

보건의료체계와 인구집단 수준 의료의 질, 부응도

한국보건행정학회

부산

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서울의대 의료관리학교실

도영경

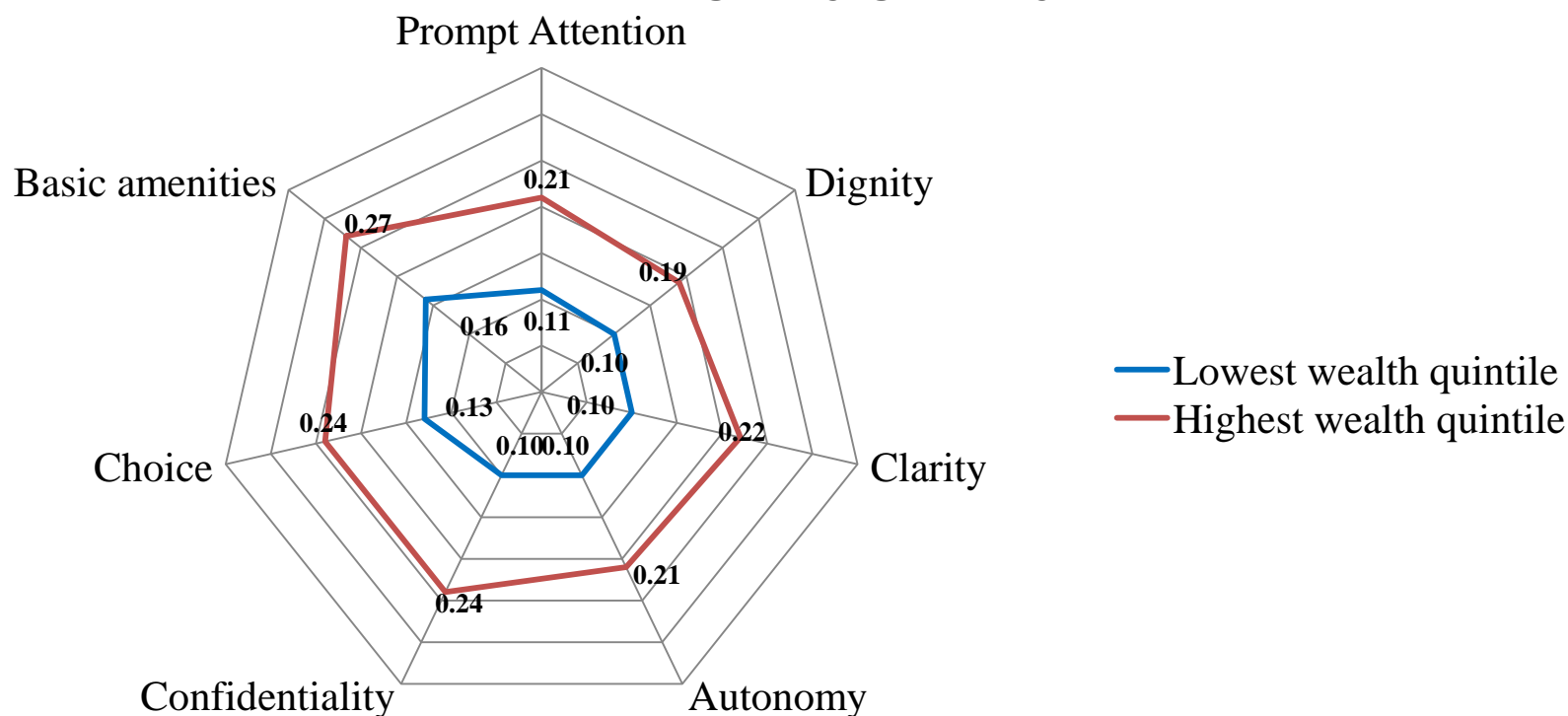
Vacuum in quality and performance assessment

	Attainment of health and good process	Patient/population-reported satisfaction
Physician: diabetes care	HbA1c, BP, lipid, Cx. rates	Satisfaction: physician/Tx.
Health system	LE, U5M, MMR, %vac	(Responsiveness, 부응도)

WHO (2000): Health system's **main goals**: 1) Protecting and improving population health; 2) Being responsive to people's expectations in non-health domains: **Dignity, Confidentiality, Clarity of information, Autonomy, Prompt attention, Quality of basic amenities, and Choice of provider**

