



Measuring health care quality at the international level:

Challenges and preliminary results from the OECD Health Care Quality Indicators Project

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Presentation outline

- Why compare quality internationally?
- The HCQI Project
- Promise and practicalities in the use of international quality data
- Using the data



Why compare quality internationally?

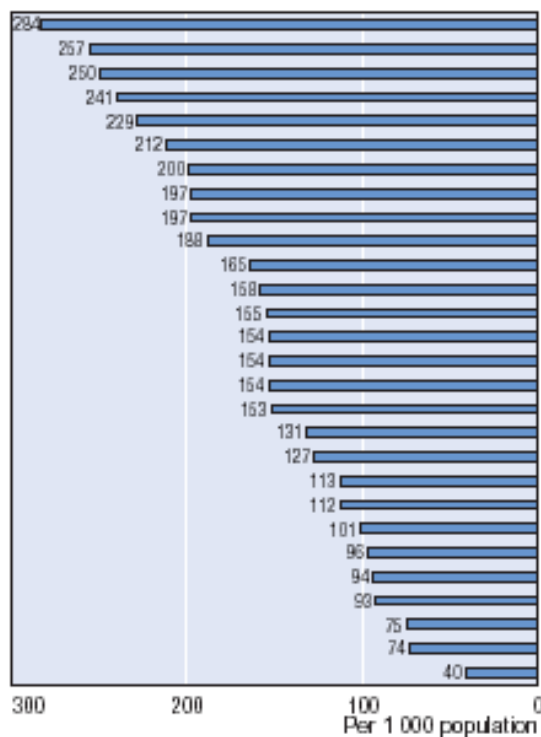
National and international use of health care data

- **To assess amount and appropriateness** of services provided
- **To investigate relationships** (e.g. volume-outcome)
- **To compare quality of care** across entities or time

Tracking volume of services

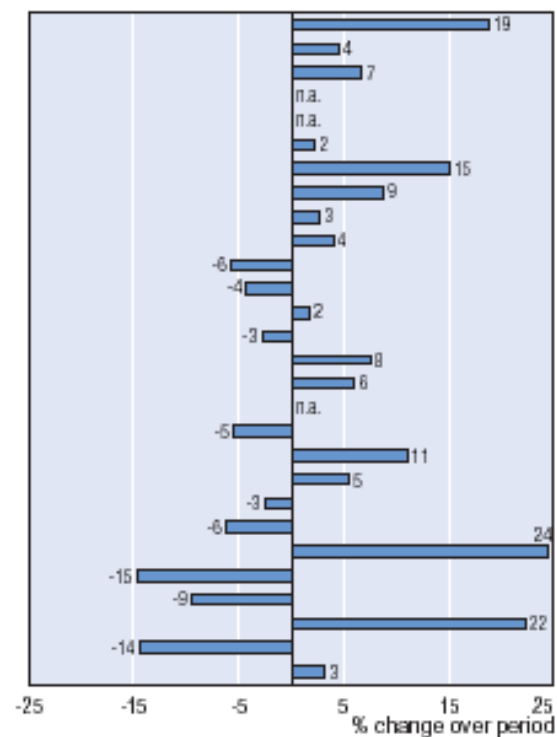
HOSPITAL DISCHARGES

Chart 2.25. Hospital discharges per 1 000 population, 2000



1. Includes same day separations. 2. 1999. 3. 1998.

Chart 2.26. Percentage change in hospital discharges per 1 000 population, 1995 to 2000



Assessing volume-outcome relationships

What Is the Risk?

For all procedures, older patients had a higher 30-day in-hospital mortality risk. Associations for other factors, as measured by odds ratios, varied by procedure. Higher hospital volume was associated with lower mortality rates for esophagectomy, angioplasty, and Whipple procedures. For the remaining six procedures, a steady increase in volume was not associated with significantly lower mortality. Some other studies with larger samples, however, have shown a significant association between volumes and outcomes for these six procedures.

