
30.	Patient surveys (PATH)	X	X	X
31.	Last minute cancelled surgery (PATH)		X	

Group Assignment

Key questions…!

1. Is it clear exactly what is being measured?
2. Does it capture differences across areas and categories of people (risk-adjusted)?
3. Is the indicator specific enough to measure particular aspect of quality?
4. Are data to construct this indicator currently available?
5. If no, is it possible to make the data available to construct this indicator?
6. Are data sources known?
7. Does the value of the information contained in the indicator outweigh the effort / cost of data collection and reporting?

Key questions…!

1. Does the indicator set capture the most important aspects for monitoring the quality of hospital care?
2. Which indicators need to be added or removed?
3. Have the potential users been allocated adequately?