Health systems may respond differently to various socioeconomic groups

Socioeconomic disparities in health system responsiveness in India : Predicted probabilities for reporting 'very good' by wealth



Source: Malhotra C, Do YK. Socio-economic disparities in health system responsiveness in India. **Health Policy and Planning**. 2013

THE QUESTION

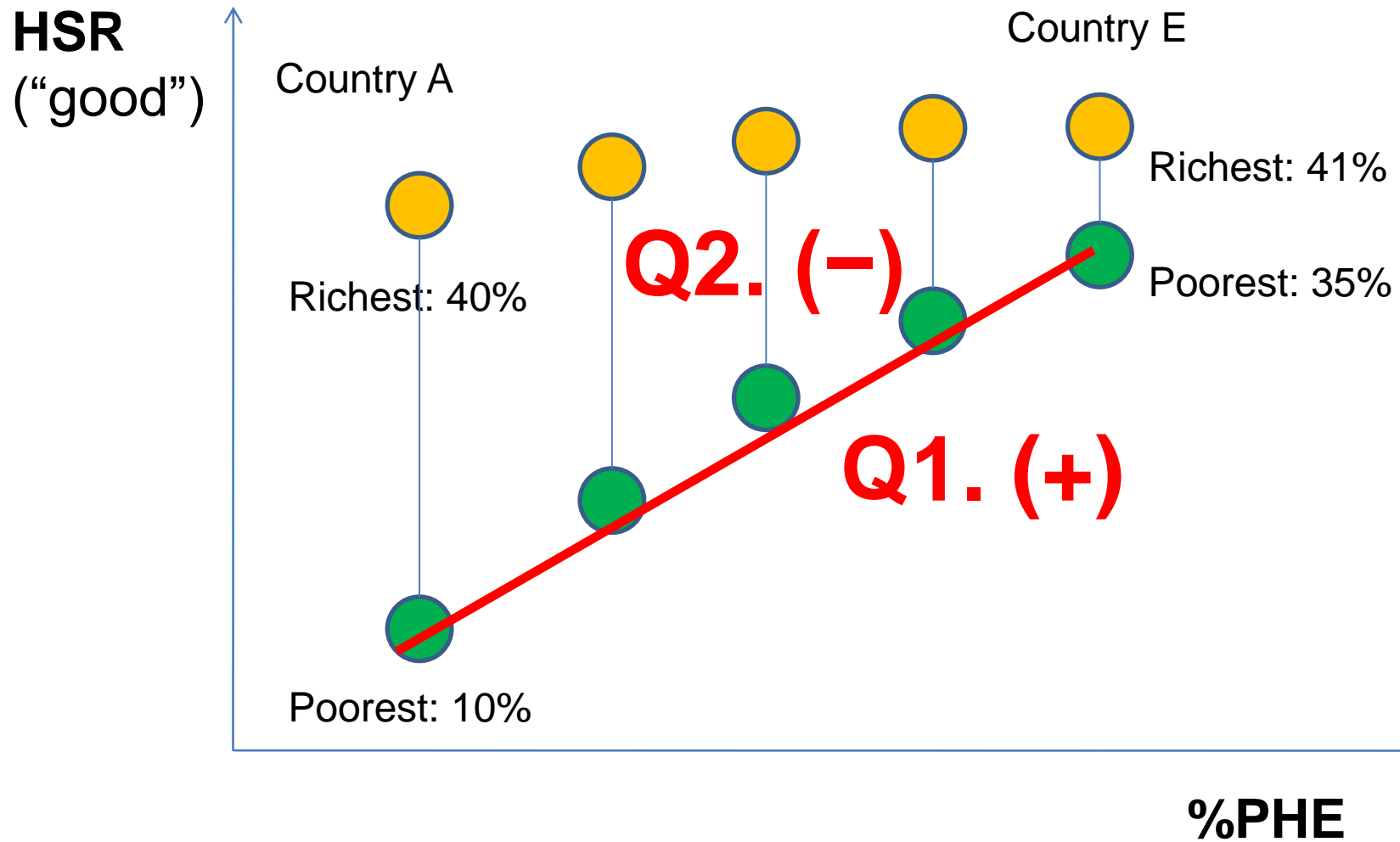
↑ % Public Health Expenditure →

**Q1. ↑ Health system responsiveness
among the poorest (HSR_poorest)?**

Q2. ↓ Δ (HSR_richest – HSR_poorest)?