Procedure	Death Rate*	Changes in the Likelihood of Dying Within 30 Days			
		For Every 10 Additional Procedures	For Every Five-Year Increase in Age	For Women (Relative to Men)	Comorbidities
Unruptured abdominal aortic aneurysm repair (AAA repair)	2.3%	-3%	+35%†	+27%	+39%†
Carotid endarterectomy	0.2%	-6%	+38%†	-18%	+99%†
Bypass surgery	0.7%	0%	+40%†	+49%†	+38%†
Colon/rectal surgery (colon or rectal excision)	0.6%	0%	+56%†	-36%†	+15%†
Esophagectomy**	4.3%	-44%†	+27%†	-14%	+1%
Lobectomy†	1.3%	-3%	+35%†	-47%†	+15%†
Pneumonectomy***	5.9%	-4%	+33%†	-18%	0%
Angioplasty	0.2%	-1%†	+34%†	+30%	+81%†
Whipple procedure**	3.0%	-46%†	+19%†	-47%†	+6%

Notes:

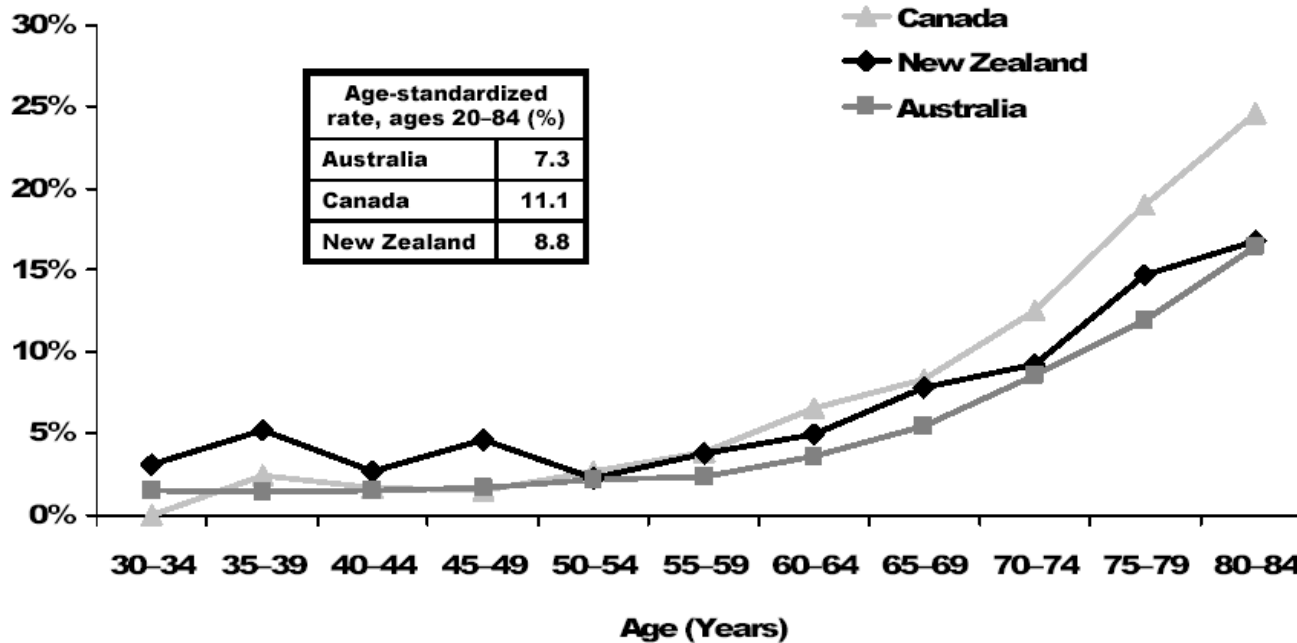
- * Adjusted for age, sex, comorbidity, hospital volume and year procedure was done.
- ** Mortality rate was not adjusted for year the procedure was done due to small counts.
- † Statistically significant at p<0.05.
- ‡ Based on advice from clinical experts, hospital volume for lung surgeries is the combined volume of lobectomy and pneumonectomy.

Canadian Institute for Health Information, *Health Care Canada, 2005*

Tracking quality of care

30-Day Acute Myocardial Infarction Case-Fatality Rate

Percent of people admitted with an AMI
who die in the hospital within 30 days



- Commonwealth Fund's International Working Group on Quality Indicators, *Report to Health Ministers, 2004*

Note: Data for Australia and New Zealand for 2000–01 and Canada for 2000. England and the United States elected not to supply data because of methodological concerns. For full notes, please refer to the Technical Appendix.



