



DISEASE CONTROL
PRIORITIES PROJECT



Improving the Quality of Care in Developing Countries

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INVESTING IN GLOBAL HEALTH “BEST BUYS” AND PRIORITIES FOR ACTION IN DEVELOPING COUNTRIES

www.dcp2.org



Definition of Quality

“Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with professional knowledge.”

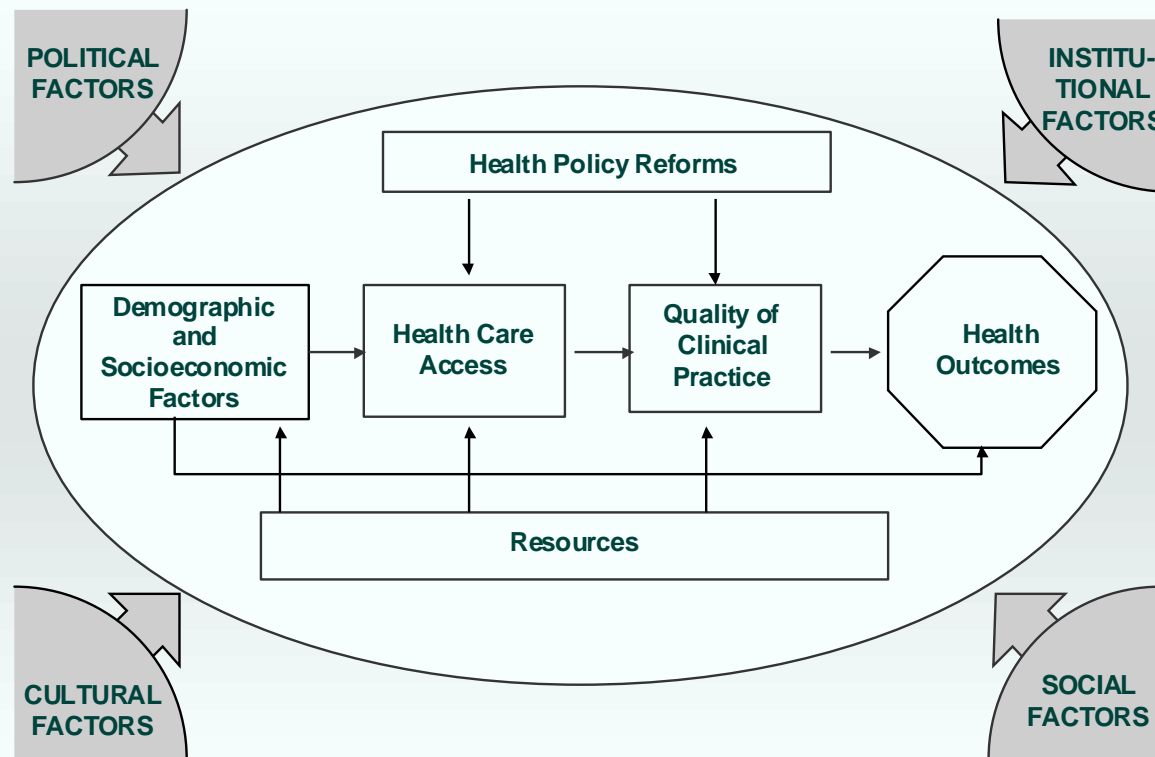
– Institute of Medicine, U.S. v1990



Take Home Messages

1. Quality is poorer in developing countries
2. We can now reliably measure quality across health care systems using vignettes
3. When we Measure Quality we find that Quality Varies more within than among countries
4. Quality is associated with worse health outcomes in the population
5. Quality is Cost Effective (<\$100 – \$800 / LYG)

The Quality of Care Context



Quality Framework



- Buildings, technology
- Staff
- Financing, insurance

- Care given by provider when patient is seen
- Care received by population when they live in service area
- Happens each time a visit occurs
- Independent of outcomes

- Individual Health Status
- Population Health
- Patient Satisfaction

Quality is Low in Developing Countries

- **Viet Nam:** only 2% of patients were scheduled for a return visit for high blood pressure (2000)
- **SE Asia:** 16% of providers assessed for dehydration and 20% for respiratory rates in children with diarrhea and ALRI respectively(1985-1990)
- **Benin:** Malnutrition properly assessed 39% of time; properly treated 16% of the time (2001)

Why is Quality Low in Poor Countries?