**Q3. Any difference in patterns between
high- and low-income countries?**

Graphically speaking



Data: WHO World Health Survey (2002–3)



Map of WHS countries

<http://www.who.int/healthinfo/survey/en/index.html>

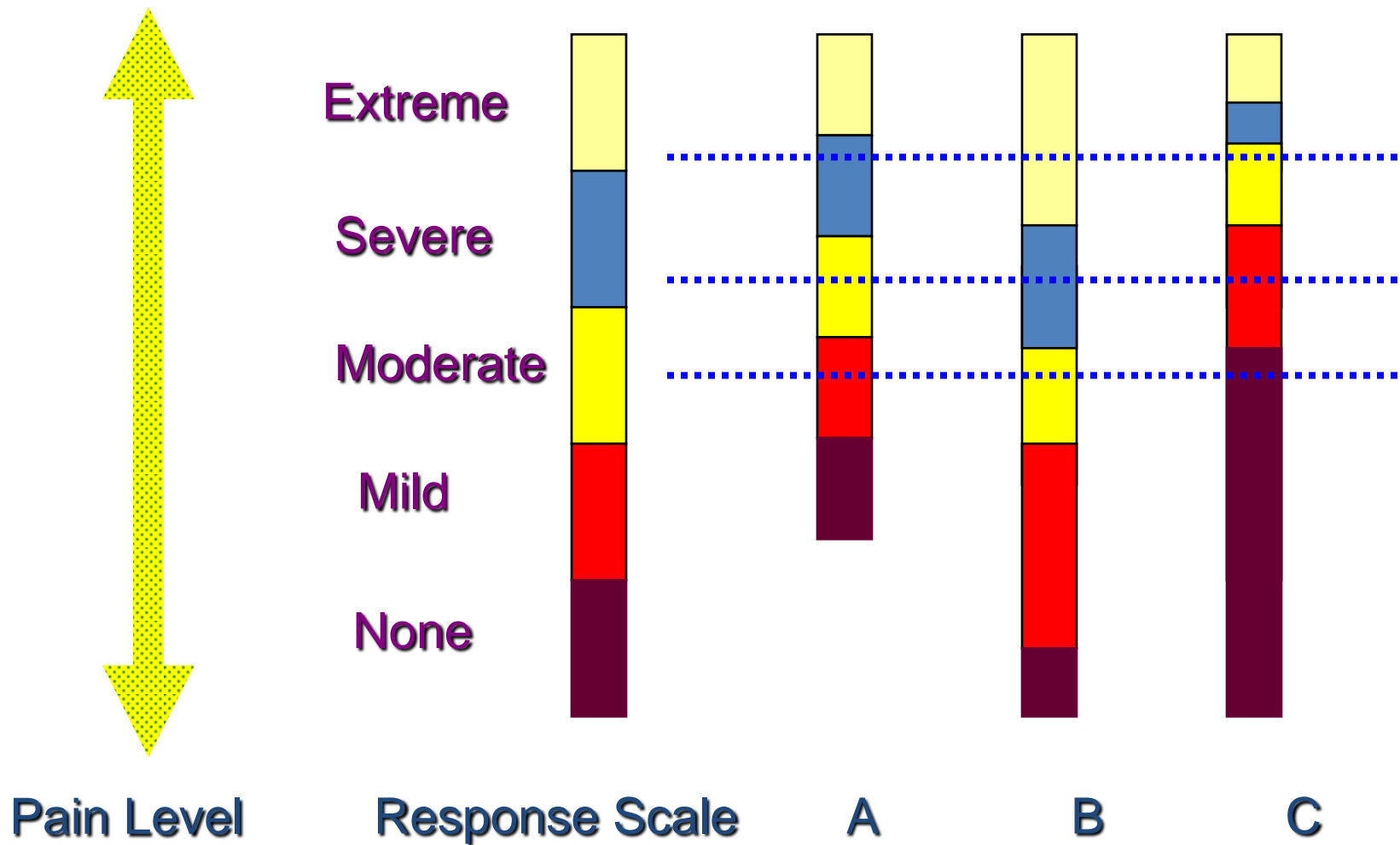
Objectives of the WHS

- Develop a means of providing low-cost, valid, reliable and comparable information.
- **Build the evidence base to monitor whether health systems are achieving the desired goals.**
- **Provide policy-makers with the evidence they need to adjust their policies, strategies and programmes as necessary.**

