Efficiency improvements in health services over time in developing countries: new evidence from Bangladesh

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Outline

Past research

Background

Analysis

Implications

Productivity change in health services

OECD countries

- Positive, cost-reducing productivity change well documented in health services in OECD
- Significant source of financing for service expansion, and explicitly assumed in public sector budgeting in many OECD nations

Developing countries

- Not well documented
- Assumed by most international agencies not to exist or be likely

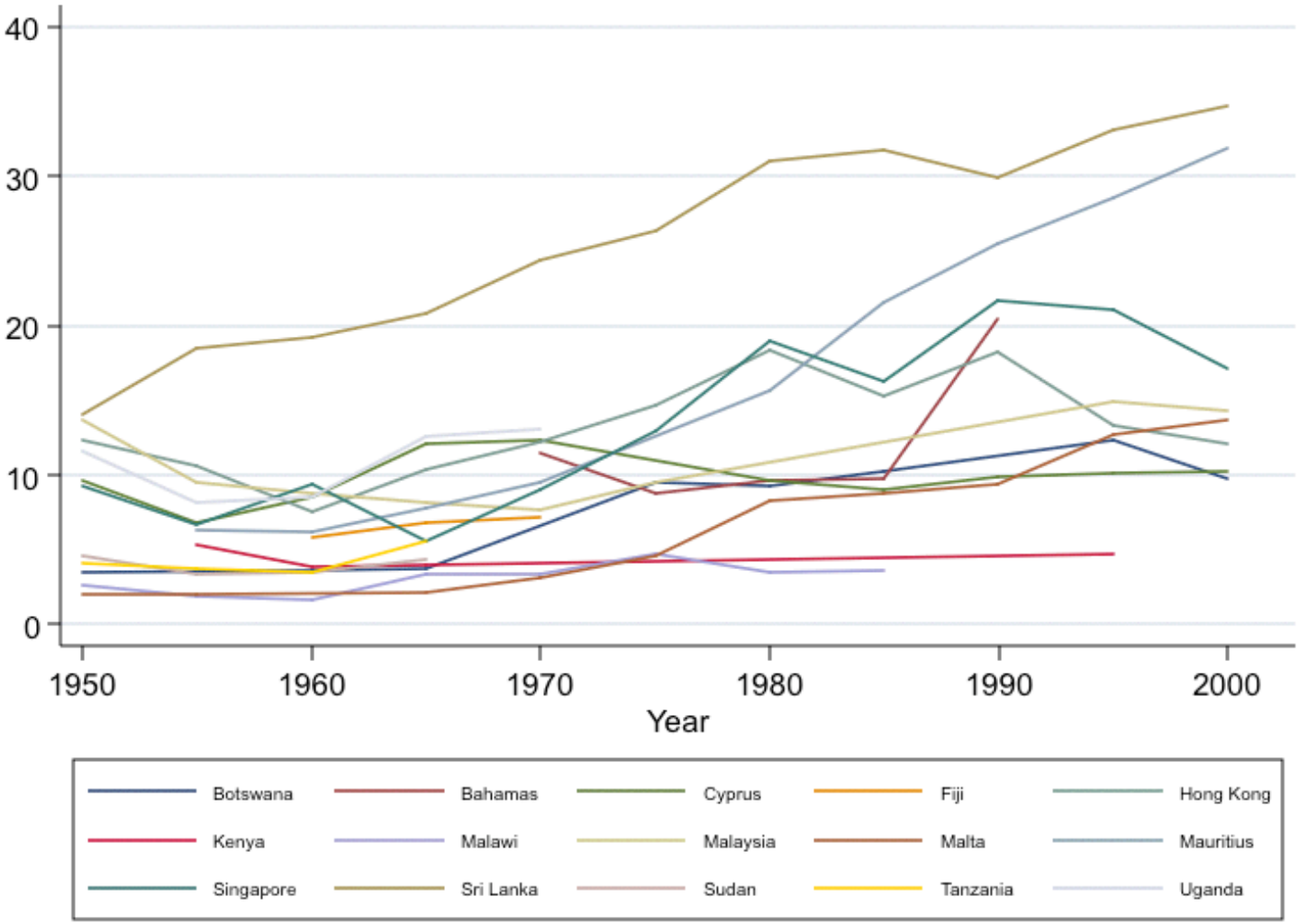
Evidence for productivity change in developing countries

Rannan-Eliya (2004, 2009)

- Sustained productivity trends observed at country level
- Range of -1.3% – +4.3% during 1946-2002
- Mean=0.8% - implies halving of unit costs every 80 years
- Cost-reductions accompanied by indirect indicators of improving productivty:
  - Declining ALOS, Increasing turnover rates
  - Declining case fatality rates