Some Hypotheses:

- Quality is poor because doctors lack basic resources to practice high quality and appropriate care
- Quality is low in some countries because doctors are poorly trained
- The payment structures for doctors and other providers leads to poor quality practice and practitioners
- Quality of Care in Developing countries is no lower and less varied than in Developed Countries

The Inability to Measure Quality Has Been the Problem we face in Answering these Questions

Structure is usually measured

- too distal to outcomes
- evidence that better structure leads to better outcomes is not compelling

Process heretofore difficult to measure

- cannot get “inside” of the visit
- medical charts and other sources of data on quality vary enormously by country
- case mix variation a problem

Measuring Quality: Available Methods

1. Claims analysis and Medical record abstraction
 - *occur with each visit; often inaccurate*
2. Exit interviews with patients or parents
 - *self-reported health status; responsiveness; anchoring*
3. Direct Observation
 - *Hawthorne effect, expensive*
4. Newer methods:
 - *standardized patients*
 - *clinical vignettes*

Measuring Quality: Available Methods

Thus We Needed to Look at Newer Measurement Methods that Provided:

- A validated measure of clinical practice or, as it is sometimes referred to, process quality
- A measure that is case mix adjusted so we can make comparisons among disparate health care systems
- An inexpensive measure

Measuring Quality: Vignettes Successfully Developed for this Purpose

- Written / computerized clinical case
- Comprehensive case that assesses, diagnoses and manages a simulated patient – takes 15 minutes
- Composed of:
 - taking a history
 - doing a physical examination
 - ordering tests
 - making a diagnosis
 - presenting treatment
- Completely case mix adjusted
- Can be given to providers in wide variety of settings at a low cost



Scoring Criteria Example From CAD-2

<u>Domain</u>	<u>Criteria</u>
History	<ul style="list-style-type: none"> • Date of myocardial infarction (MI) • Recent treatment/procedures • Angina and other symptoms • Selected risk factors • Prevention • Drug Treatment • Risk Factors
Physical Exam	<ul style="list-style-type: none"> • Rule out congestive heart failure (CHF) • Cardiac auscultation • Lung auscultation • Evaluate for peripheral vascular disease
Test Ordering	<ul style="list-style-type: none"> • Electrolytes, blood urea and/or creatinine • Cholesterol • EKG • Echocardiograph (if available) • Exercise Treadmill Testing
Diagnosis	<ul style="list-style-type: none"> • Large anterior MI • Symptoms of CHF
Treatment	<ul style="list-style-type: none"> • ACE inhibitor • Aspirin • Diuretic • Prevention-Counseling • Follow-up Visit