Analytic strategy

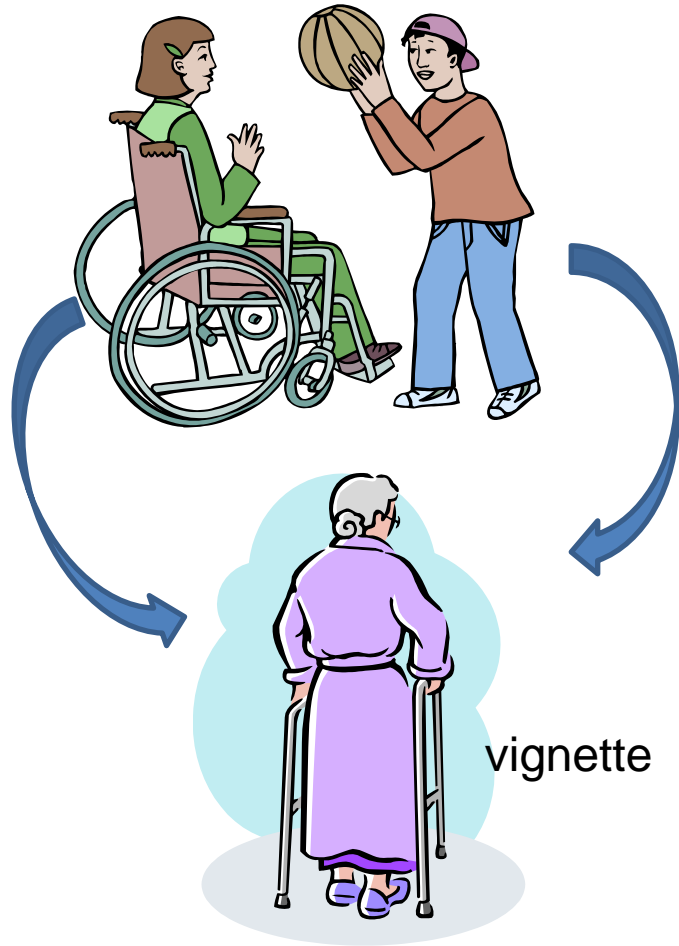
- **First-stage: individual-level, by country**
 - Outcome variable: Self-reported HSR for outpatient services from 'very bad' to 'very good' (5-point Likert)
 - X: age, gender, education, location (urban/rural)
 - Hierarchical Ordered Probit (HOPIT)
- **Second-stage: country-level**
 - Predicted probabilities of reporting 'very good' responsiveness
 - X: %PHE and logged GDP
 - OLS: Overall and stratified analysis (*Low and lower middle-income* vs. *Upper-middle* and *high-income*; WB country classification)
- **Goal**
 - 10%p increase in %PHE →
 - ? %p increase in % 'very good' responsiveness

Response Category Cut-point Shift



Adapted from “Analyzing Health Equity Using Household Survey Data” Owen O’Donnell, Eddy van Doorslaer, Adam Wagstaff and Magnus Lindelow, The World Bank, Washington DC, 2008, www.worldbank.org/analyzinghealthequity

Using hypothetical vignettes to account for reporting heterogeneity



- Self-reported health (0-10)?
 - F: 5 vs. M: 9
 - $\Delta\text{score (4)} = \Delta\text{Health} + \Delta\text{Reporting habit}$
- How would you describe this hypothetical lady's health?
 - F: 3 vs. M: 3 $\rightarrow \Delta\text{Reporting habit}=0$
 - F: 3 vs. M: 6 $\rightarrow \Delta\text{Reporting habit}\neq 0$
 - F: 3 vs. M: 2 $\rightarrow \Delta\text{Reporting habit}\neq 0$
 - $\Delta\text{score} = 0 + \Delta\text{Reporting habit}$
($\Delta\text{Health}=0$, because same hypothetical vignette)
- Using this info (=using vignette as anchoring point), adjust for $\Delta\text{Reporting habit}$ to separate out ΔHealth from Δscore

Hierarchical Ordered Probit (HOPIT)


- Accounts for reporting heterogeneity using vignettes
- Vignette example for *Choice*

Vignette: “When the clinic is not busy [HYPOTHETICAL PERSON] can choose which doctor he sees. But most often it is busy and then he gets sent to whoever is free.”

