한국보건행정학회 2006. 4. 21.

요양급여 적정성평가의 문제점과 개선 방안

울산의대 예방의학교실

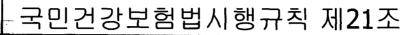
이 상 일

1

Concepts of performance measurement

- 1. Purpose
- 2. Entity being measured
- 3. Dimensions of quality
- 4. Type of measure
- 5. Intended audience

Eddy DM. Performance Measurement: Problems and Solutions. Health Affairs 1998; 17(4): 7-19.

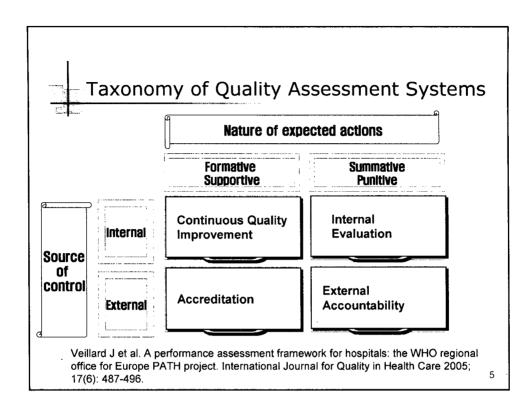


- 1. 심사평가원은 요양급여 등의 적정성에 대한 평가를 하는 경우에는 의약학적 측면과 비용효과적 측면에서 요양급여를 적정하게 행했는지를 평가하여야 하며, 그 평가 결과를 공개하여야한다.
- ❖ 제 1항의 규종에 의한 평가는 요양기관별, 진료 과목별 또는 상병별로 구분하여 평가하여야 한 다.
- ❖ 기타 적정성평가를 위한 세부적인 평가의 기준, 절차 및 방법 등은 보건복지부장관이 정하여 고 시한다

3

Objectives of measurement Measurement System Public Accountability Quality Improvement Kazandjian VA, Lied TR. Healthcare Performance Measurement: Systems Design

and Evaluation. Milwakee, WI, American Society for Quality, 1999, p.93.

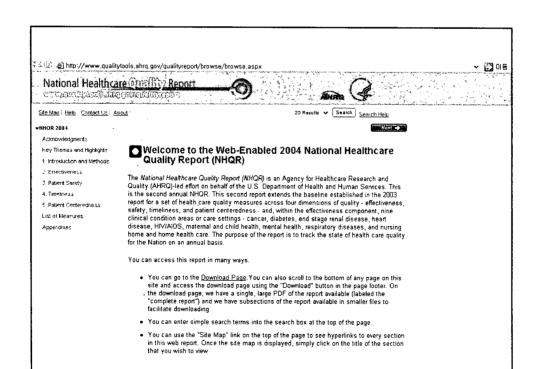


	Assurance/Accountability	Improvement
Emphasis	Verification and assurance. Measurement oriented	Learning to promote continual improvement. Change oriented
Rationale	Provide external accountability and renew legitimacy	Promote change and improvement in care quality
Culture	Comparisons in order to make summative judgements on care quality. League tables. Blame and shame	Comparisons have a formative emphasis to learn from differences between providers and encourage improvement. Informal benchmarking to promote discussion and change
Precision required	High precision. Use of statistics to identify 'real' differences	Lower precision.
Epistemology	Empirical. Statistical validity and reliability important	Interpretative. Use of other data sources and local information to provide context

분석의 수준 및 구분

요양기관별, 진료과목별 또는 상병별로 구 분하여 평가한다.

- ✔ 보험제도 전반의 시스템 수준의 평가는?
 - 예: National Healthcare Quality Report
- ✔ 다른 구분이 필요한 경우는?
 - 예: 소득계층별, 지역별 등



용어의 정의

- ❖ 의약학적 측면
- ❖ 비용-효과적 측면
- ❖ 적정성
 - Optimal, Appropriate, Adequate?



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Doing the right thing the right way

How you do it

Right Things Wrong	Right Things Right	
		What vou
Wrong Things Wrong	Wrong Things Right	do do

Dimensions of performance

- ❖ What is done
 - 효능(efficacy)
 - 적절성(appropriateness)
- ❖ How it is done
 - 이용가능성(availability)
 - 시의적절성(timeliness)
 - 유효성(effectiveness)
 - 지속성(continuity)
 - 안전성(safety)
 - 효율성(efficiency)
 - 존중과 돌봄(respect and caring)

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Components of Health Care Quality

Health care needs	Effectiveness	Safety	Timeliness	Patient Centeredness
Staying healthy				
Getting better				
Living with illness or disability	;			
End of life care				

Why is it so difficult?