Measuring Quality: Vignettes Have Been Validated

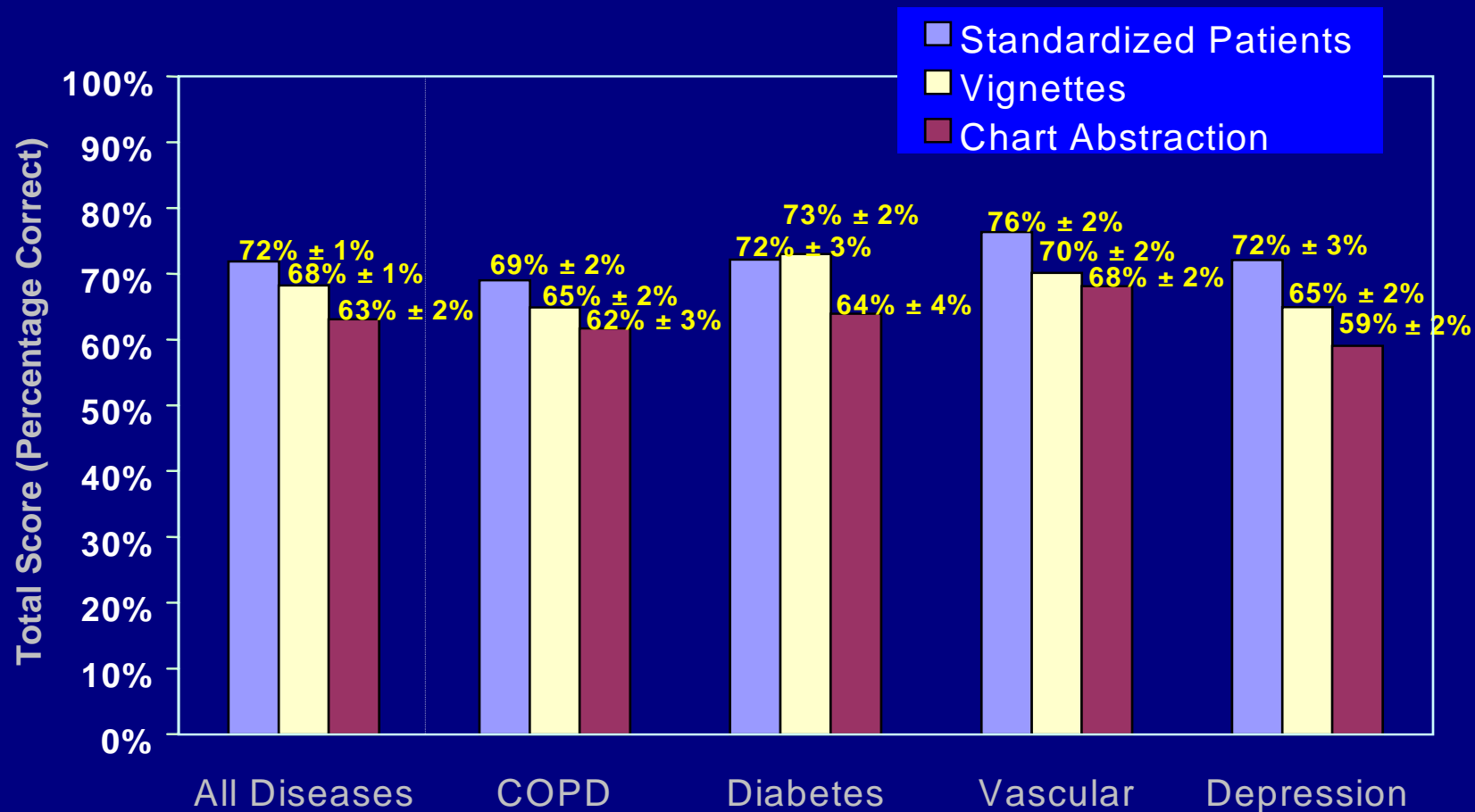
Two prospective evaluations of randomly selected doctors in U.S.

Standardized patients in multiple settings

- present unannounced
- themselves validated w/ pocket pen recorders

Vignettes consistently approximate standardized patient means of care

Vignettes Consistently Outperform Charts as a Measure of Quality of Care



How Much Variation in Quality is there between a Developed and a Developing Country?

Macedonia

- 4 sites
- Primary care outpatient
- 99% agreed to participate
- n = 90

California

- 2 sites
- Primary care outpatient
- 97% agreed to participate
- n = 30

Variation Between Providers in 2 Different Countries: Methods (2)

