

# **Pay-for-performance experiments in health care**

**Mattias Lundberg, World Bank  
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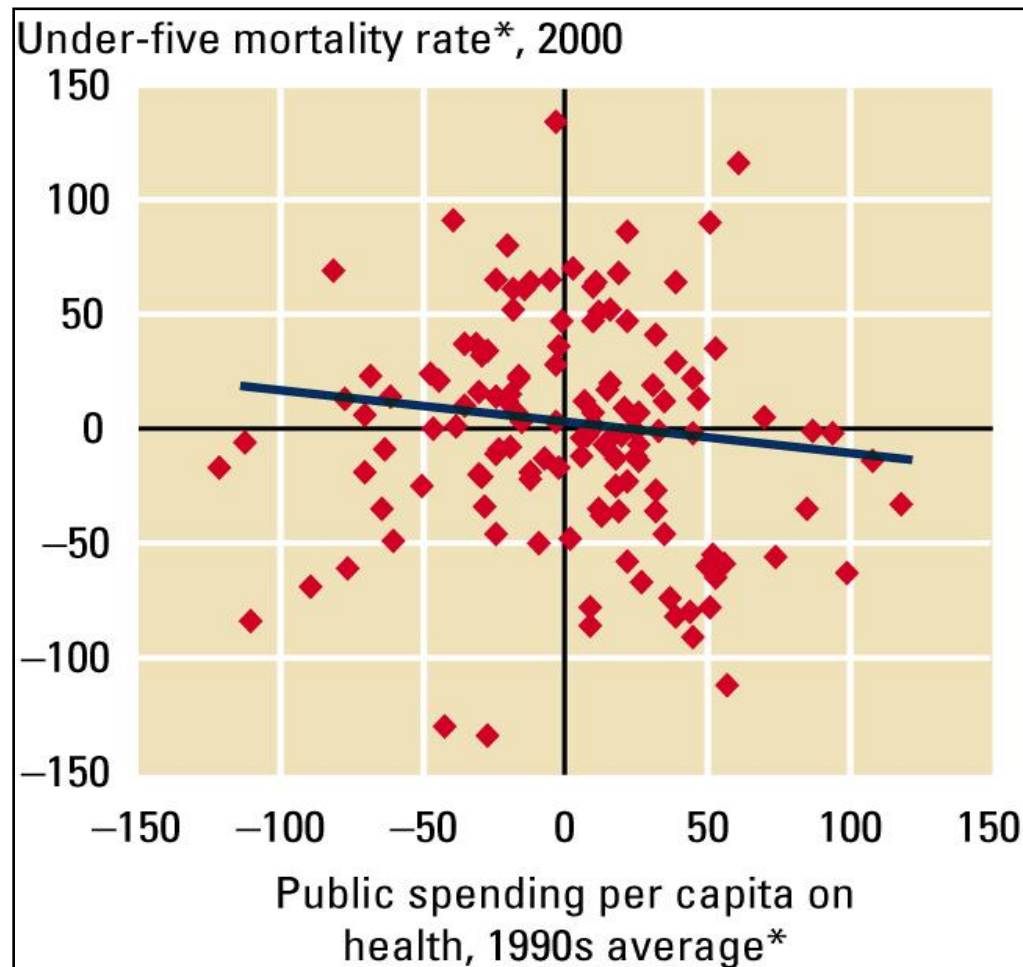
# Outline

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- **Background**
  - What's the problem?
  - Agency and information
- **Case studies**
- **A few conclusions**