- Natural problems
 - Probability factor
 - Low frequency
 - Long delays
 - Control over outcomes
 - Level of clinical detail
 - Comprehensibility

❖ Man-made problems

- Inadequate information systems
- Too many measures and measurers
- Provider complexity
- Funding

Eddy DM. Performance Measurement: Problems and Solutions. Health Affairs 1998; 17(4): 7-19.

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평가 대상의 변화 과정(1)

***** 2001

- 약제급여: 항생제, 주사제, 약품비
- 사회복지법인부설 요양기관
- 조혈모세포 이식 실시 기관

\$ 2002

- 약제급여: 약품목수 추가
- ■혈액투석
- 제왕절개분만
- 전산화단층촬영

14.

평가 대상의 변화 과정(2)

***** 2003

- 약제급여: 고가약품목수 추가
- 수혈
- 집중치료실
- 슬관절치환술
- 정신과 의료급여
- 추구 관리: 제왕절개분만, CT

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평가 대상의 변화 과정(3)

\$ 2004

- 약제급여: 부신피질호르몬제 추가
- 급성심근경색증(AMI)
- 경피적관상동맥중재술(PCI)
- 관상동맥우회로술(CABG)
- 추구 관리: 제왕절개분만, CT

평가 대상의 변화 과정(4)

\$ 2005

- 약제급여: 진통소염제 추가
- 급성심근경색증(AMI) 계속
- 경피적관상동맥중재술(PCI) 계속
- 관상동맥우회로술(CABG) 계속
- 뇌졸중
- 추구 관리: 제왕절개분만, CT, 수혈

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평가 항목별 평가 지표(2005)

🌣 약제 급여

- 항생제 처방률, 투약일수율
- 주사제 처방률, 투약일수율
- 투약일당 약품비
- 처방건당 약품목수
- 고가약품목수 처방 비중
- 부신피질호르몬제 처방률(급성호흥기감염)
- 부신피질호르몬제 투여경로별 처방률(천식)
- 진통소염제

평가 항목별 평가 지표(2005)

- ·� 급성심근경색
 - 진료건수
 - 재원기간(위험도 보정)
 - 사망률(위험도 보정)
 - 아스피린, 베타차단제 투여율
 - 병원도착시부터 재관류까지 소요시간
- ❖ 관상동맥중재술
 - 진료건수
 - 재원기간(위험도 보정)
 - 사망률(위험도 보정)
 - 재시술률

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평가 항목별 평가 지표(2005)

- ❖ 관상동맥우회로술
 - 수술건수
 - 재원기간(위험도 보정)
 - 사망률(위험도 보정)
 - 재입원율
- ❖ 추구관리: 진료비 청구자료 이용
 - 제왕절개분만
 - CT
 - 수혈

문제점: 평가 대상

- ✓ 요양급여 중 극히 일부분만이 평가됨.
- ✔ 평가 대상 중 일부 측면 만을 지표로 측정
- ❖ 개선 방안: 평가 대상의 확대
 - Comprehensive approach
 - Standardized measure set
 - Key target & rotation
 - 예: ACHS clinical indicators, UK Healthcare Commission

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ACHS Clinical Indicators

21 Clinical Indicator Sets

*	Adverse Drug Reactions v. 2	2 areas
*	Anesthetics Indicators v. 4	7
*	Day surgery v. 4	4
*	Dermatology Indicators v. 2	3
*	Emergency Medicine Indicators v. 3	3
*	GI Endoscopy Indicators v. 1	3
*	Hospital in the Home Indicators v. 3	2
*	Hospital-wide Clinical Indicators v. 9	7
*	Infection Control Indicators v. 3	6
*	Intensive Care Indicators v. 2	3
*	Internal Medicine Indicators v. 3	

Cardiology(2), Endocrinology(3), Geriatric Medicine(1)
 Nontrology(1), Nourclogy(1), Oppology(1), Thomasia Medicine

Nephrology(1), Neurology(1), Oncology(1), Thoracic Medicine(1)