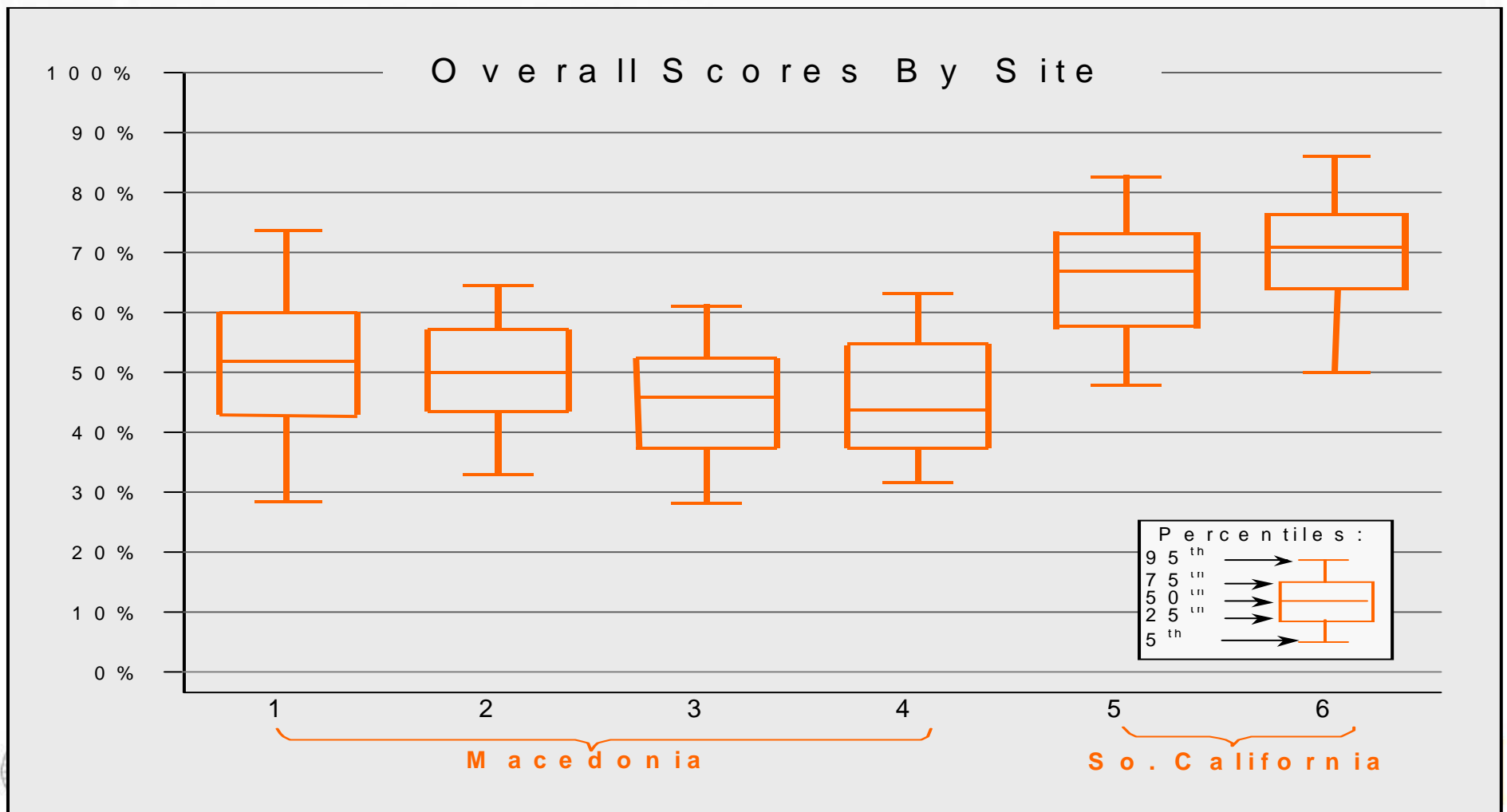
Cases:

- 1) Low Back Pain
- 2) Coronary Artery Disease
- 3) Chronic Obstructive Pulmonary Disease
- 4) Diabetes Mellitus

High Prevalence in Both Countries

Treatment for conditions were available,
affordable & effective

While Average US Physicians Scored Higher on Vignettes, the Range of Scores Showed Broad Overlap



How Much Variation is there Across Countries: the DCPP Working Paper

Hypotheses:

1. There exists a wide variation of quality within facilities and within country
2. High quality of care is possible despite differences in policies and reimbursement

Sites: Mexico, El Salvador, India, China, Philippines

Design: Specialists in National Referral Hospital
Generalists or Primary Care Providers in District Hosp
Public and Private Outpatient Clinic Providers

DCPP Working Paper: Evaluating Quality Variation Across Countries (continued)