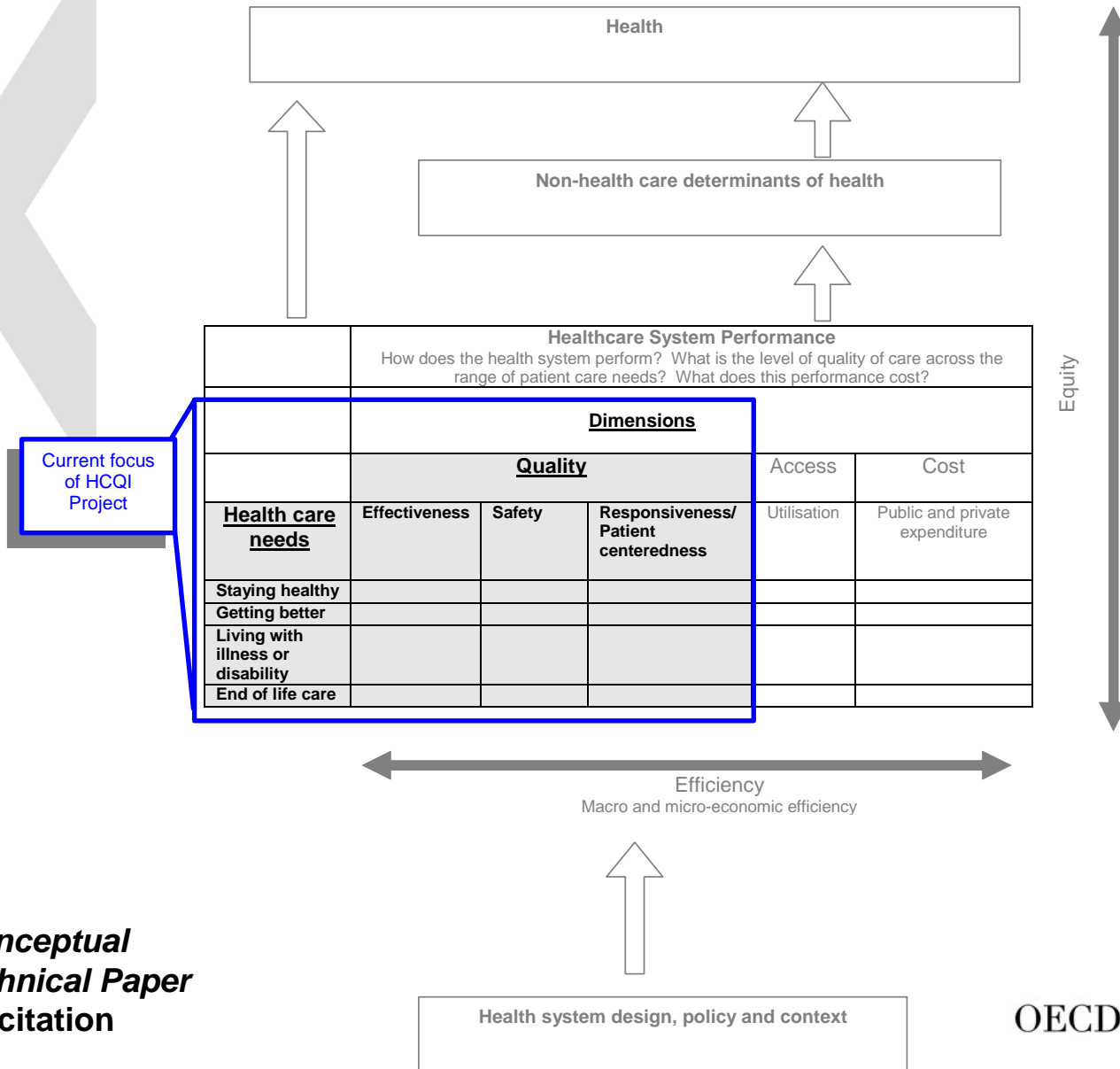


The Health Care Quality Indicators Project

Broad aims of the OECD's HCQI Project

- To develop a set of key indicators of the quality of health care for strategic international comparisons
- Initial attention to indicators of the technical quality of health care (i.e. effectiveness)
- Considering “Responsiveness/patient centeredness” in Phase 2
- To be population-based, representative of the main disease and risk groups

Proposed conceptual framework



Adapted from:
OECD HCQI Conceptual Framework Technical Paper
 In draft; not for citation

How, in principle, should quality of care be measured (1)?

- Process, outcome indicators of health care
- Proposed criteria for selecting indicators
 - Importance of what is being measured
 - Impact of disease or risk on health and on health expenditure
 - Policy importance
 - Susceptibility to interventions
 - Scientific soundness of the measure
 - Validity
 - Reliability
 - Explicitness of evidence base

How, in principle, should quality of care be measured (2)?