ACHS Clinical Indicators

Mental Health Indicators

- Mental Health Inpatients v. 5 (12)
- Continuity of Care Mental Health Community-Based v. 1 (1)
- O&G Indicators
 - Gynaecology Indicators v. 5 (3), Obstetrics Indicators v. 5 (7)
- Ophthalmology & Excimer Laser Indicators v. 3
 - Ophthalmology (3), Excimer Laser (3)

*	Oral Health v. 2	5
*	Pediatrics Indicators v. 3	2
*	Pathology Indicators v. 2	3
*	Radiation Oncology Indicators v. 2	6
*	Radiology Indicators v. 4	. 3
*	Rehabilitation Medicine Indicators v. 3	4

- Surgical Indicators v. 3
 - Paediatric surgery(2), Urological surgery(1), Orthopaedic surgery(1)
 - Plastic surgery(1), Cardiothoracic surgery(1), Neurosurgery(2)
 - General surgery(1), Vascular surgery(2), Otolaryngology surgery(1)

ACHS Clinical Indicators

Set 1: Adverse Drug Reaction Indicators (version 2)

❖ Area 1 Reporting Mechanisms

- CI.1.1 The rate of adverse drug reactions among non same-day patients reported to ADRAC
- CI.1.2 The rate of adverse drug reactions among non same-day patients reported within the HCO

❖ Area 2 Drug Monitoring

- Cl.2.1 Abnormal bleeding
- CI.2.2 Cerebral haemorrhage
- CI.2.3 INR/prothrombin reading greater than five
- Cl.2.4 Death as a result of an adverse reaction to Warfarin
- C1.2.5 Written Warfarin drug information on discharge
- Cl.2.6 Dosage reviewed before next dose when INR is above the therapeutic range

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UK Healthcare Commission

- Key targets (8)
 - 12 hour waits for emergency admission via A&E (accident & emergency) post decision to admit
 - Total time in A&E: 4 hours or less
- ❖ Balanced scorecard (32)
 - Clinical focus (10)
 - Deaths following a heart bypass operation
 - Indicators on stroke care
 - Thrombolysis: Composite of 60minutes call to needle time & 30 minute door to needle time
 - Patient focus (16)
 - Capacity and capability focus (6)

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Quality indicator evaluation framework criteria

- 1. Importance
- 2. Scientific acceptability
- 3. Usability
- 4. Feasibility

Remus D, Fraser I. Guidance for using the AHRQ Quality Indicators for Hospital-level Public Reporting or Payment. Rockville, MD: Department of Health and Human Services, AHRQ; 2004. AHRQ Pub. No. 04-0086-EF

Quality indicator evaluation framework criteria

Importance

- Assesses an important leverage point for improving quality; significant to target audiences; impact on health
- Opportunity for improvement, considerable variation in quality of care exists
- Aspects of quality in under provider or health system control
- Should not create incentive or rewards to improve without truly improving quality of care

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Quality indicator evaluation framework criteria

- Scientific acceptability
 - Relationship to quality is based on scientific evidence
 - Well defined and precisely specified
 - Valid, measures the intended aspect of quality; accurately represents the concept being evaluated; data sources are comparable
 - Adequate proportion of total variation is explained by provider performance and amount of variation in measurement is small after provider performance and patient characteristics are taken into account

Quality indicator evaluation framework criteria

- Scientific acceptability
 - Reliable, producing the same results a high proportion of time in the same population
 - Precise, adequately discriminating between real differences in provider performance and reasonable sample size exists to detect actual differences; captures all possible cases and bias related to case exclusion or limited data is minimal
 - Risk adjustment is adequate to address confounding bias

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Quality indicator evaluation framework criteria

- Usability
 - Effective (understandable and clear) presentation and dissemination strategies exist
 - Statistical testing can be applied to communicate when differences in performance levels are greater than would be expected by chance
 - Has been used effectively in the past and/or have high potential for working well with other indicators currently in use
 - Compelling contents for stakeholder decision making

Quality indicator evaluation framework criteria

Feasibility

- Consistent construction and assessment of the measure
- Feasible to calculate; benefits exceed financial and administrative burden of implementation
- Confidentiality concerns are addressed
- Audit strategy can be implemented, quality of data is known

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Key characteristics of an ideal indicators

- based on agreed definitions, and described exhaustively and exclusively
- highly or optimally specific and sensitive, i.e. it detects few false positives and false negatives;
- valid and reliable
- discriminates well
- relates to clearly identifiable events for the user (e.g. if meant for clinical providers, it is relevant to clinical practice)
- permits useful comparisons
- evidence-based
- must be defined in detail, with explicit data specifications in order to be specific and sensitive.