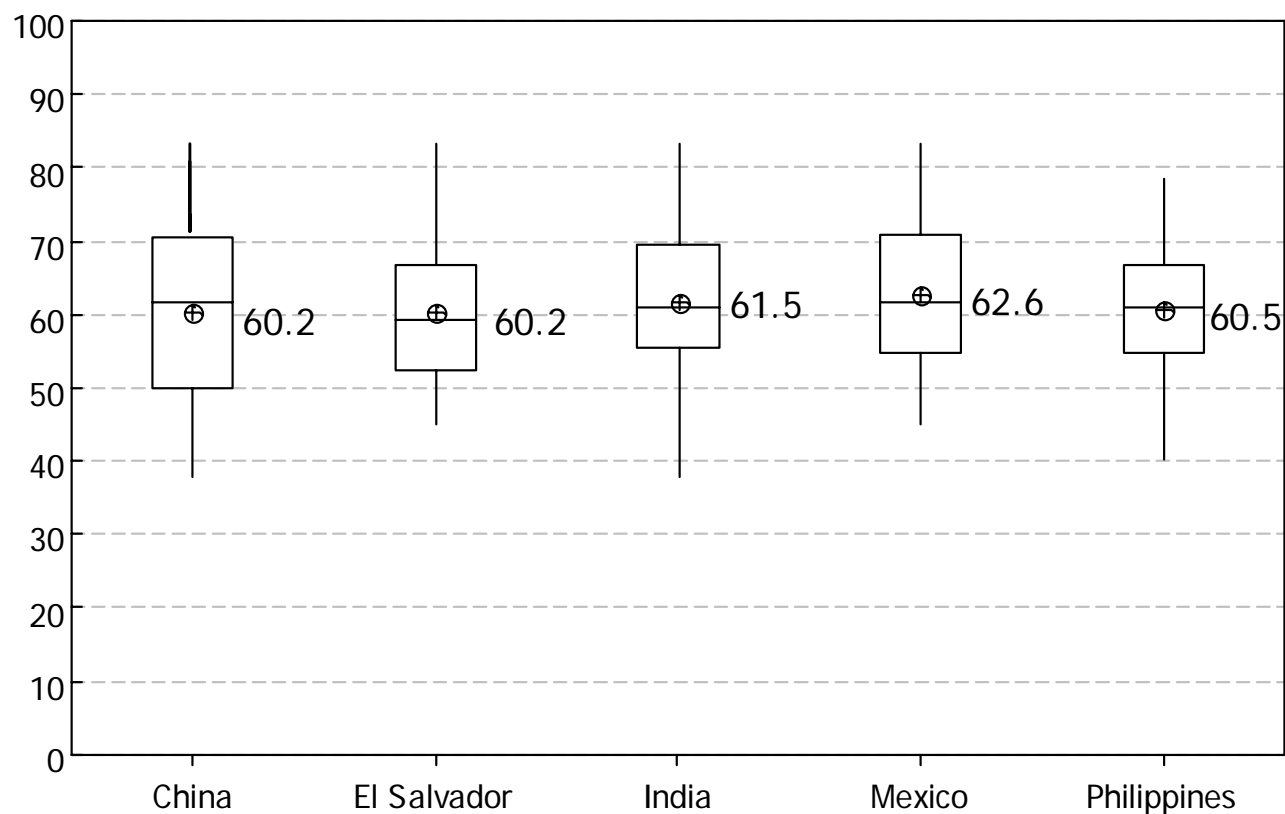
Conditions: Common, high prevalence, technologic resources available in all countries

Analyte: Average scores on 96 vignettes given to 48 providers in each country

Analysis: ANOVA; Tukey adjustment for multiple pairwise comparisons

Quality Is Low And Varies Widely Everywhere

Figure 2. Comparison of Overall Scores Across Countries



Economic Benefits of Improved Quality

1. Individual economic benefits
 - Health Status, QOL and patient responsiveness
 - Economic productivity
2. Social economic benefits
 - Human capital accumulation
 - Higher labor and total factor productivity
3. Long-term economic benefits
 - Higher national economic growth

So What? Is there an Association between Health Status and the Quality of Care?