- Proposed criteria for selecting indicators (continued)
 - Feasibility of obtaining internationally comparable data
 - Existence of prototypes
 - Availability of data
 - Cost of measurement/collection

HQCI Work To-Date

- *OECD HCQI Conceptual Framework Technical Paper* (8/05 draft)
- *OECD HCQI Initial Indicator Technical Paper* (9/05 draft)
- Expert panels convened to recommend indicators for 5 priority areas
- These reports have been released as **Health Technical Papers** (Numbers 14-18) [www.oecd.org/health]



HCQI Work to Date

Phase 1

Analysis of available measures, e.g.:



The Nordic Group

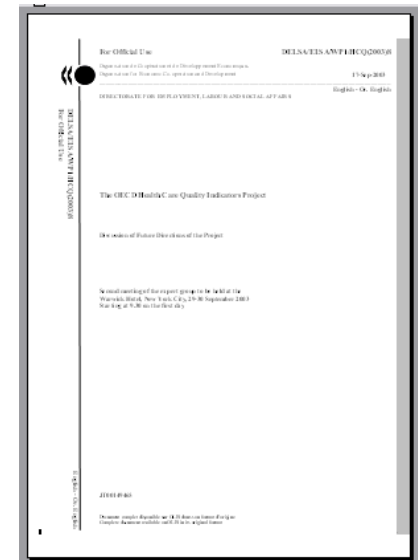
Conceptual work,
Indicator review

		Concepts of technical quality of healthcare	
		Safety	Effectiveness
Stages of disease	Staying healthy		
	Getting better		
	Living with illness and disability		
	Coping with the end of life		



Phase 2

Full report on broader measure set






Indicator Areas – Preliminary Report/Phase 1

- Cancer screening rates and survival
- Vaccination rates for children and elderly
- Mortality rates for asthma, heart attack and stroke
- Waiting times for surgery (hip fracture)
- Diabetes control and adverse outcome rates
- Smoking rates

Indicator Areas – Phase 2

- Phase 1 indicators, plus:
 - Promotion, prevention and primary care
 - Mental health care
 - Patient safety
 - Cardiac care (additional indicators)
 - Diabetes care (additional indicators)



Promise and practicalities in use of international quality data



Operational issues

- Data availability
- Indicator sensitivity and specificity

Data availability for HCQI Initial Report

SECTION ONE	1a	1b	2	3a	3b	4	5a	5b	6	7	8	9	10	11	12	13a	13b	14	15	16	17	
Country/Indicator	Breast Cancer (obs)	Breast Cancer (rel)	Mammography	Cervical Cancer (obs)	Cervical Cancer (rel)	Cervical Screen	Colorectal Cancer (obs)	Colorectal Cancer (rel)	Incidence Vaccins (p-m-h)	Childhood Vaccination	Asthma Mortality	AMI	H Stroke	I Stroke	Waiting times femur	Diabetes (test for HbA1c)	Diabetes (poor glucose control)	Retinal Exams	Major Amputations	Influenza vaccins 65+	Smoking rates	
Australia																						
Austria																						
Canada																						
Czech Republic																						
Denmark																						
Finland																						
France																						
Germany																						
Iceland																						
Ireland																						
Italy																						
Japan																						
Mexico																						
Netherlands																						
New Zealand																						
Norway																						
Portugal																						
Slovak Republic																						
Spain																						
Sweden																						
Switzerland																						
United Kingdom																						
United States																						

Data comparability – Frequently an issue

- Minor issues: age ranges, time periods
 - Can be dealt with by appropriate footnotes
- Major issues that can be addressed: Age standardization, inclusion criteria
- Major issues that cannot be addressed in the short run: data sources, patient vs episode-based calculation, sampling

Data comparability

- OECD's HCQI Expert Group asked for data comparability analyses on:
 - Reference Population for Age Adjustment
 - Handling Missing Data
 - Notification on Cases of Vaccine-Preventable Disease
 - Variation in Coding Practices
 - Effect of Unique Identifiers