Mainz J. Defining and classifying clinical indicators for quality improvement. IJQHC 2003; 15(6): 524.

문제점: 자료원

- ❖ 진료비 청구자료 + 의무기록
- Attributes of administrative data (lezzoni, 1997)
 - Data Quality
 - Clinical content
 - Coding accuracy
 - Completeness of coding
 - Differences in data quality across hospitals
 - Timing of Events
 - Structural Attributes
 - Ability to track services used by persons across care settings
 - Definitions of denominators
- ❖ 의무기록: 시간과 비용

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문제점: 평가 지표

- ✓ blunt
- √ expensive
- √ incomplete
- ✓ inaccurate
- ✓ misleading
- ✓ distorting

Eddy DM. Performance Measurement: Problems and Solutions. Health Affairs 1998; 17(4): 7-19.

개선 방안: 자료 및 평가 지표

- ❖ 자료의 질적 수준 제고
- ❖ 지표의 개선
 - Evidence-based
 - Measure information set
- ❖ 상세한 임상 정보의 활용
 - 진료비 청구 양식의 개선
 - 평가용 자료 세트 제출 의무화
- ❖ 정보 시스템 구축

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Indicator Information Set

- 1. An initial statement of the indicator
- 2. Definition of terms
- 3. Identification of type of indicator
- 4. Rationale
- 5. Description of the indicator population
- 6. Indicator logic
- 7. Delineation of underlying factors that may explain variations in indicator data

Measure Information Set (1)

- Measure Set: Acute Myocardial Infarction
- ❖ Set Measure ID #: AMI-1
- ❖ Performance Measure Name: Aspirin at Arrival
- Description: Acute myocardial infarction (AMI) patients without aspirin contraindications who received aspirin within 24 hours before or after hospital arrival.
- ❖ Rationale: The early use of aspirin in patients with acute myocardial infarction results in a significant reduction in adverse events and subsequent mortality. Aspirin therapy provides a percent reduction in mortality that is comparable to thrombolytic therapy and the combination provides additive benefit (ISIS-2,1988). National guidelines strongly recommend early aspirin for patients hospitalized with AMI (Braunwald, 2000 and Ryan, 1999). Despite these recommendations, aspirin remains underutilized in older patients hospitalized with AMI (Jencks, 2000).

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Measure Information Set (2)

- **Type of Measure:** Process
- ❖ Improvement Noted As: An increase in the rate
- ❖ Numerator Statement: AMI patients who received aspirin within 24 hours before or after hospital arrival
 - Included Populations: Not Applicable
 - Excluded Populations: None
 - Data Elements: Aspirin Received Within 24 Hours Before or After Hospital Arrival
- ❖ Denominator Statement: AMI patients without aspirin contraindications
 - Included Populations: Discharges with an ICD-9-CM Principal Diagnosis Code for AMI as defined in Appendix A, Table 1.1

Measure Information Set (3)

Excluded Populations:

- Patients less than 18 years of age
- Patients transferred to another acute care hospital or federal hospital on day of arrival
- Patients received in transfer from another acute care hospital, including another emergency department
- Patients discharged on day of arrival
- Patients who expired on day of arrival
- Patients who left against medical advice on day of arrival
- Patients with one or more of the following aspirin contraindications/reasons for not prescribing aspirin documented in the medical record:
 - Active bleeding on arrival or within 24 hours after arrival
 - · Aspirin allergy
 - · Coumadin warfarin as pre-arrival medication
 - Other reasons documented by a physician, nurse practitioner, or physician assistant for not giving aspirin within 24 hours before or after hospital arrival

Data Elements:

 Admission Date, Admission Source, Arrival Date, Birthdate, Contraindication to Aspirin on Arrival, Discharge Date, ICD-9-CM Principal Diagnosis Code, Transfer From Another ED

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Measure Information Set (4)

- Risk Adjustment: No
- Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records.
- Data Accuracy: Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.
- Measure Analysis Suggestions: None
- Sampling: Yes, for additional information see the Sampling section
- Data Reported As: Aggregate rate generated from count data reported as a proportion