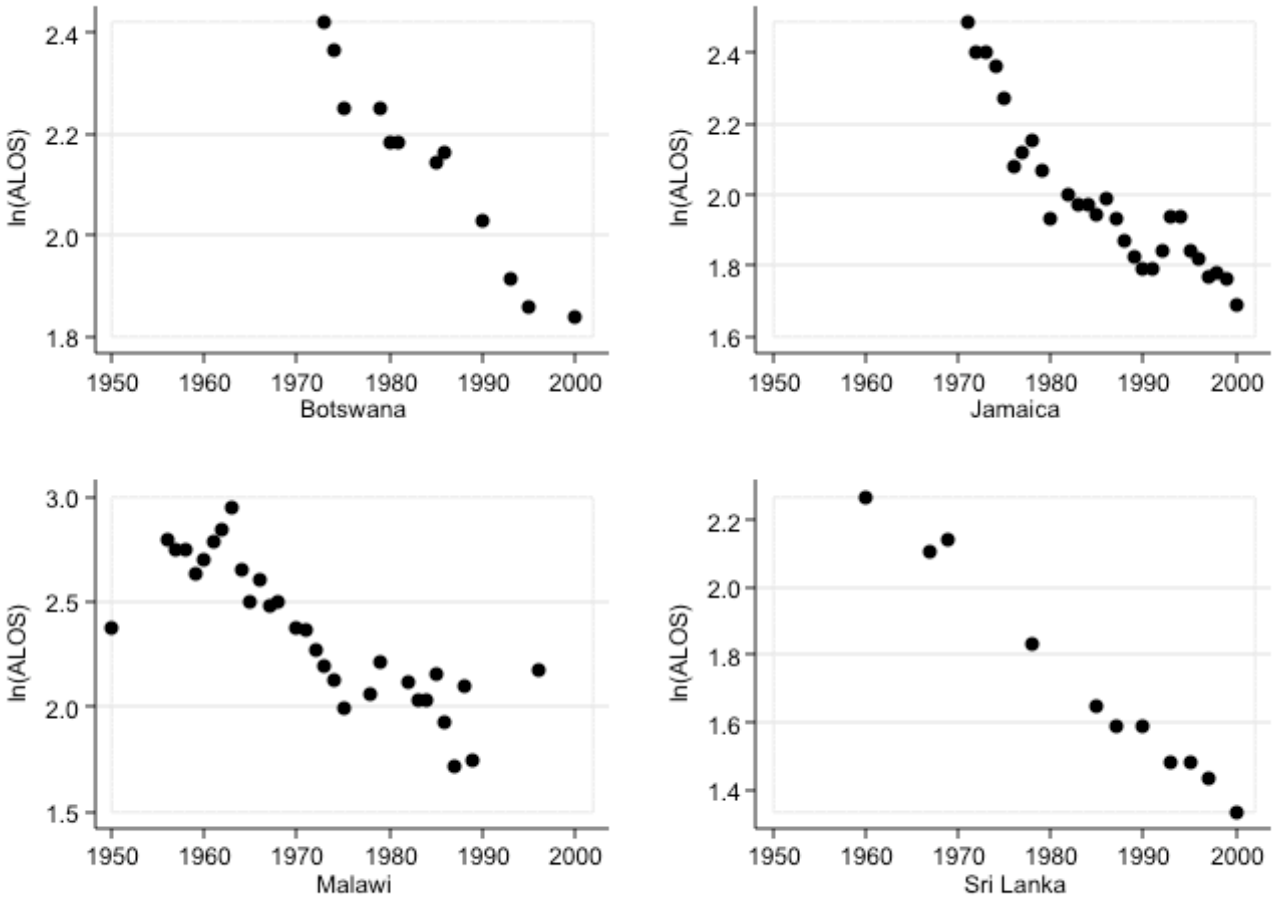
Productivity trends 1946-2002

Countries where trend was positive

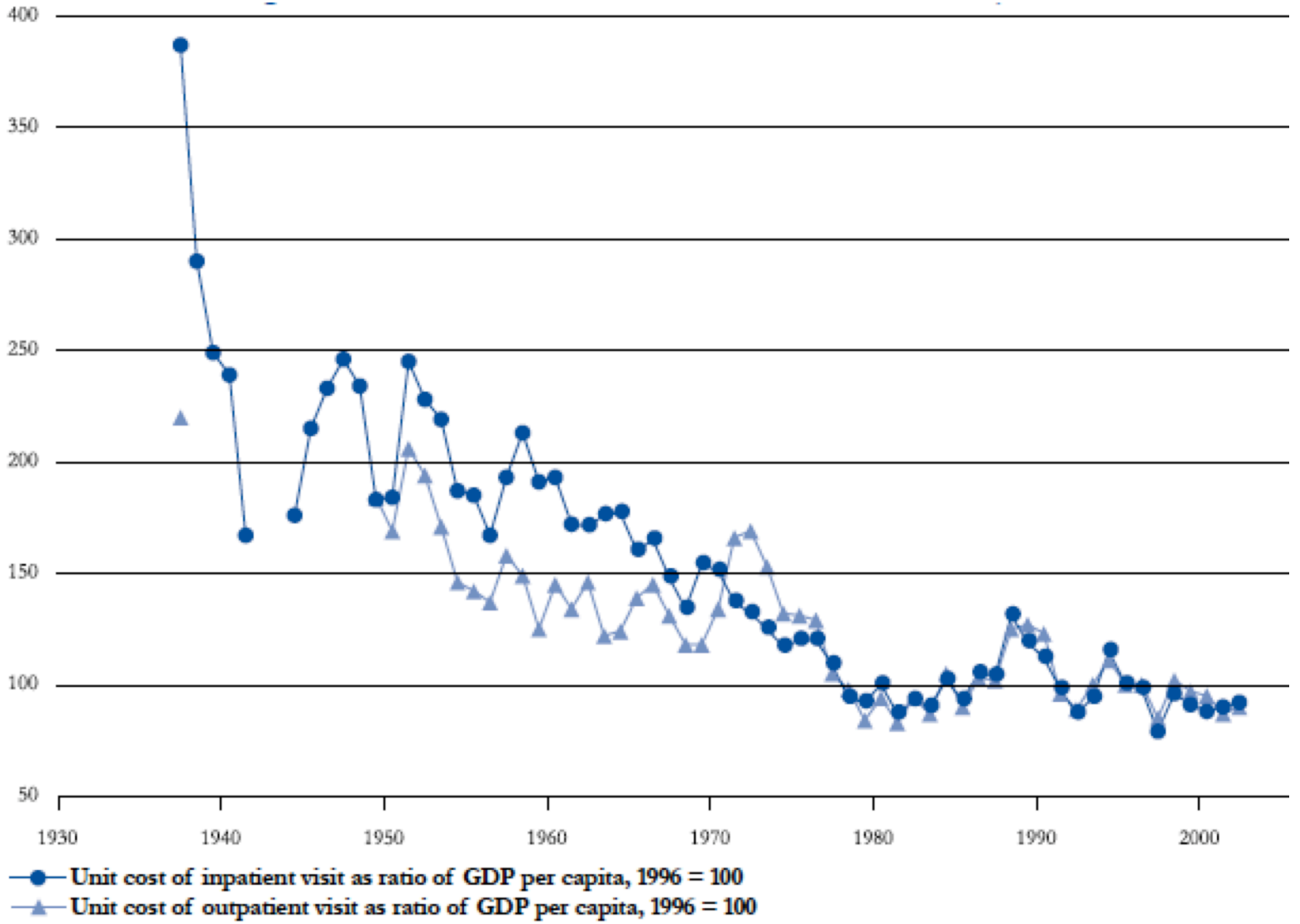


ALOS 1950-2002

Trends in Log(ALOS) for selected countries



Declining unit costs in Sri Lanka public sector 1935-2005



Implications

- Evidence now exists for substantial and sustained increases in productivity in many, maybe most, developing countries
- Implications
  - Cost-reduction potential significant enabler of expansion in services
  - Cost estimates (mostly public sector) of achieving MDGs exaggerated
- Reactions
  - Skepticism about generalizability, Concerns about aggregate indexes
  - “Sri Lanka is an exception”

Bangladesh Case

Bangladesh context

- Low-income nation, per capita GDP $470
- Civil service-run, centralized, politicized, public sector delivery system
  - Considered a classic case of public sector inefficiency, with little possibility of improvement
  - Past decade has focused on organizational innovations to overcome public sector lethargy:
- Very low coverage with formal medical services
- No increase in public spending (% GDP)
- At the same time significant health improvements in child mortality