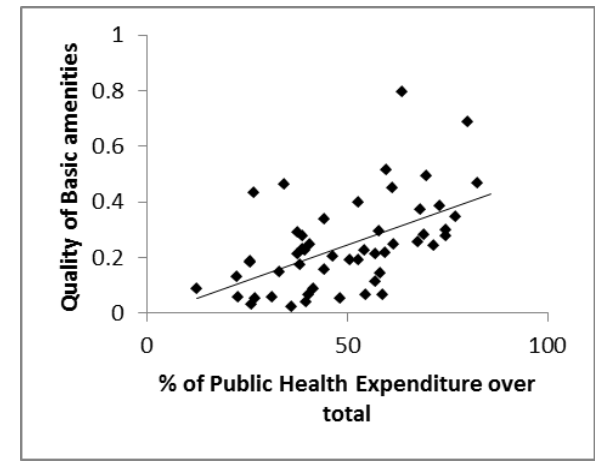
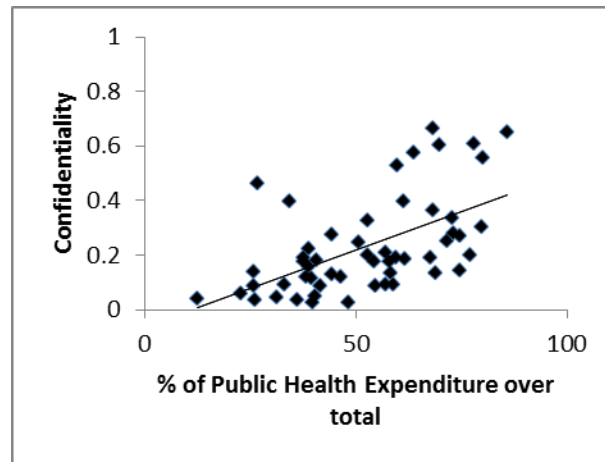
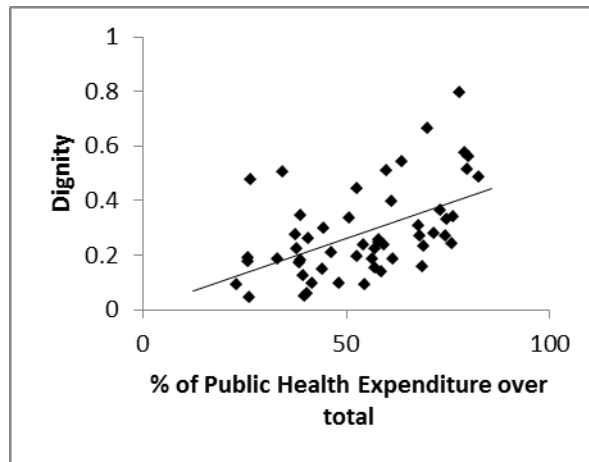
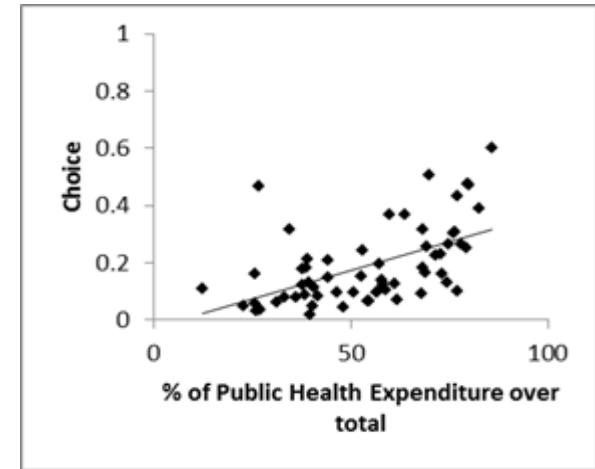
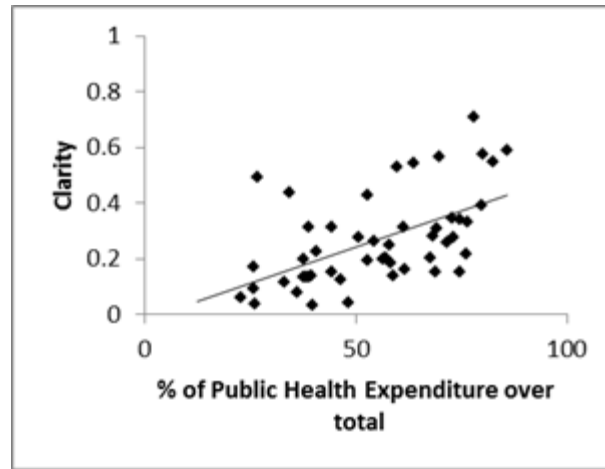
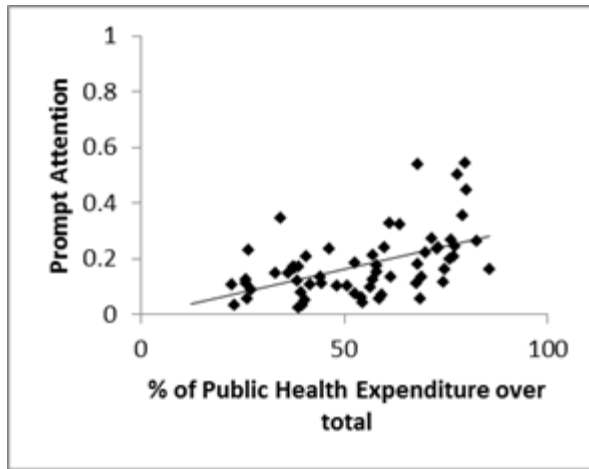
Question: *How would you rate [HYPOTHETICAL PERSON]’s freedom to choose his health care provider?*