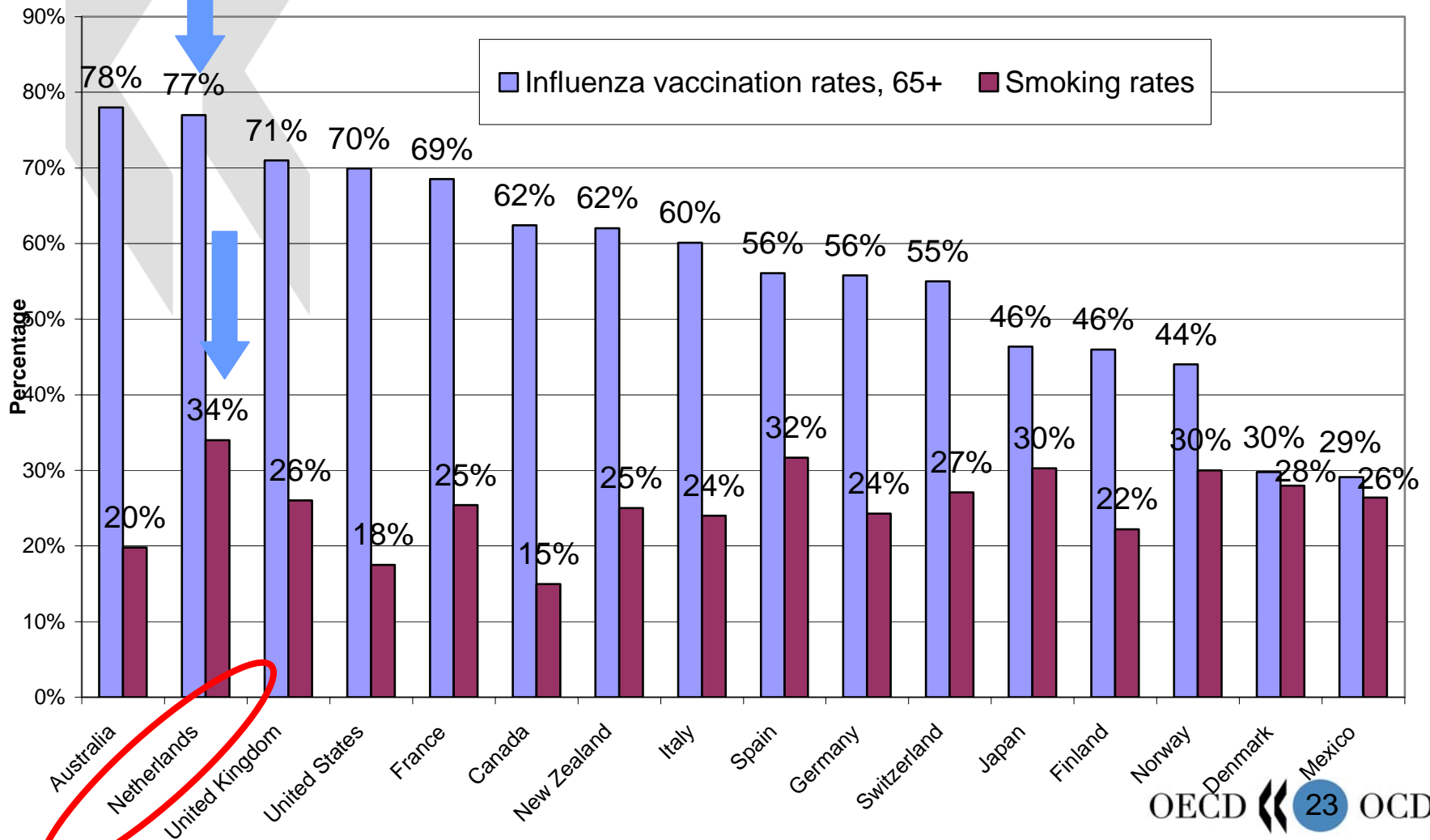
Using the indicators

- What do the indicators tell us about comparative performance ?
- Why is comparative quality data relevant?
 - Monitoring change over time
 - Examining impact of specific policies
 - Benchmarking best practices

Comparing quality:

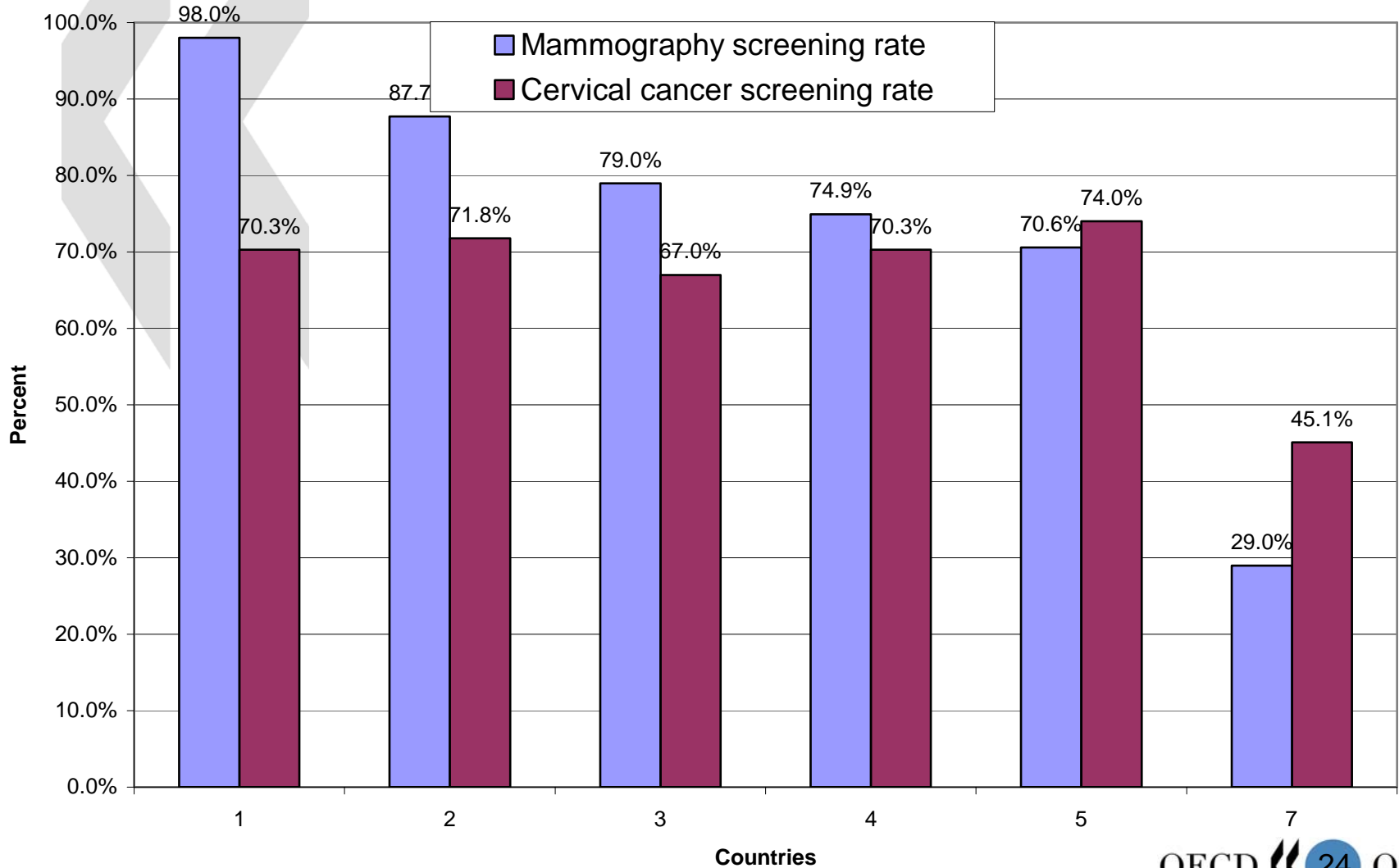
Variation in performance across indicators

Selected HCQI Indicators:
Flu vaccination (adults 65+, 2001-04) and Smoking rates (1999-2003)

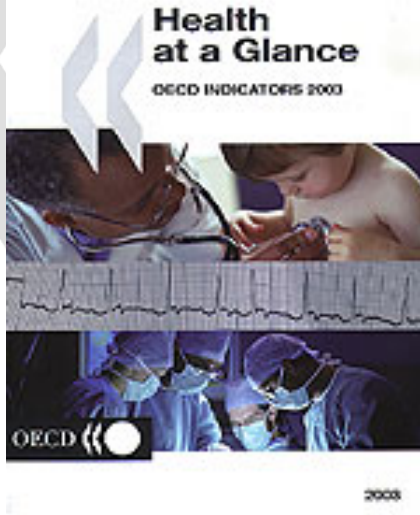


Do countries perform well across types of indicators?