Bangladesh Public Facility Efficiency Surveys 1997, 2007

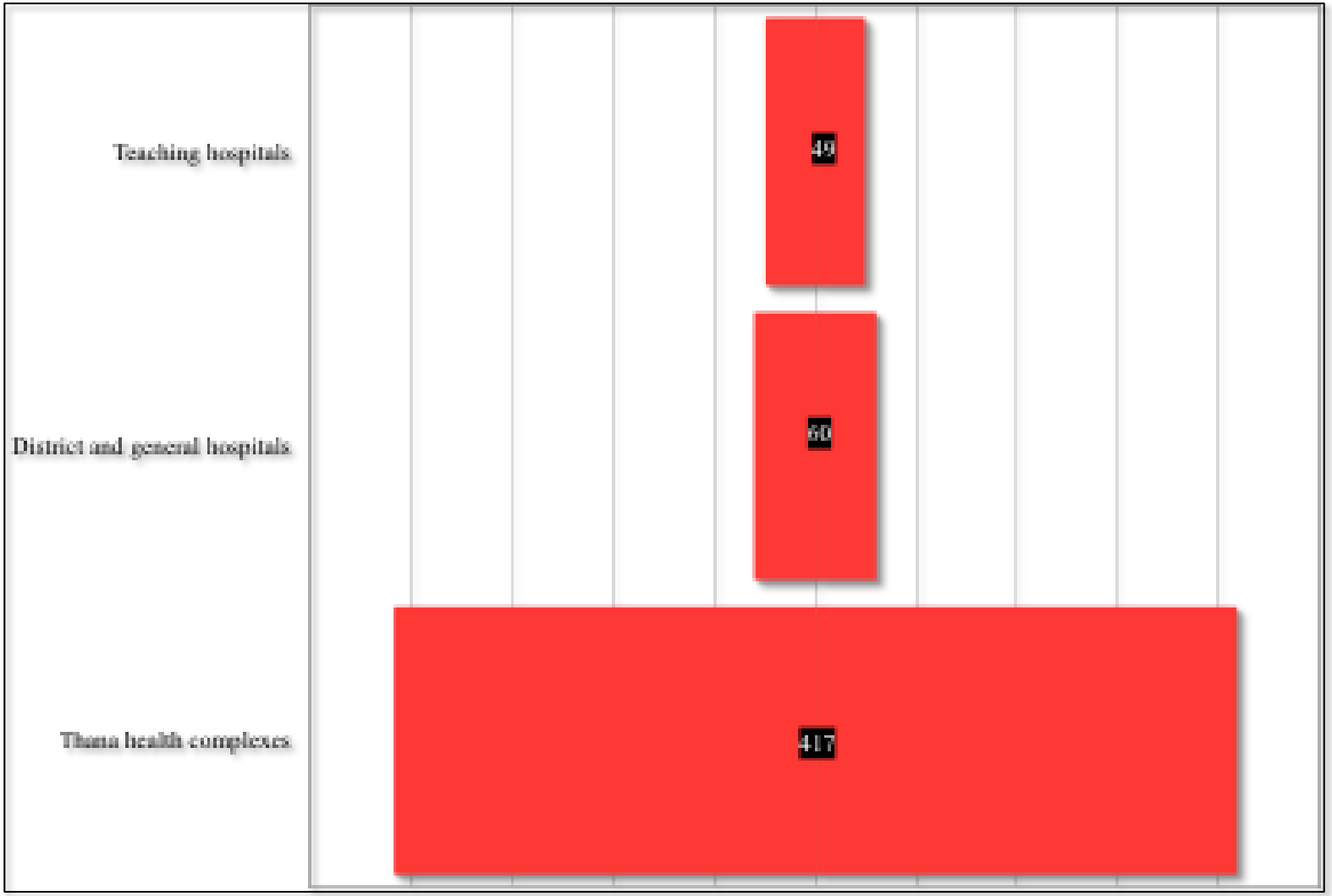
- Nationally representative surveys of public sector health facilities
  - PFES 1997: 122 MOHFW facilities
  - PFES 2007: 156 MOHFW facilities
- Panel data element
  - 40 facilities resurveyed in 2007
- Data collected
  - Costs, outputs