Predicted probabilities for poorest individuals' responding 'very good' and differentials

	Prob. of poorest reporting VG (%Poorest)			Differential Δ (%Richest-%Poorest)		
	Overall	High- inc countries	Low-in countries	Overall	High-inc countries	Low-inc countries
Prompt attention	18%	21%	14%	3.8%p	5.8%p	1.0%p
Dignity	28%	34%	21%	3.6%p	6.4%p	0.3%p
Clarity	27%	32%	18%	5.7%p	7.1%p	3.3%p
Confidentiality	23%	30%	15%	3.8%p	5.8%p	1.5%p
Choice	19%	24%	12%	5.1%p	7.6%p	1.4%p
Amenities	24%	31%	18%	0.3%p	1.2%p	-0.5%p

 = Pro-rich

Correlations between %PHE and country-level mean predicted probabilities for poorest individuals' responding 'very good' health system responsiveness (6 domains)



**10%p increase in %PHE →
? %p increase in % ‘very good’ responsiveness**

	Prompt attention	Dignity	Clarity	Confidentiality	Choice	Amenities
Overall	<i>N=61</i>	<i>N=53</i>	<i>N=50</i>	<i>N=53</i>	<i>N=60</i>	<i>N=51</i>
Richest	1.24	1.47	1.31	1.51	1.40	0.73
Poorest	1.91*	2.70*	3.30**	2.94**	2.56**	3.16**
Δ (R-P)	-0.67	-1.23	-1.99*	-1.43	-1.16	-2.43**

*<.10; **<.05; ***<0.01. Models adjusted for log GDP per capita

10%p increase in %PHE → ? %p increase in % 'very good' responsiveness

	Prompt attention	Dignity	Clarity	Confidentiality	Choice	Amenities
High-income countries	<i>N</i> =36	<i>N</i> =30	<i>N</i> =31	<i>N</i> =29	<i>N</i> =36	<i>N</i> =25
Richest	-0.89	-1.30	1.04	-0.74	1.65	-2.70
Poorest	0.07	2.94	5.99**	3.34	5.77***	2.06
Δ (R-P)	-0.96	-4.24*	-4.95**	-4.08*	-4.12***	-4.76**
Low-income countries	<i>N</i> =25	<i>N</i> =23	<i>N</i> =19	<i>N</i> =24	<i>N</i> =24	<i>N</i> =26
Richest	0.64	0.64	0.10	-0.07	0.03	0.50
Poorest	1.67	1.59	2.16	1.58	0.95	2.23
Δ (R-P)	-1.03	-0.95	-2.06	-1.65	-0.92	-1.73

*<.10; **<.05; ***<0.01. Models adjusted for log GDP per capita

Summary of main findings

- Overall, poorest individuals' self-reported health system responsiveness lower than their richest counterparts (**within-country**). Poorest individuals' responsiveness in low-income countries lower than their (poorest) counterparts in high-income countries (**cross-country**)
- With a 10%p increase in %PHE,
 - Improvement in poorest individuals' probability of reporting 'very good' in each responsiveness domain by 2–3%p
 - Reduction in SES disparity in responsiveness (greater improvement in poorest compared with richest)
- Association between %PHE and responsiveness for poorest individuals is more prominent in high-income countries