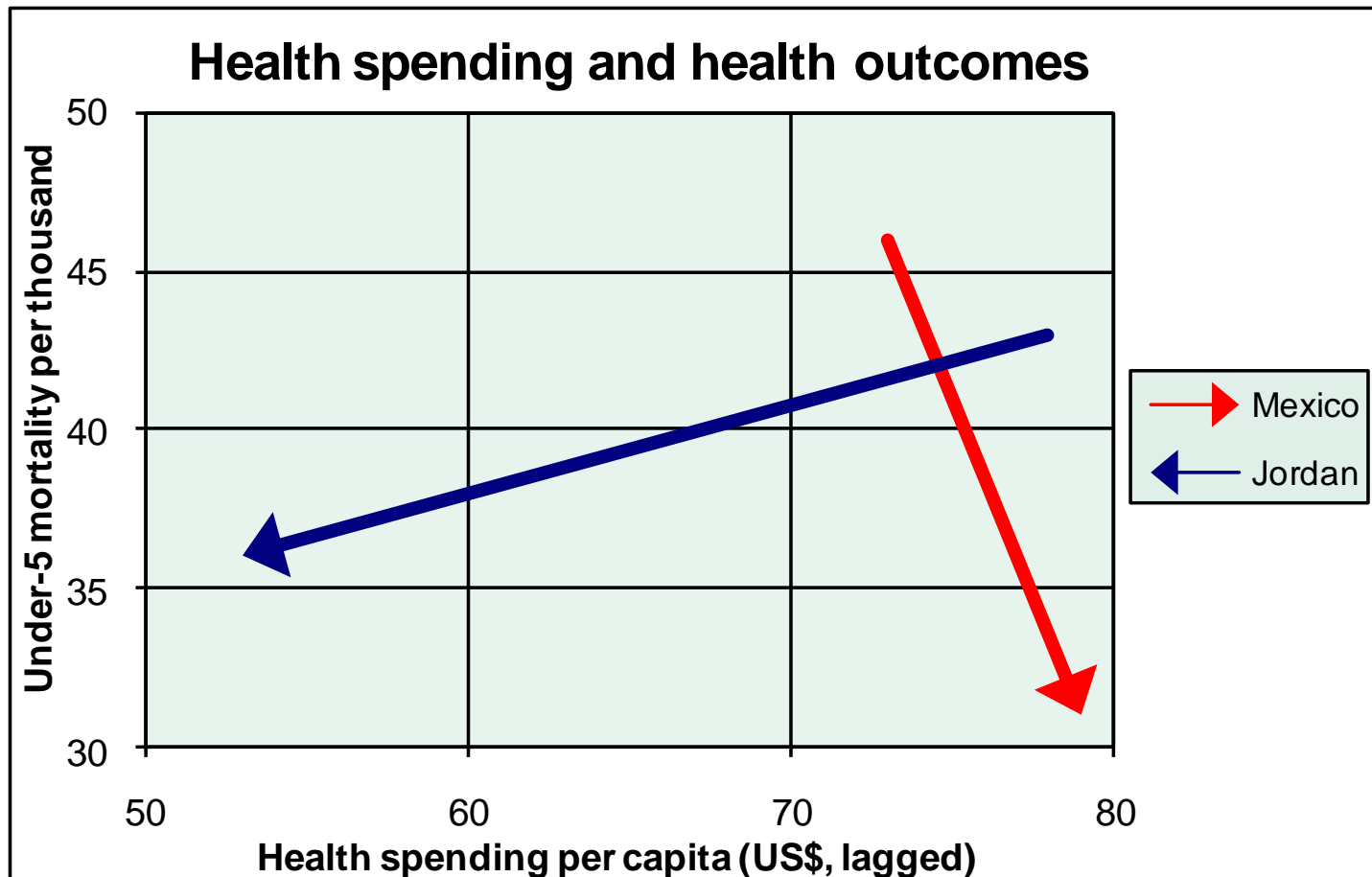
# Background: what's the problem?