Previous findings from PFES 1997

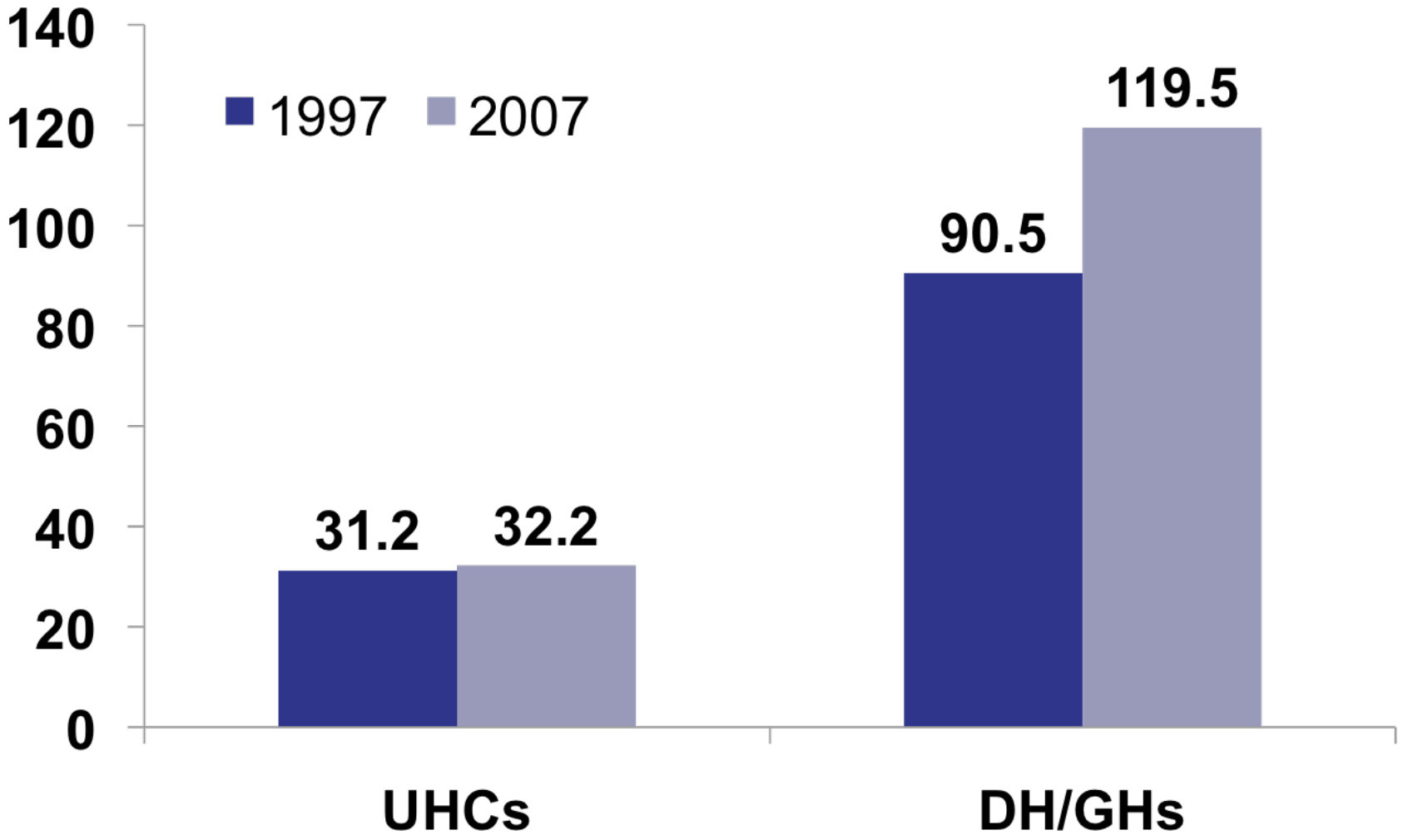
- High degree of cost inefficiency at all levels of facilities
  - High unit costs
  - Over-staffing
  - Facilities not operating at scale
- Production inefficiencies at facility level a significant explanation for overall productivity gap with Sri Lanka