Results from a Cross Sectional Study

- **National Health Sector Reform for the Country of Macedonia**
- **Baseline assessment of quality using vignettes**
- **Simultaneously collected direct measures of health status**
- **Tracer conditions covering about 60% of Burden of Illness**

- **4 Municipalities covering a large region of the country**
- **99% of Physicians participated**
- **Serial sampling of those using facilities**
- **Random sample of the adult population**

Quality Strongly Associated With Health Status

Results of Ordered Logit Regression

Variable	Coefficient	Robust Std. Err.	z	P> z
Process Score	0.2406282	0.0408099	5.90	0.000
Age	-0.0640275	0.0073276	-8.74	0.000
Female	-0.5024785	0.1088140	-4.62	0.000
Income	6.61e-07	3.12e-07	2.12	0.034
Education	0.0310616	0.0713726	0.44	0.663
Reading News	-0.0507222	0.1041800	-0.49	0.626
Macedonian	-0.2774206	0.3609179	-0.77	0.442
Public or Private	0.2773127	0.2032355	1.36	0.172

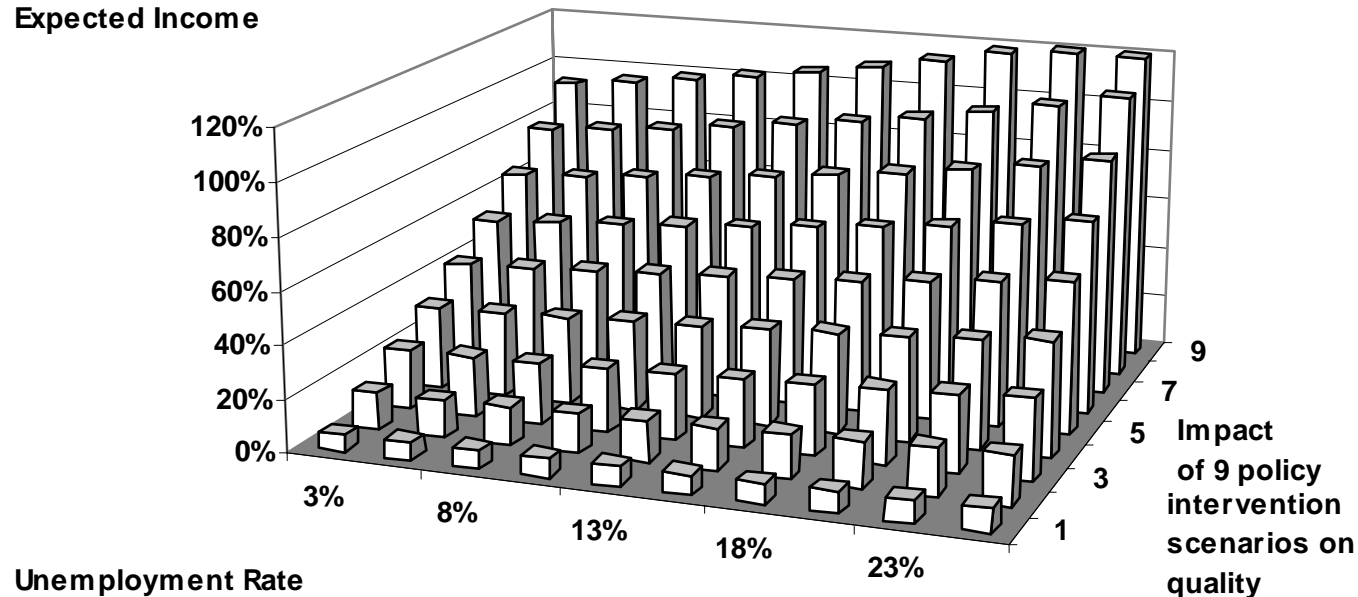
Subtle or Obvious? Better Quality May Produce Better Health

Economic Benefits of Higher Quality

1. Possible versus Achieved
 - Efficacy vs. Effectiveness
2. Costs of poor quality
 - Opportunity costs
 - Causing harm
3. Technical versus allocative efficiency
 - Cost Effectiveness
 - System level comparisons

Higher Quality Not only Decreases Mortality but Results in Higher Economic Attainment

Increase in Present Value
Expected Income



(Quality) Lessons Learned

1. Measurement is the basis for improving quality
2. Better process must be linked to better outcomes
3. Quality improvement can occur over short time period
4. Strategies abound - competition and incentives seem to be important innovations
5. Capacity building is always an issue
6. Health care providers are willing and able to improve performance if provided with
 - adequate resources (training, infrastructure, and supervision)
 - clear incentives (financial and non-monetary)