## ■ More money is not enough



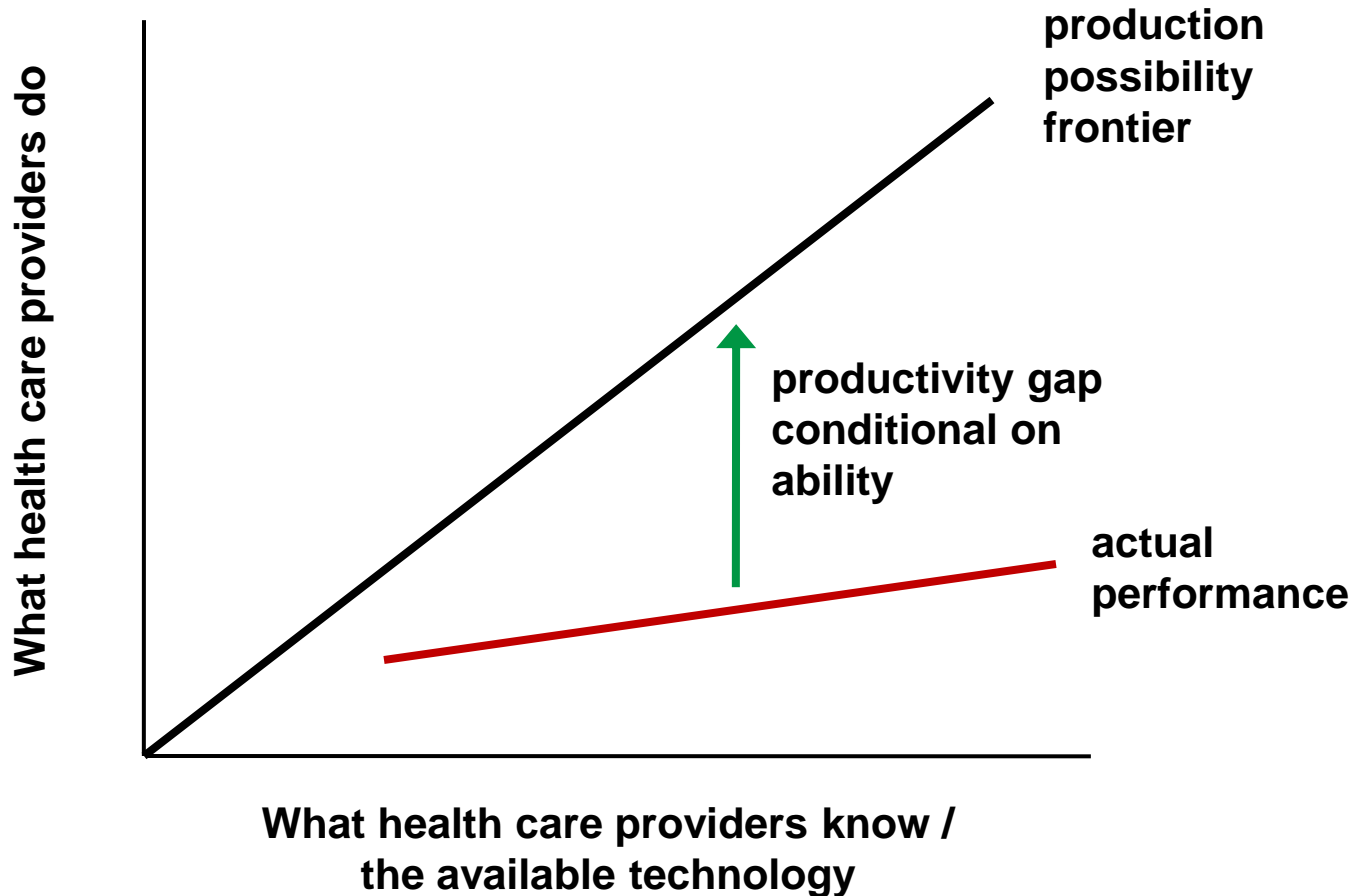
# Background: what's the problem?

## ■ More money is not enough



# What are we trying to do?

## ■ Close the productivity gap



# Agency and information

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- **Providers, patients, and governments all have different information and different goals.**
- **Principal-agent model:**
  - **Principals – those for whom services are produced**
    - **Government and clients**
  - **Agents – those who produce the services**
    - **Physicians, nurses, other providers**