New findings

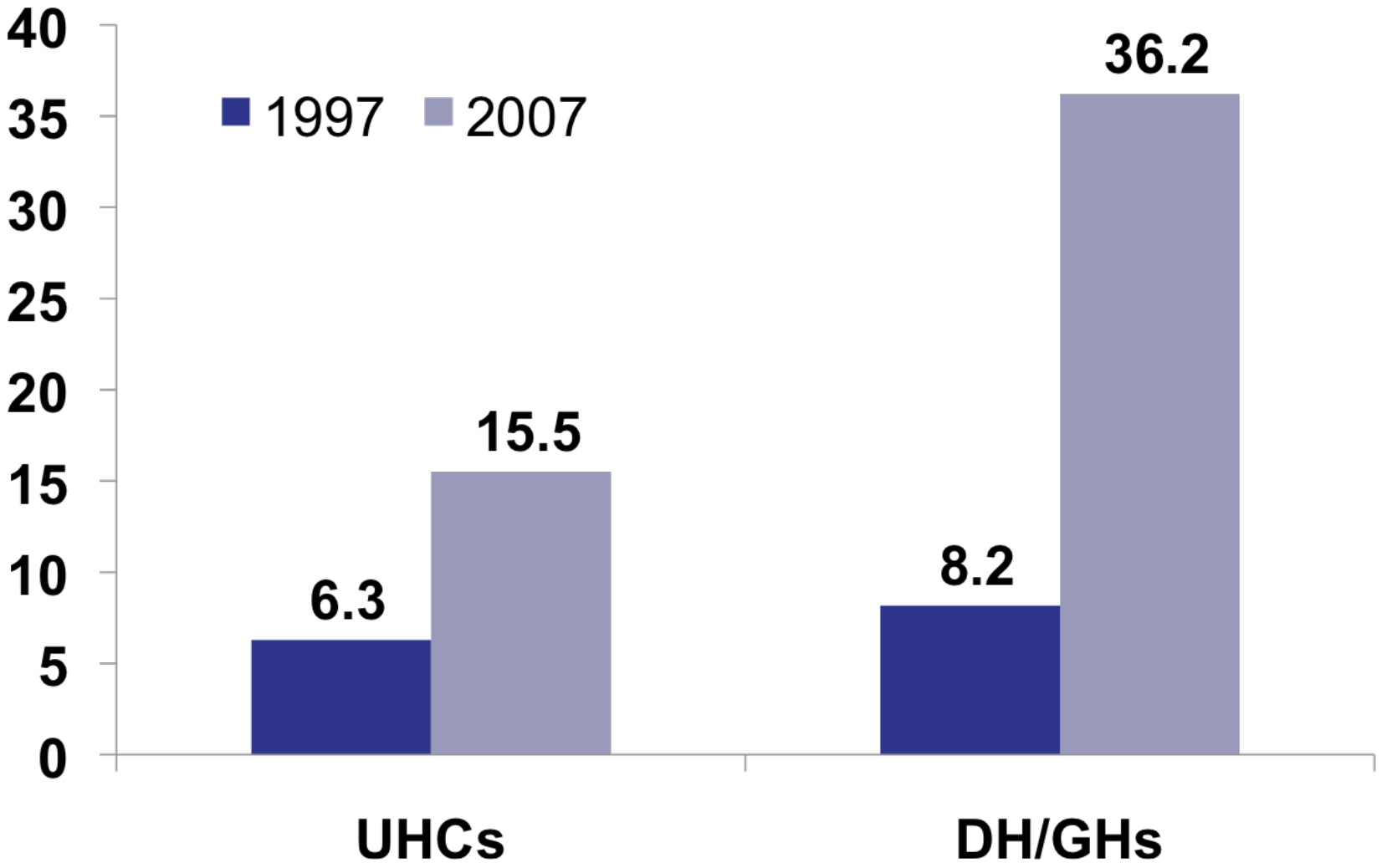
Bangladesh hospital delivery system



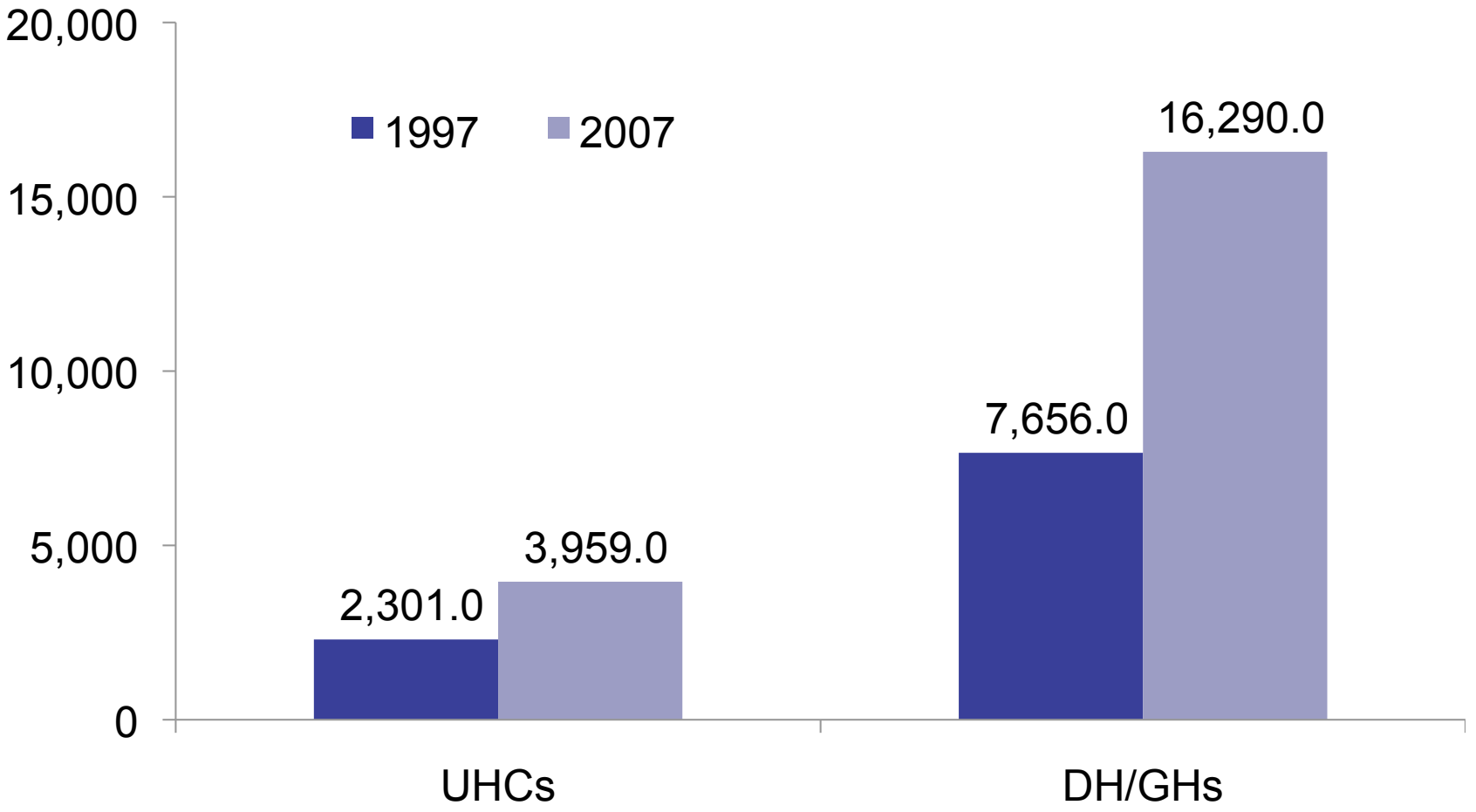
