Pay For Performance in Health:

A Framework & Evidence from the OECD & Selected Countries

Richard M. Scheffler, Ph.D.
Distinguished Professor of Health Economics & Public Policy
Director, Global Center for Health Economics and Policy Research
School of Public Health and Goldman School of Public Policy
University of California, Berkeley

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The First Pay for Performance Program: Emperor Qin Shi Huang's

Emperor of Qin Dynasty
(259 BCE – 210 BCE)

Presentation Outline

- Payment systems and P4P models
- P4P evidence from OECD countries
- P4P evidence from non-OECD countries
- Summary of P4P evidence and research designs to evaluate P4P programs

Major Health Care Payment and Incentive Schemes

- Fee for service
- Capitation
- Salary
- Bonuses
- Non-monetary
- Combinations

P4P Definitions

- AHRQ- paying more for good performance on quality metrics
- CMS- the use of payment methods and other incentives to encourage quality improvement and patient focused high value care
- RAND- the general strategy of promoting *quality improvement* by rewarding providers (physicians, clinics or hospitals) who meet certain performance expectations with respect to health care quality or *efficiency*

P4P Definitions (continued)

- World Bank- a range of mechanisms designed to enhance the performance of the health system through incentive-based payments
- USAID- P4P introduces incentives (generally financial) to reward attainment of positive health results
- Center for Global Development, Working Group on Performance-Based Incentives- Transfer of money or material goods conditional on taking a measurable action or achieving a pre-determined performance target

Framework of P4P Programs

Measures

- Quality
  - Structure: investment in technology, facilities, and equipment
  - Process: vaccination rates, cancer screening, disease management, treatment guidelines
  - Outcomes: chronic care measures, patient satisfaction
- Efficiency
  - Cost savings or productivity improvements

Basis for Reward

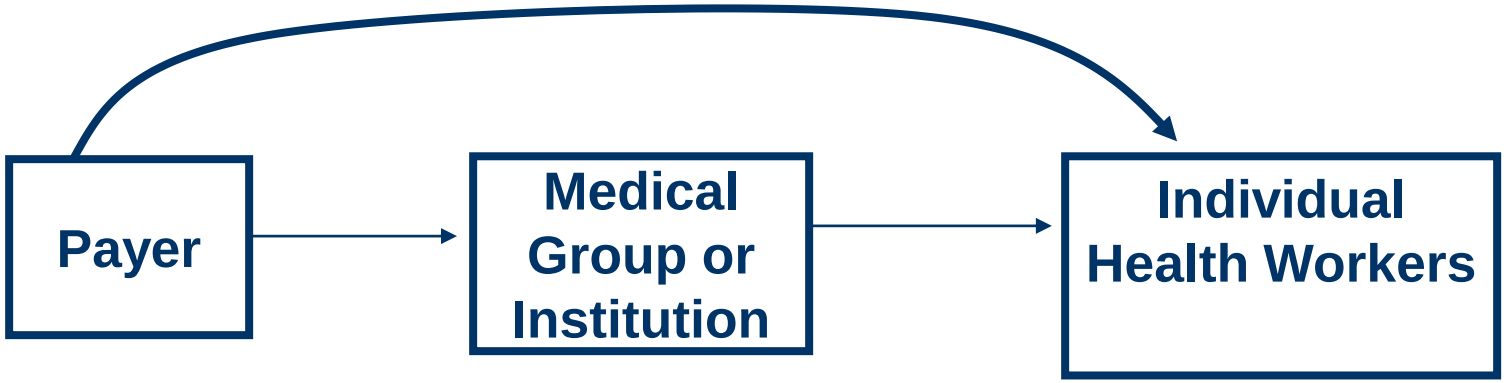
- Absolute level of measure: target or continuum
- Change in measure
- Relative ranking

Reward

- Bonus payment
- Publicize measures and ranking

Source: Adopted from Scheffler RM: *Is There a Doctor in the House? Market Signals and Tomorrow's Supply of Doctors*, Stanford University Press, 2008.

P4P Reward Payment Models



Implementation Issues

- Shirking
- Case mix
- Medical groups and institutions have multiple payers

Source: Adopted from Scheffler RM: *Is There a Doctor in the House? Market Signals and Tomorrow's Supply of Doctors*, Stanford University Press, 2008.