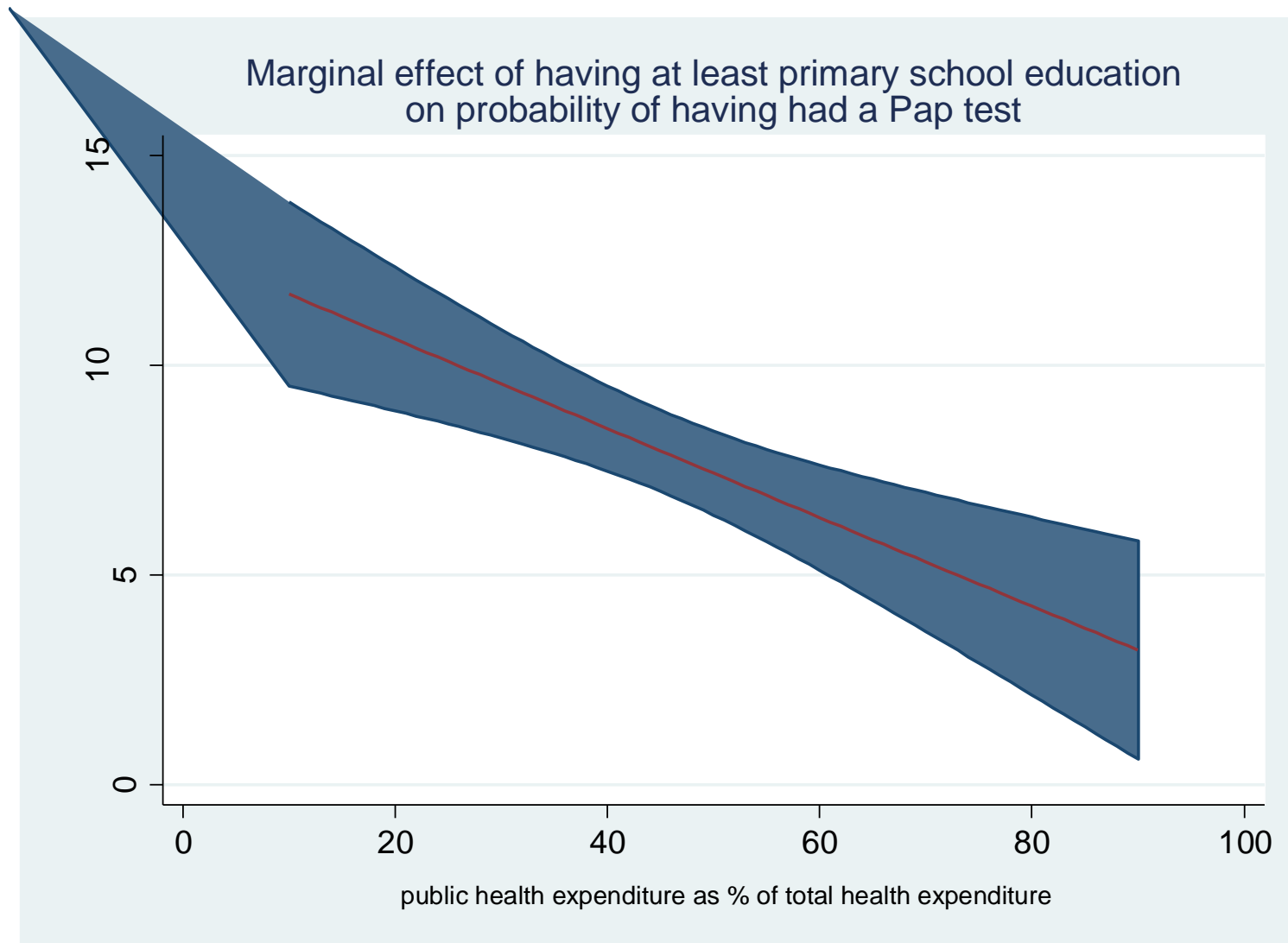
Limitations

- Entire distribution of responsiveness may shift: we only examined 'very good': Robustness check - results consistent with 'very good'/'good' combined
- Country-level residual confounding (governance, infrastructure, ...)
- Not all countries included