Changes in bed size



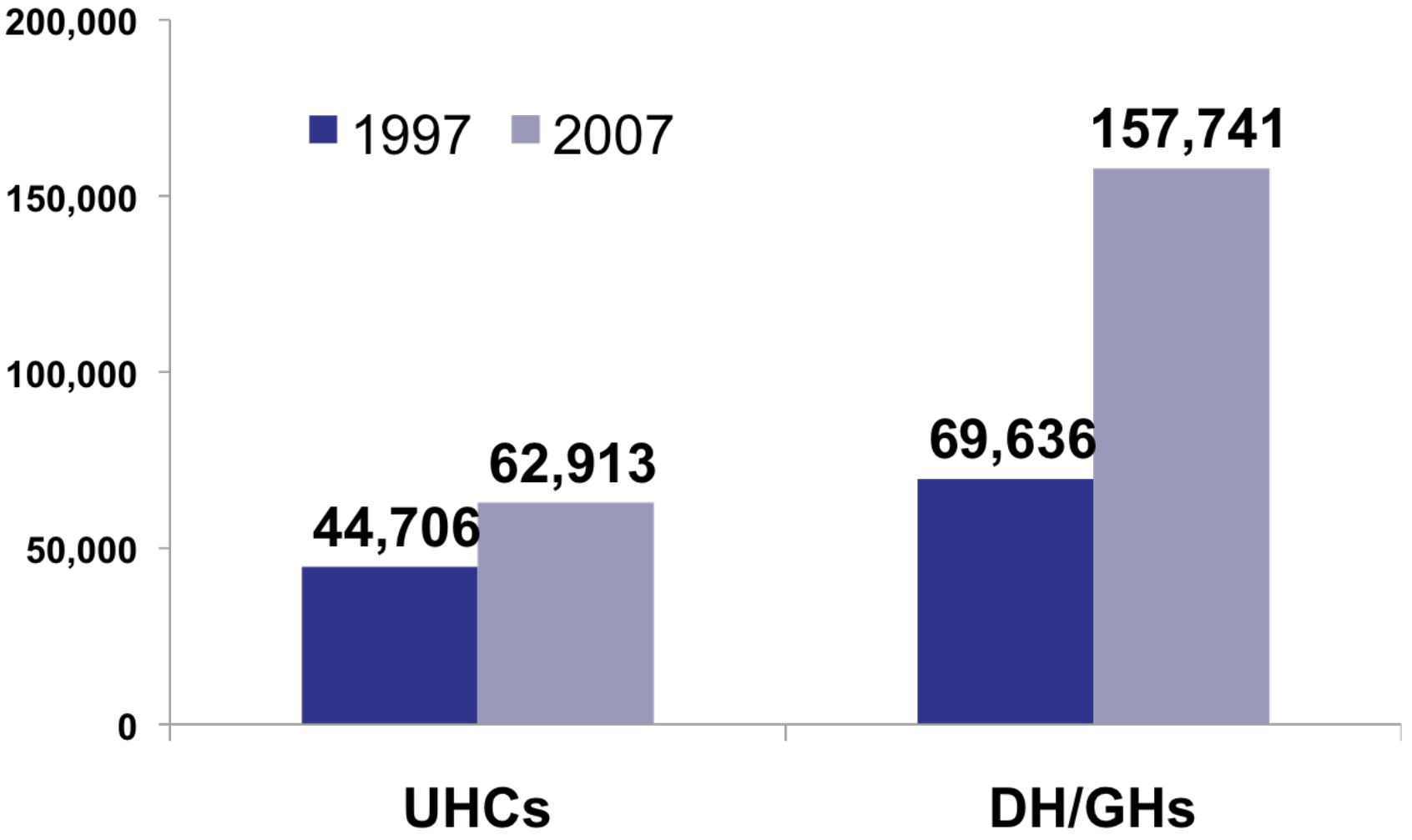
Recurrent costs (Taka million)