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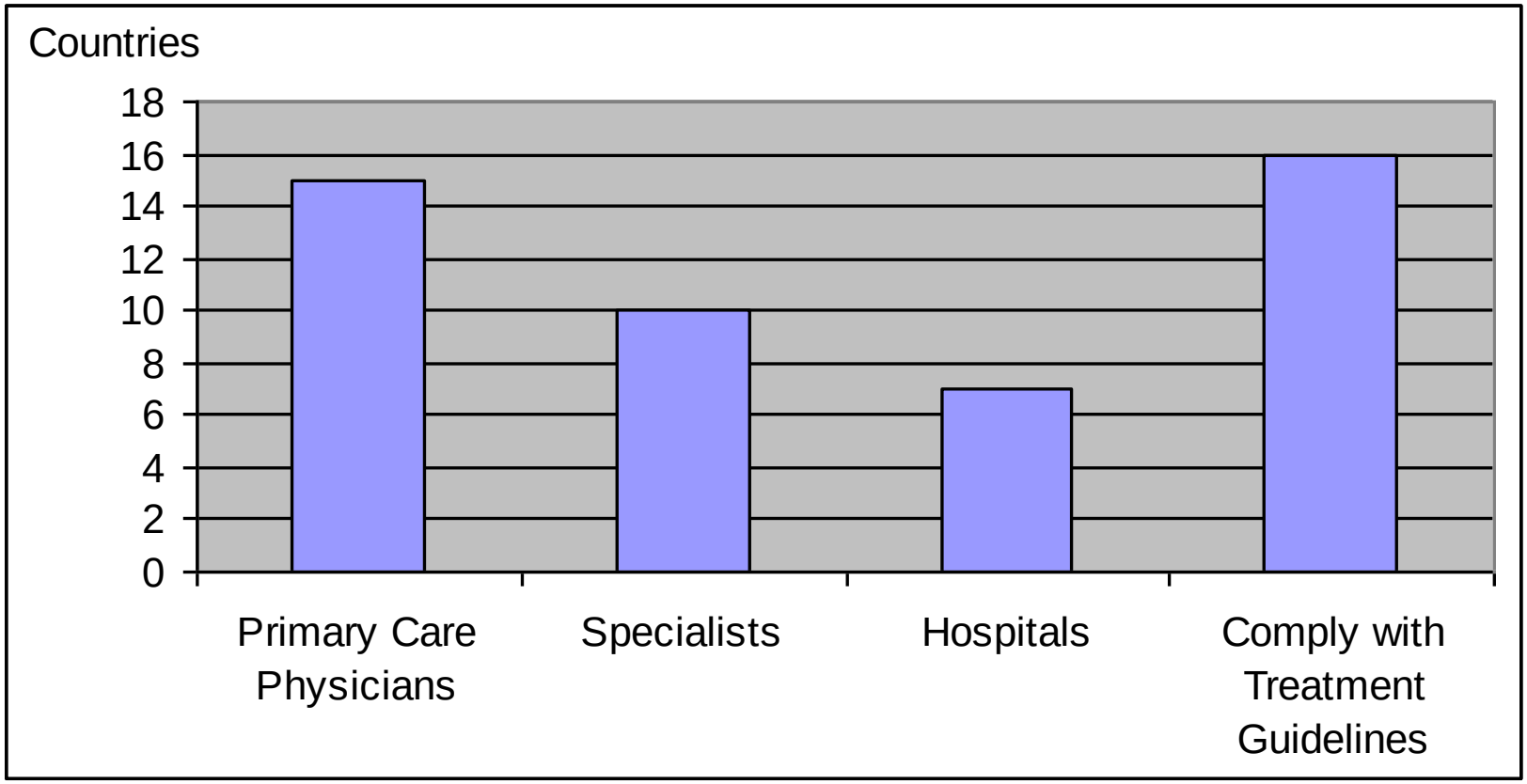
OECD Survey on Health System Characteristics 2008-2009

- All OECD countries, except the United States replied to the survey
- Questions related to P4P
  - Whether country had bonus payments for primary care physicians, specialists, and hospitals
  - Proportion who earn bonuses and size of bonus
  - Types of measures: preventative care, chronic disease, patient satisfaction, clinical outcomes
  - Whether had incentives or obligations to comply with treatment guidelines or practice protocols

OECD P4P Survey Results



Source: OECD Survey on Health System Characteristics 2008-2009 (including the United States)

OECD P4P Country-Level Survey Results

Country	Primary Care Physicians	Specialists	Hospitals	Comply with treatment guidelines
Australia	X			X
Austria				
Belgium	X	X	X	X
Canada				X
Czech Republic	X	X		X
Denmark				X
Finland				
France				X
Germany				
Greece				X
Hungary	X			
Iceland				
Ireland				X
Italy	X			
Japan	X	X	X	X

Source: OECD Survey on Health System Characteristics 2008-2009 (including the United States)

OECD P4P Country-Level Survey Results (continued)

Country	Primary Care Physicians	Specialists	Hospitals	Comply with treatment guidelines
Korea				
Luxembourg			X	
Mexico	X	X		X
Netherlands	X			X
New Zealand	X			
Norway				X
Poland	X	X		X
Portugal	X			X
Slovak Republic		X	X	
Spain	X	X		
Sweden				
Switzerland				
Turkey	X	X	X	
United Kingdom	X	X	X	X
United States	X	X	X	X

Source: OECD Survey on Health System Characteristics 2008-2009 (including the United States)

OECD Survey Findings

- Pay for performance programs reported in 19 OECD countries
- Number of countries that had bonuses for:
  - Primary care physicians (15)
  - Specialists (10)
  - Hospitals (7)
- Most bonuses are for quality of care targets such as:
  - Preventive care
  - Management of chronic diseases

P4P is Becoming More Diffuse in the U.S.