# Agency and information

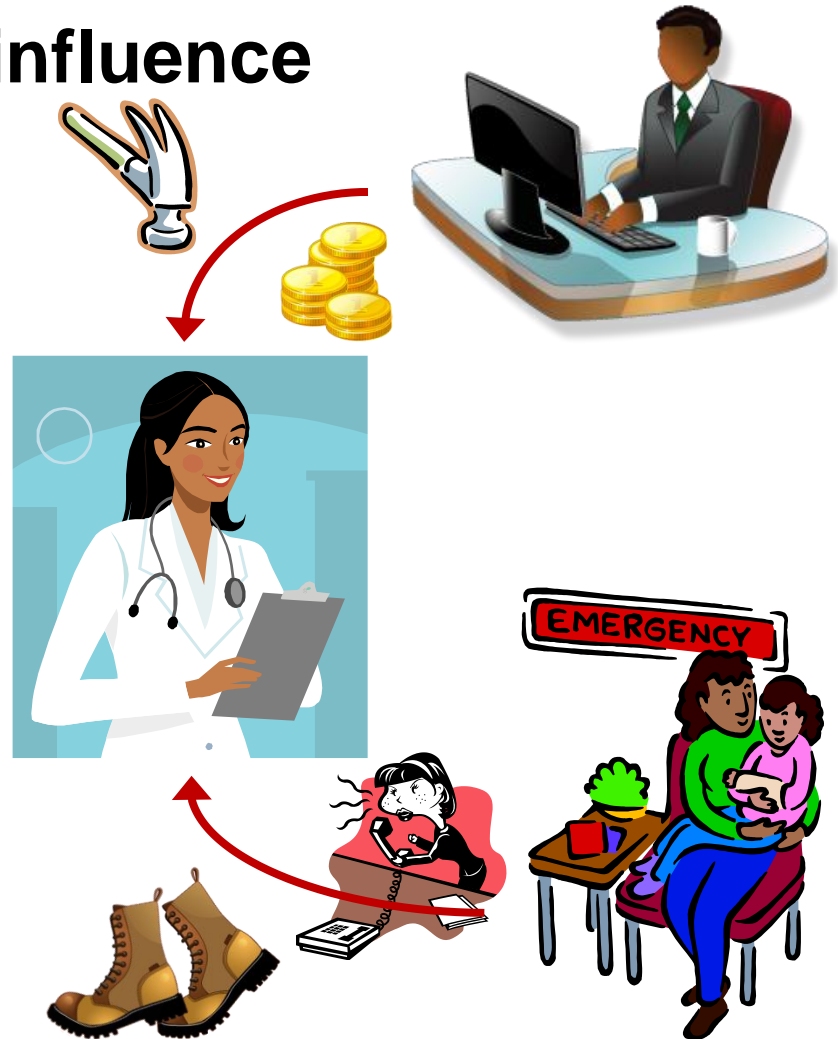
- How can principals influence agents?

- Government

- Rewards
- Sanctions
- Supervision

- Clients

- Exit
- Voice



# So what can we do?

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- **Voice: citizen report cards have had some success (see eg Sam Paul)**
- **Exit: meaningless if limited competition and information**
- **Supervision is expensive**
- **Incentives?**
  - **Sanctions difficult, politically unpalatable**
- **That leaves rewards....**

# Types of P4P schemes

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- Rewards to national governments (eg GAVI payments for national DPT3 coverage)
- Rewards from national to local governments
- Performance bonuses to facilities
- Performance bonuses to individual providers
- payments to providers from patients – fee for service, side payments, bribes

# A few case studies

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- **US**
- **Philippines**
- **Cambodia**
- **Uganda**

# United States

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- **Centers for Medicare and Medicaid Services**
- **CMS–Premier Hospital Quality Incentive Demonstration (HQID) introduced in 2003.**
  - **33 quality measures regarding five clinical conditions.**
  - **Top-performing (top decile) hospitals receive a 2% bonus payment; hospitals in the second decile receive a 1% bonus.**
  - **Bonuses ranged from \$914 to \$847,227, with a mean of \$71,960.**
  - **Plan to introduce penalties of 1% and 2% for hospitals in the lowest deciles.**

# United States

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- **421 hospitals invited to participate in HQID: 266 accepted, 155 declined; 11 withdrew.**
- **Sample HQID hospitals matched with comparable institutions from parallel Hospital Quality Alliance database (collected quarterly since 2002).**
- **Final sample includes 255 HQID hospitals, 406 HQA controls.**
- **Analysis conducted comparing matched sets, on composite scores and individual quality measures.**