Breast and Cervical cancer screening rates, Selected OECD countries 2001-04

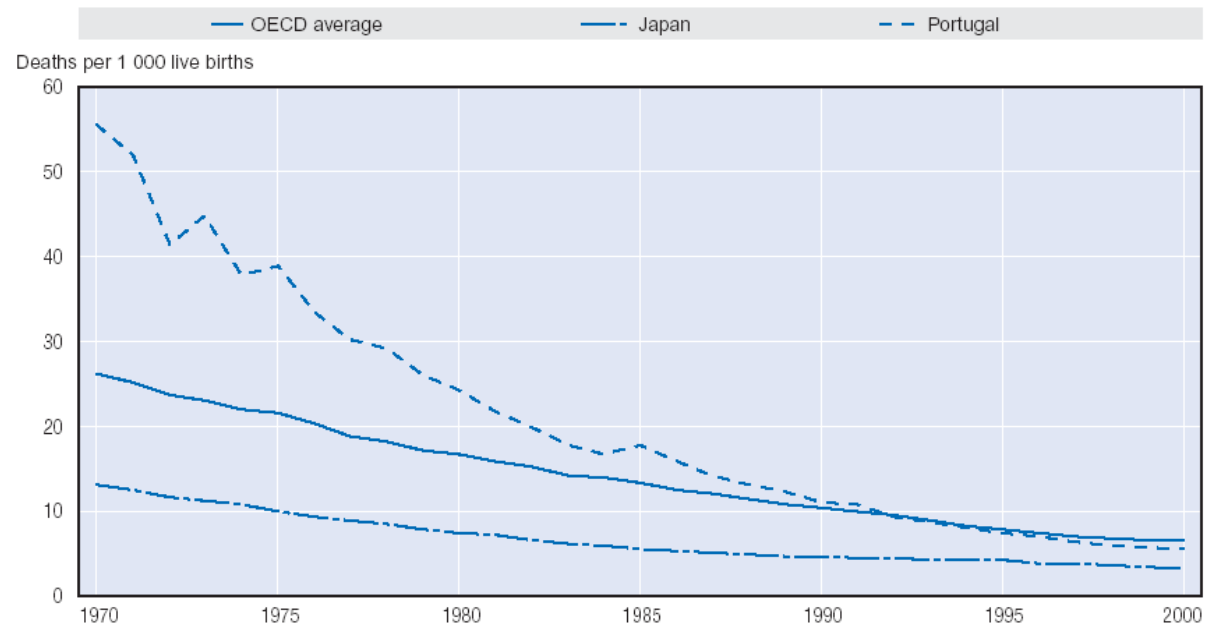


Using quality indicators - Monitoring change over time



- Monitoring infant mortality rate declines over the long term
- OECD's *Health at a Glance*

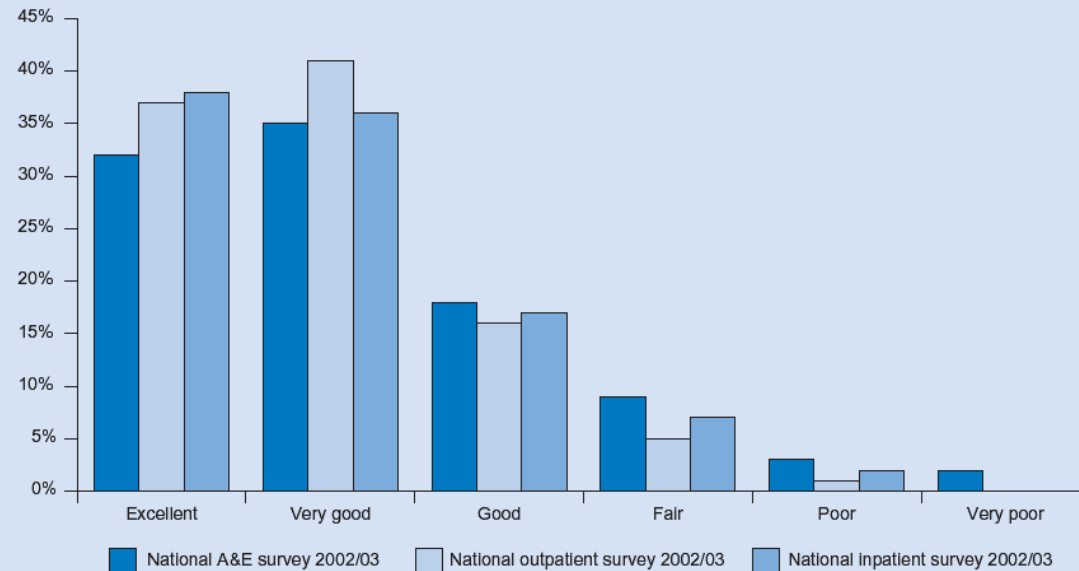
Chart 1.7. Decline in infant mortality rates, 1970-2000
OECD average, Japan and Portugal



See footnotes to Tables 1.6.
Source: OECD Health Data 2003.