- Institute of Medicine Studies
  - *To Err Is Human: Building a Safer Health System* (IOM 1999)
  - *Crossing the Quality Chasm: A New Health System for the 21st Century* (IOM 2001)
- Private
  - More than half of commercial HMOs use P4P
- Medicare
  - Several demonstration projects

Private Example - California P4P

- **The California P4P program**
  - 8 health plans
  - 11.5 million commercial HMO enrollees
  - 230 physician groups
- **68 measures in five domains**
  - clinical, coordinated diabetes care, patient experience, information technology, efficiency
- **From 2003-2007: $264 million spent on P4P**
  - 2% of physician organization annual revenues
- **Outcomes (No control group)**
  - Clinical quality metrics improved 3% annually
  - Adoption of P4P information technology increased 7% annually
  - Patient satisfaction surveys showed no improvement

Sources: Redhun & Williams, 2009; Robinson et al., 2009 *Health Affairs*

Medicare Has Many Small-Scale P4P Demonstration Programs in Place

- **Physicians Quality Reporting Initiative**
  - Earn 2% bonus for reporting on quality measures (2009)
- **Physician Group Practice Demonstration**
  - Five condition modules: coronary artery disease, diabetes, heart failure, hypertension, and preventive care
  - Bonus pool: 80% of savings (above a 2%-savings threshold).
  - Two out of 10 physician groups had at least 2% lower Medicare spending growth rates as compared to control group
  - Year 1 result: all groups achieved target performance levels on at least 7 of 10 diabetes quality measures

Source: Tanenbaum 2009; Trisolini et al., 2008; CMS website

CMS P4P Demonstration Projects: Types of Studies

- Managed Care for end stage renal disease (3)
  - Process: catheters, anemia management, dialysis adequacy
  - Outcomes: serum phosphorus, serum calcium, fistulas
- Home Health Agencies(2)
- Nursing Homes (3)
  - Structure: staffing (e.g., inspect for deficiencies)
  - Outcomes: appropriate hospitalizations
- Physician group practices (2)
- Electronic Health Records (3)

U.S. Physicians Support P4P, with Certain Conditions

- 73% support financial incentives be given for quality, if the measures are accurate
  - However, vast majority (70%) do not think measures of quality are accurate
- Only 32% support public reporting of individual physician's performance
- Over 80% concerned that measuring performance will cause physicians to avoid high-risk patients

Source: Casalino et al., 2007, *Health Affairs,* 26(2)

United Kingdom's Experience: Successful?

- P4P Quality and Outcomes Framework (QOF) introduced in 2004 with over 100 quality indicators for general practices related to clinical care, organization of care, and patient experience
  - Over 99% of general practitioners participated
  - Bonuses based on a point system
- In 2004-05, QOF increased the gross average income of general practitioners by £23,000 ($40,200)
  - Before P4P, general practitioners typically earned £70,000 - £75,000 ($122,000 - $131,000)
- Target too set low?

Source: Doran et al., 2006

Turkey: Performance Based Supplementary Payment System

- Background
  - Introduced in 2004 and now present in all 850 hospitals
  - To encourage full-time work of health workers in the public sector and improve quality of care
- Incentives
  - Total bonus payment capped at 40% of hospital revenue
  - Capped amount is then adjusted by hospital performance (0-1 scale)
  - Individual physician performance calculated based on number & type of procedures (e.g. higher scores for cardiac procedures, lower for assisted delivery)
  - Individual scores are adjusted by job title, number of days worked, and whether the physician has a private practice
- Results
  - Full-time workers increased in public sector (66% were full time in 2007 vs. 11% in 2002)
  - Between 2002 and 2006, 75% increase in number of patients seen at public hospitals

Source: Sabahattin & Mehmet, 2008, MoH Turkey

New Zealand: Performance Based Management

- **Background**
  - Introduced in 2006 for Primary Health Organizations (PHO)
  - 81 PHOs representing over 98% of New Zealanders enrolled in the performance program by Jan. 2007
  - PHO setup payment NZ$20,000 plus 60c per enrolled member
- **Incentives**
  - Guaranteed minimum payment (NZ$1.00-$1.50) per enrollee for PHOs entering performance program before Dec. 2007
  - Maximum payment NZ$6 per enrollee if all targets are achieved
  - 60% clinical indicators, 10% process indicators & 30% financial indicators
    - Clinical: e.g. vaccinations for children, elderly; cervical smears, breast screening
    - Process: e.g. ensuring access for those with high needs
    - Financial: e.g. pharmaceutical and laboratory expenditure
  - Payments made to PHOs, who then decide how to distribute funds
- **Results** (Buteow, 2008)
  - Survey of 29 PHOs: better clinical facilitation & data mgmt.