Measure Information Set (5)

Selected References:

- Braunwald E, Antman EM, Beasley JW, Califf RM, Cheitlin MD, Hochman JS, Jones RH, Kereiakes D, Kupersmith J, Levin TN, Pepine CJ, Schaeffer JW, Smith EF III, Steward DE, Theroux P. ACC AHA guidelines for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction: a report of the American College of Specifications Manual for National AMI-1-3 Hospital Quality Measures
- Cardiology American Heart Association Task Force on Practice Guidelines (Committee on the Management of Patients with Unstable Angina). J Am Coll Cardiol 2000;36:970-1062. Available at http://www.acc.org/and/http://www.americanheart.org.
- Randomised trial of intravenous streptokinase, oral aspirin, both or neither among 17,187 cases of suspected acute myocardial infarction: ISIS-2. ISIS-2 (Second International Study of Infarct Survival) Collaborative Group. Lancet. 1988 Aug 13;2(8607):349-60.
- Jencks SJ, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, Nilasena DS, Ordin DL, Arday DR. Quality of medical care delivered to Medicare beneficiaries: a profile at state and national levels. JAMA. 2000;284:1670-1676.
- Ryan TJ, Antman EM, Brooks NH, Califf RM, Hillis LD, Hiratzka LF, Rapaport E, Riegel B, Russell RO, Smith EE III, Weaver WD. 1999 update: ACC AHA guidelines for the management of patients with acute myocardial infarction: a report of the American College of Cardiology American Heart Association Task Force on Practice Guidelines (Committee on Management of Acute Myocardial Infarction). J Am Coll Cardiol 1999;34:890-911. Available at http://www.acc.org/andhitp://www.americanheart.org.
- Ryan, TJ, Anderson, JL, Antman, EM, Braniff, BA, Brooks NH, Califf, RM, Hillis LD, Hiratzka L F, Rapaport E, Riegel BJ, Russell RO, Smith EE III, Weaver WD. ACC AHA guidelines for the management of patients with acute myocardial infarction: a report of the American College of Cardiology American Heart Association Task Force on Practice Guidelines (Committee on Management of Acute Myocardial Infarction). J Am Coll Cardiol 1996;28:1328-1428. Available at http: www.acc.org and http: www.acc.org and http: www.acc.org and http: www.acc.org

DAY PROCEDURE INDICATOR

INDICATOR AREA 2: UNPLANNED RETURN TO OPERATING ROOM

Indicator Topic

Unplanned return to the operating room during the same admission.

Rationale

This indicator may reflect possible problems in the performance of procedures.

Type of Indicator

This indicator is a comparative rate based indicator, which addresses the outcome of patient care.

Definitions of Terms

For the purpose of this indicator:

- Unplanned return to operating room is defined as an unplanned re-entry to the operating / procedure room for a further procedure on the same day.
- For the purpose of this indicator operating room is defined as a room within a complex, which is specifically equipped for the performance of surgery and other therapeutic / diagnostic / endoscopic procedures.

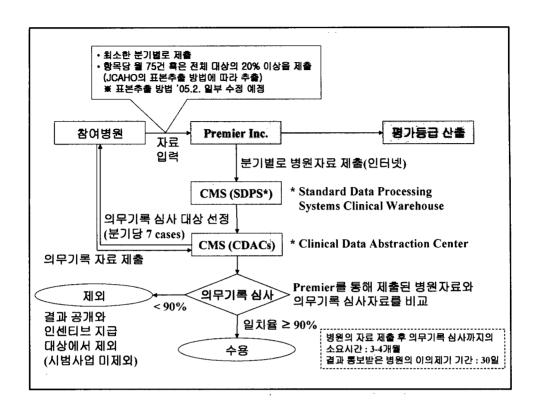
INDICATOR

CI. 2.1 Numerator

The number of patients having an unplanned return to the operating / procedure room during the time period under study.

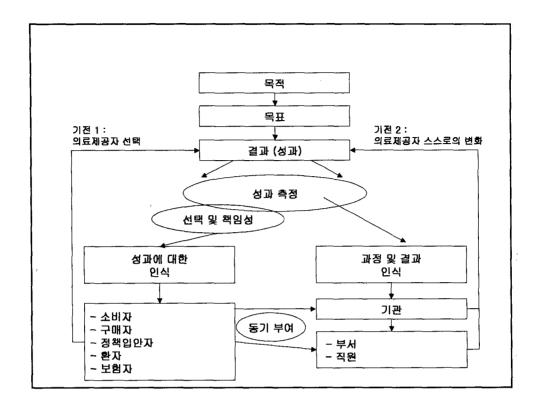
Denominator

The total number of patients who have an operation / procedure performed in the day procedure facility, during the time period under study.