# United States

- **HQID hospitals perform better on almost all outcome measures**

## Improvements in quality among hospitals in HQID and HQA

	HQID hospitals (P4P)		HQA hospitals (control)		Difference in differences	
	Q4 2003	Q3 2005	Q4 2003	Q3 2005	percent (95% CI)	p-value
	percent of patients					
Acute myocardial infarction	88.7	94.8	91.3	93.1	4.3 (2.5—6.1)	<0.001
Heart failure	81.2	91.5	82.9	88.0	5.2 (2.8—7.7)	<0.001
Pneumonia	75.2	86.4	76.2	83.3	4.1 (2.3—5.9)	<0.001
All 10 measures	81.0	90.5	82.9	88.1	4.3 (3.0—5.7)	<0.001

# Philippines Quality Improvement Demonstration Study (QIDS)

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- **Hospital-based pay-for-performance interventions**
  - Increased enrollment in PhilHealth (“Access”)
  - Performance-related payments to doctors and hospital staff for improved quality of care (“Bonus”)
- **Quality metric (“Q\*”)**
  - index of physician skills, case load, and patient satisfaction
  - collected via clinical vignettes, facility surveys, and patient exit interviews
  - transparent and under the control of doctors
- **Random assignment among 30 districts**

# Philippines Quality Improvement Demonstration Study (QIDS)

## ■ Bonus improved health outcomes

Difference in difference estimates, relative to control group

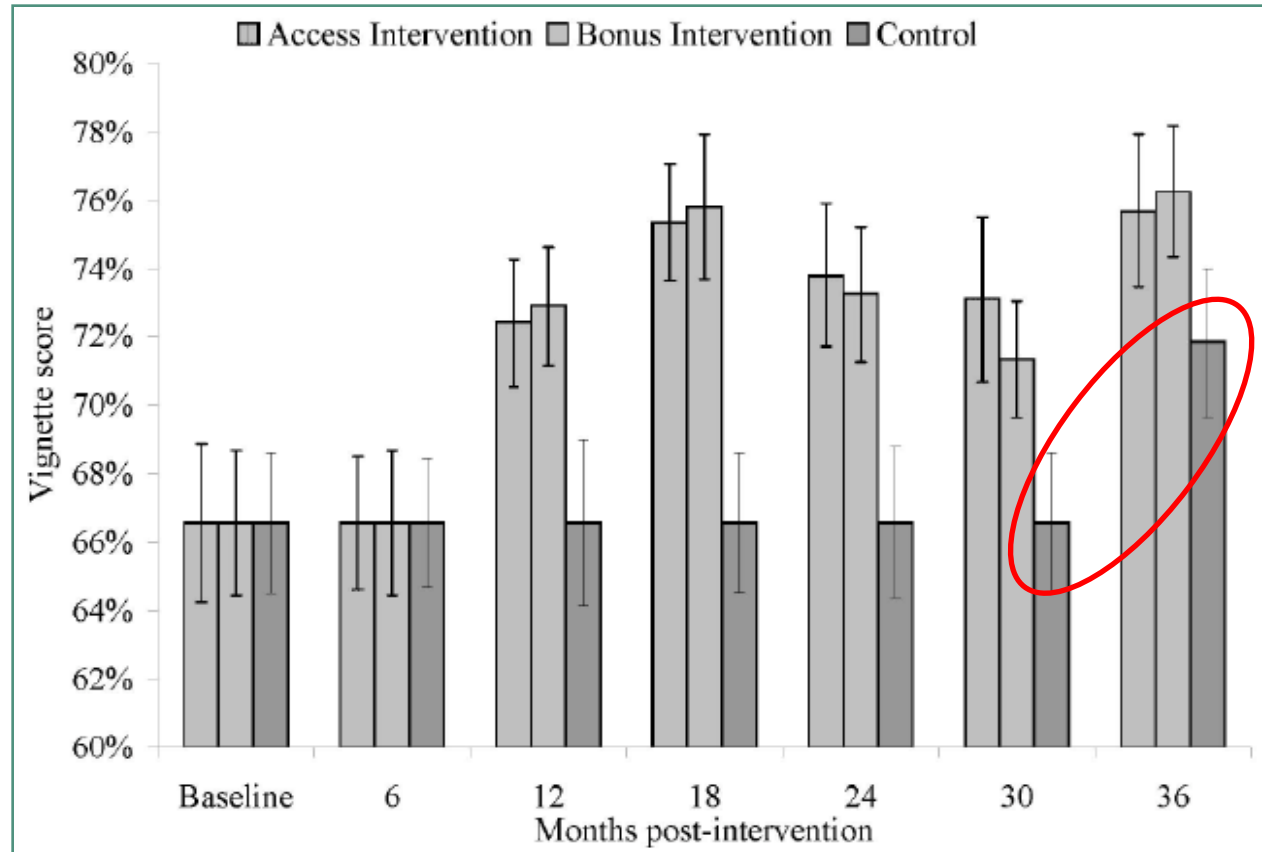
	Wasting	General Self Reported Health (at least good)
At discharge	-6.5 percentage pts *	9.1 percentage pts **
At 8 wk follow-up	-11.8 percentage pts **	11.8 percentage pts **