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Brazil: Pay for Performance-Cardiovascular Disease

- **Private health insurer (UNIMED-Belo Horizonte)**
- **Objective**
  - Improve treatment and outcomes for patients with diabetes, pediatrics, asthma, OB/GYN, cardiovascular disease
- **Cardio Incentives**
  - Process
    - $7.50 (U.S. dollar) per patient attending cardiac rehabilitation or tobacco cessation course referred by physician
  - Outcomes (annual)
    - $13 (U.S. dollar) per patient with blood pressure <140/90mm if 75% reach target
    - $13 (U.S. dollar) per patient with HgLDL <130mg/dL if 50% reach target
- **Cardio Results (preliminary)**
  - Lower blood pressure, cholesterol

Source: Borem et al., 2010

Rwanda: Performance Based Financing (PBF)

- **Background**
  - PBF through the public health system: by May 2008, PBF in all 401 health centers (9.5 million population), also in all district hospitals
  - PBF system as part of a larger health sector reform (CBHI; QA; Imihigo's)
  - Motive was to increase use and quality of health services
  - PBF budget: $200,000 in 2002 and $9.3 million in 2007
  - Large impact evaluation (quasi experimental study)
- **Incentives**
  - Health center earnings calculated based on number and types of services (24), which is adjusted for a quality score (118 composite indicators)
  - Examples: 2500 RWF for assisted deliveries; 1000 RWF per new patient who accepts family planning; 50 RWF for immunizations; 40 RWF per new consultation
  - Majority of incentives were used to top-up salaries. In 2007, about 38% was spent towards the health facility
- **Results (as compared to control facilities)**
  - Increase in institutional deliveries and child nutritional visits
  - Increased quality of prenatal and U-5 clinic visits
  - Increased provider performance and practice
  - Children living in catchment area of facilities taller and less sick
  - DHS (2005 vs. 2007): infant mortality 152 > 103; child mortality 82 > 62; contraceptive prevalence rate 10% > 27%

Sources: Rusa et al., 2009; Kalk et al., 2010; Basenga and Gertler 2010

Haiti: Performance Based Initiative

- **Background**
  - Started in 1999 by a USAID funded Agency: subcontracting 3 NGOs
  - Irregular results by implementing partners; focus on improved access to health services, especially maternal and child health
- **Incentives**
  - 95% of negotiated budget was paid quarterly (output based budget)
  - Up to additional 10% of the budget could be earned as bonus conditional on performance indicators
  - NGOs also assumed some financial risk, as they would lose 5% if they did not attain targets
  - Performance Indicators: percent of mothers using oral rehydration salts to treat children with diarrhea, immunization for kids, prenatal visits, family planning, reducing waiting time to care for children
- **Results**
  - Increase in immunizations, prenatal & postnatal care; assisted deliveries

Source: Eichler et al., 2007

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Summary of P4P Evidence

OECD

- P4P programs often lack a research design to answer P4P effect, particularly in long run
- Some evidence that incentives were not strong enough
- Number of P4P programs continue to increase, both private and public

Non-OECD

- Preliminary evidence is positive, but research design issues limit its conclusiveness

Most P4P Programs Implemented without a Rigorous Evaluation Component

- Experimental design - randomized control trial
  - Strongest design for selection, confounders
  - Issues: external validity, feasibility (logistics/ethics), small sample size
- Quasi-experimental designs
  - Fixed effects or difference of differences
    - Randomly phase in the P4P
    - Natural experiment where P4P implemented e.g., different regions
  - Instrumental variable: variable that caused subject to obtain treatment, but is unrelated to outcome
  - Regression discontinuity by comparing outcomes with sharp cutoff (e.g., medication given if bp > 140/90, so compare 141/91 subjects to 140/90 subjects)

Additional P4P design issues for low-income countries

- Lack infrastructure to collect, process, and analyze measurement data
- Monitoring/measurement could be subject to corruption
- Many physicians work in both public and private sectors

Selected References

Selected References and Related Global Health Workforce Studies

- Sample of economics literature on compensation schemes
- OECD P4P references
- Non-OECD P4P references
- P4P definition references
- The Global Center for Health Economics and Policy Research, University of California-Berkeley global health workforce studies

Sample of Economics Literature on Compensation Schemes

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