평가 결과의 활용

- 🌣 국민
 - 평가 결과 공개 의료기관 선택
- ❖ 요양기관
 - 평가 결과 정보 제공 질 개선 유도
 - 가감 지급 자료 통보
- ❖ 정부
 - 정책 자료의 제공
- ❖ 보험자
 - 가감 지급 자료 통보



Unintended consequences of public sector performance indicator systems

Tunnel vision

Emphasis on phenomena quantified in the measurement scheme

Sub-optimization

Pursue narrow local objectives, rather than those of the organization

Myopia

Concentrate on short-term targets

4. Measure-fixation

Pursuit of strategies enhancing the measure rather than the associated objective

5. Misrepresentation

Deliberate manipulation of data

Misinterpretation

Drawing misleading inferences from raw performance data

7. Gaming

Deliberate manipulation of behavior to secure strategic advantage

8. Ossification

Organization paralysis due to rigid performance evaluation

Freeman T. Using performance indicators to improve health care quality in the public sector: a review of the literature. Health Services Management Research 2002; 15: 132.

우리나라에서의 효과는?

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개선 방안: 결과의 다각적 활용

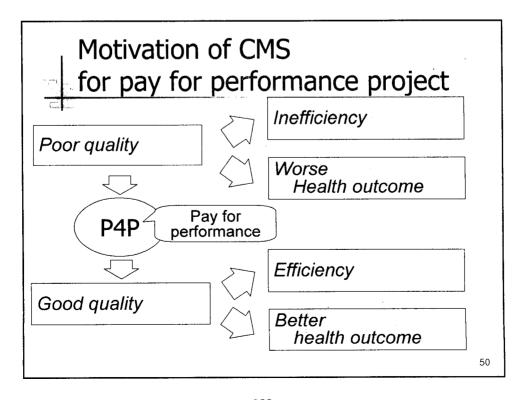
- Education
- ❖ Feedback
- ❖ Financial incentive
- ❖ Non-financial incentive
- ❖ Administrative restriction
- Sanctions
- Changing patient behavior

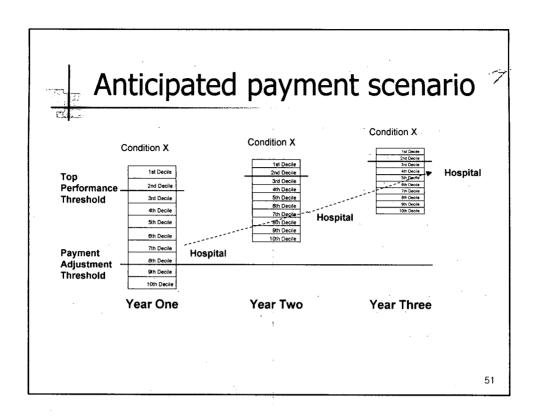
Irresistible Trend towards Increasing Disclosure of Performance Data

- Drive towards public performance reporting
 - Unstoppable!
- ❖ From "WHETHER" to "HOW"
 - Time for the debate to move on from the 'whether' questions to the 'how' questions
 - Enthusiasm for Performance Reporting: well ahead of the science that should be supporting it
- Strategy: Unanswered questions about
 - Maximizing the effectiveness
 - Minimizing the adverse consequences

Marshall MN, Romano PS, Davies HT. How do we maximize the impact of the public reporting of quality of care? Int J Qual Health Care. 2004 Apr;16 Suppl 1:i57-63.

Department of Health, NHS Performance Indicators, London: Department of Health, 2003.





마치면서...

- ፟❖ 평가의 초점 전환
 - Overuse → Underuse, Misuse
- ❖ 평가 단위의 확대
 - 요양기관 → 시스템
- ❖ 적정성 평가를 위한 기반 구축
 - 평가 자료의 확보
 - 평가 지표의 개발 및 활용
 - 평가 역량의 제고
 - 평가 관련 법 및 규정의 재정비
- ❖ 적정성 평가 결과의 적극적 활용