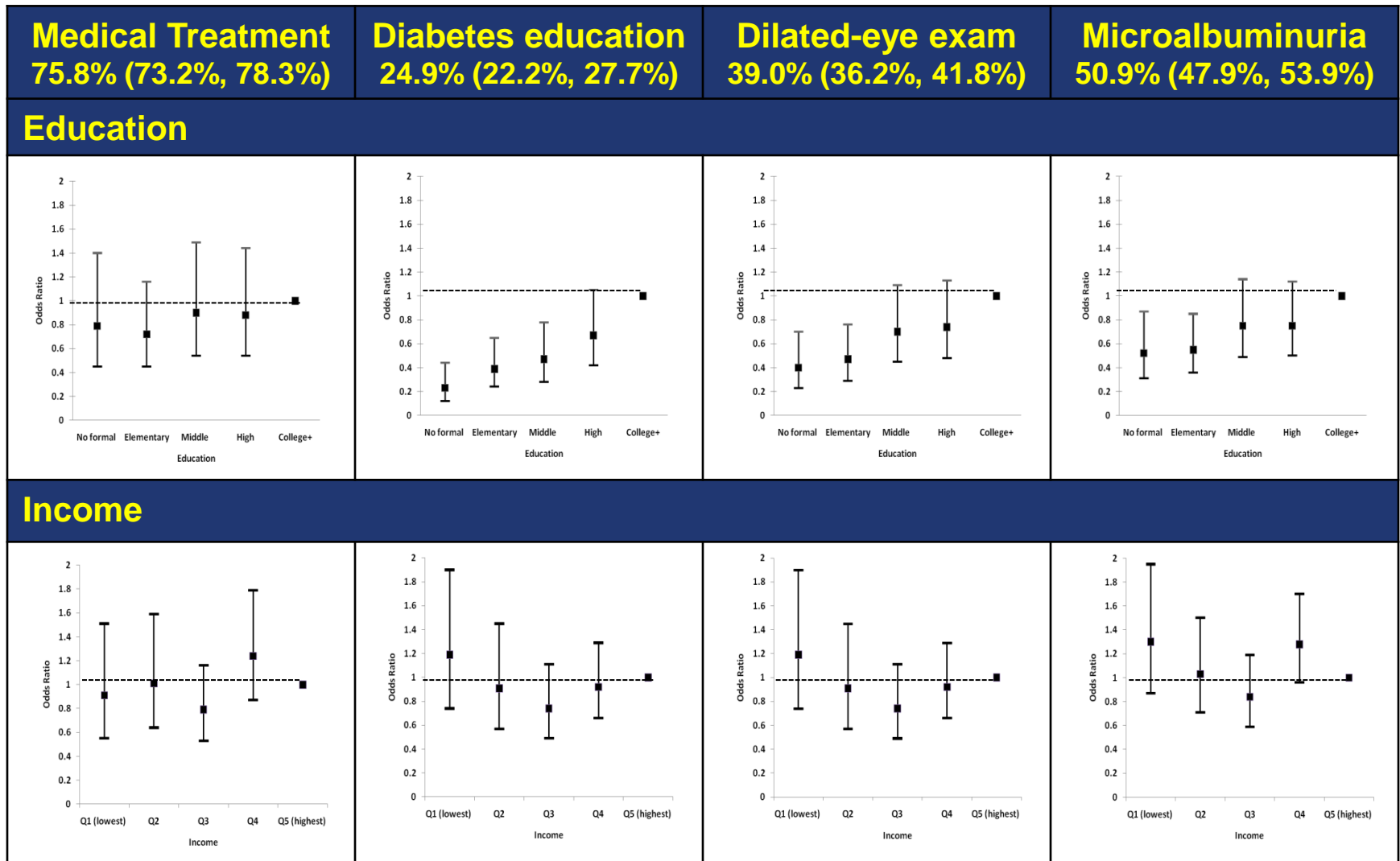
Conclusions

- Increases in the proportion of public health expenditure in total health expenditure (%PHE) may lead to greater perceived health system responsiveness among poorest individuals and improved socioeconomic disparities in HSR
- These benefits are more evident for high-income countries, possibly with better governance and overall healthcare infrastructure
- Universal health coverage (\uparrow %PHE & \downarrow %OOP) may also improve health system responsiveness for most vulnerable groups

Health system and socioeconomic inequalities in quality of care: additional example (1)



Health system and socioeconomic inequalities in quality of care: additional example (2)



Do YK, Eggleston KN. Educational disparities in quality of diabetes care in a universal health insurance system: evidence from the 2005 Korea National Health and Nutrition Examination Survey. *International Journal for Quality in Health Care*. 2011 Aug;23(4):397–404.

감사합니다

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