\* p<.10

\*\* p < .01

# Philippines Quality Improvement Demonstration Study (QIDS)

- **Bonus worked, and so did Access.**
- **Which one is more cost-effective?**



# Cambodia

- **Management of district-level government health services turned over to NGOs through open tender**
- **12 districts in 3 provinces – 8 treatment districts, quasi-stratified by province; 4 comparison districts**
- **Two treatments:**
  - **Contracting in (CI)**
    - **Work within government procurement rules**
    - **Can offer performance bonuses, but can't hire and fire**
  - **Contracting out (CO)**
    - **Higher fixed wages, no bonuses, but can hire and fire**
    - **Full control of procurement**
- **Targeted improvement of child and maternal health services.**

# Cambodia

- Both CI and CO had large, positive (though imprecisely measured) effects on targeted outcomes
- Nontargeted outcomes showed gains or no effect (no crowding out)

- Facility mgmt improved

	Full Immunization	Vitamin A	Antenatal Care	Delivery in Facility	Average Effect Size
CI x 2003	0.139 (0.08) [0.28]	0.091 (0.06) [0.58]	0.364*** (0.08) [0.04]	0.118 (0.07) [0.13]	0.995*** (0.17)
CO x 2003	0.150 (0.12) [0.46]	0.417*** (0.09) [0.02]	0.263 (0.16) [0.35]	0.074 (0.07) [0.61]	1.093*** (0.26)
CI = CO	H <sub>0</sub> : CO=CI, p-value				0.69

- Perceived quality of care fell

- CI = CO

# Uganda

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- **Private not-for-profit (PNFP) sector are 1/3 of facilities, provide half of curative care.**
- **Decentralization – budget transfer from central government; increased autonomy for districts.**
- **Private financing 60 percent of total.**
- **PNFPs receive private donations, user fees, restricted government “block grant.”**
- **PNFPs provide better quality services, targeted to poor, more efficiently than public (Reinikka and Svensson 2002)**

# Uganda

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- **Two experimental arms:**
  1. **Provide bonus payments for achievement of performance targets.**
    - **Six outpatient service performance targets, of which the facility can choose three.**
    - **Bonus payments value up to 11 percent of base grant.**
  2. **Remove restrictions on use of base grant.**
    - **118 facilities in experiment (underpowered).**

# Uganda

- Bonus scheme facilities do no better than any others.
- “Freedom-to-allocate” facilities do considerably better:

## Difference in difference estimates

Relative to:	All other facilities	All other PNFPs	PNFP control group
Malaria treatment for children under five	0.384 (0.181)*	0.408 (0.197)*	0.413 (0.240)+
Consultations for family planning	0.434 (0.351)	0.620 (0.420)	0.782 (0.424)+
Supervised deliveries	0.499 (0.275)+	0.440 (0.362)	0.654 (0.367)+

# Conclusions

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- Existing outcomes and mechanisms for health service delivery are unacceptable.
- Pay-for-performance contracts are not a panacea.
  - They can work well if carefully monitored and administered.
  - Evaluation is essential.
- For service delivery, local control / managerial autonomy may be more important than money.

# References

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- England, Roger, 1997. *Contracting in the Health Sector: A Guide to the Use of Contracting in Developing Countries*. London: Institute for Health Sector Development.
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