Using quality indicators - Examining impact of specific policies

Figure 1.6: Overall, how would you rate the care you received?



Source: Chief Executive's Report to the NHS (May 2004)

- From NHS Improvement Plan, June 2004 –
“By 2008 the NHS will provide patients in England with services that compare well with world-class standards...”
- Tracks cancer, heart disease outcomes, responsiveness/patient centeredness measures and structural investments

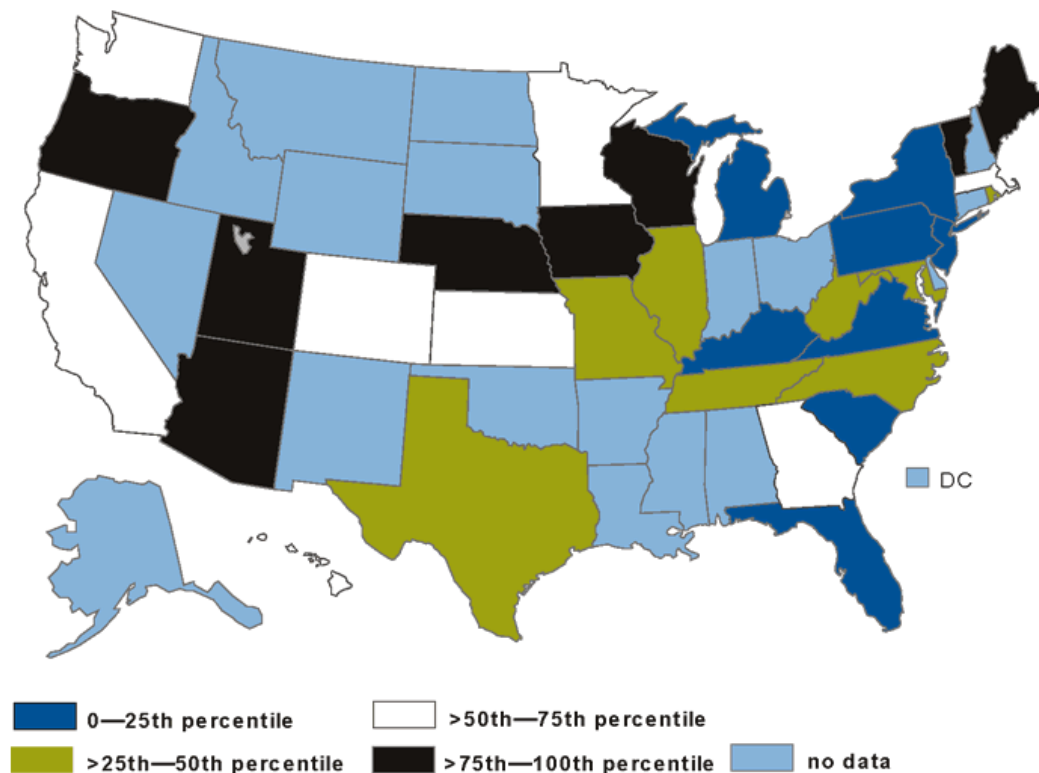
Using quality indicators - Benchmarking best practices

- Comparison across performance groupings (top quintile, top decile, top performer/best in class)
- Learning from examples of excellence
- National example – US National Healthcare Quality Report

Hospital Admissions for Pediatric Asthma

Asthma can be effectively controlled over the long term with recommended medications. Preventing hospital admissions for asthma is one measure of successful management of asthma at the population level.

Figure 2.21. State variation in pediatric hospital admissions for asthma per 100,000 population, 2001



[ID1](#)

Source: Agency for Healthcare Research and Quality, HCUP State Inpatient Databases, 2001.

Note: Not all States are included. Values for quartiles are: 0-25th percentile = 221.4-315.3 admissions/100,000 population; >25th-50th percentile = 187.3-220.9; >50th-75th percentile = 125.6-176.6; >75th-100th percentile = 66.3-120.6.

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