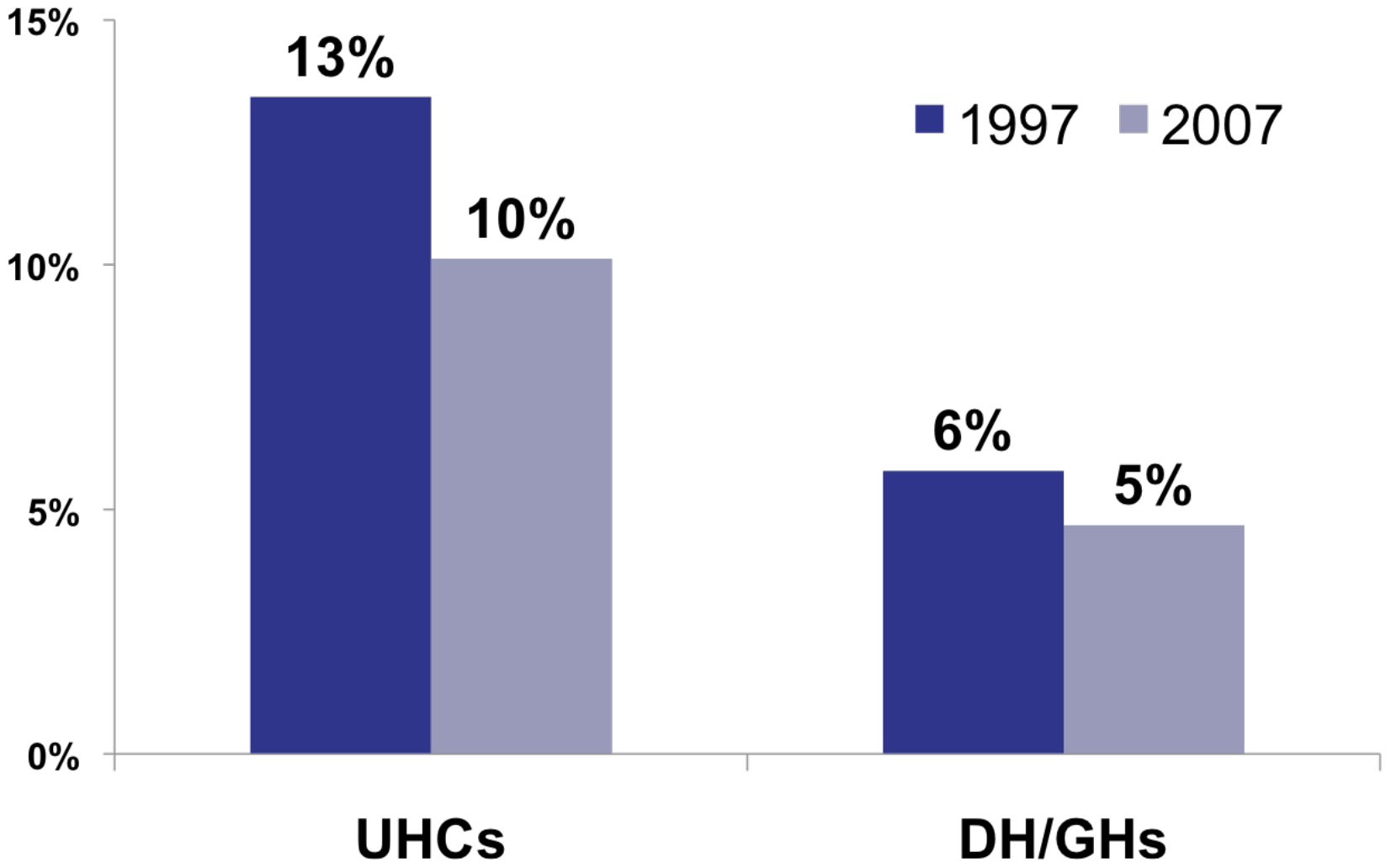
Inpatient throughput



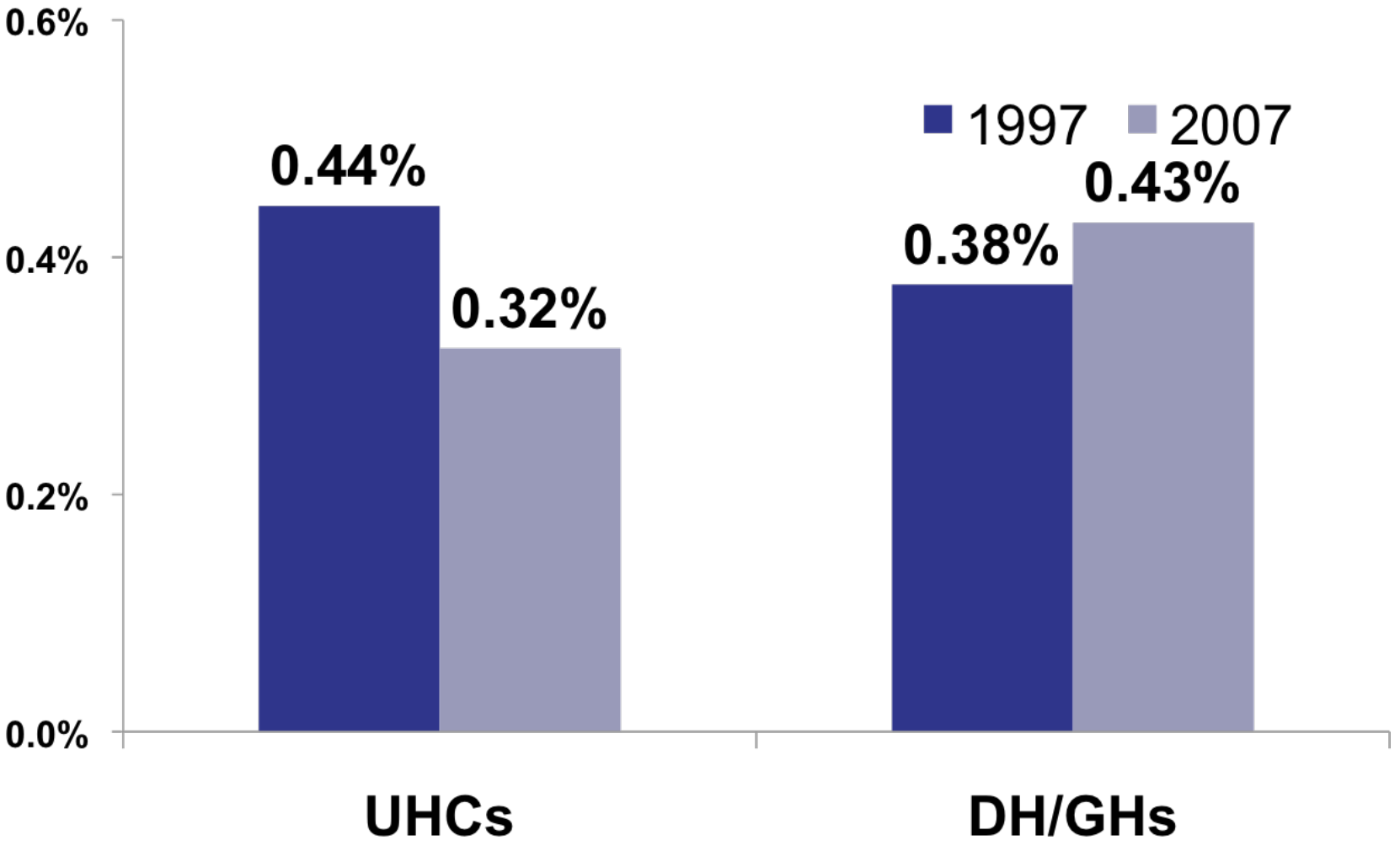
Outpatient throughput



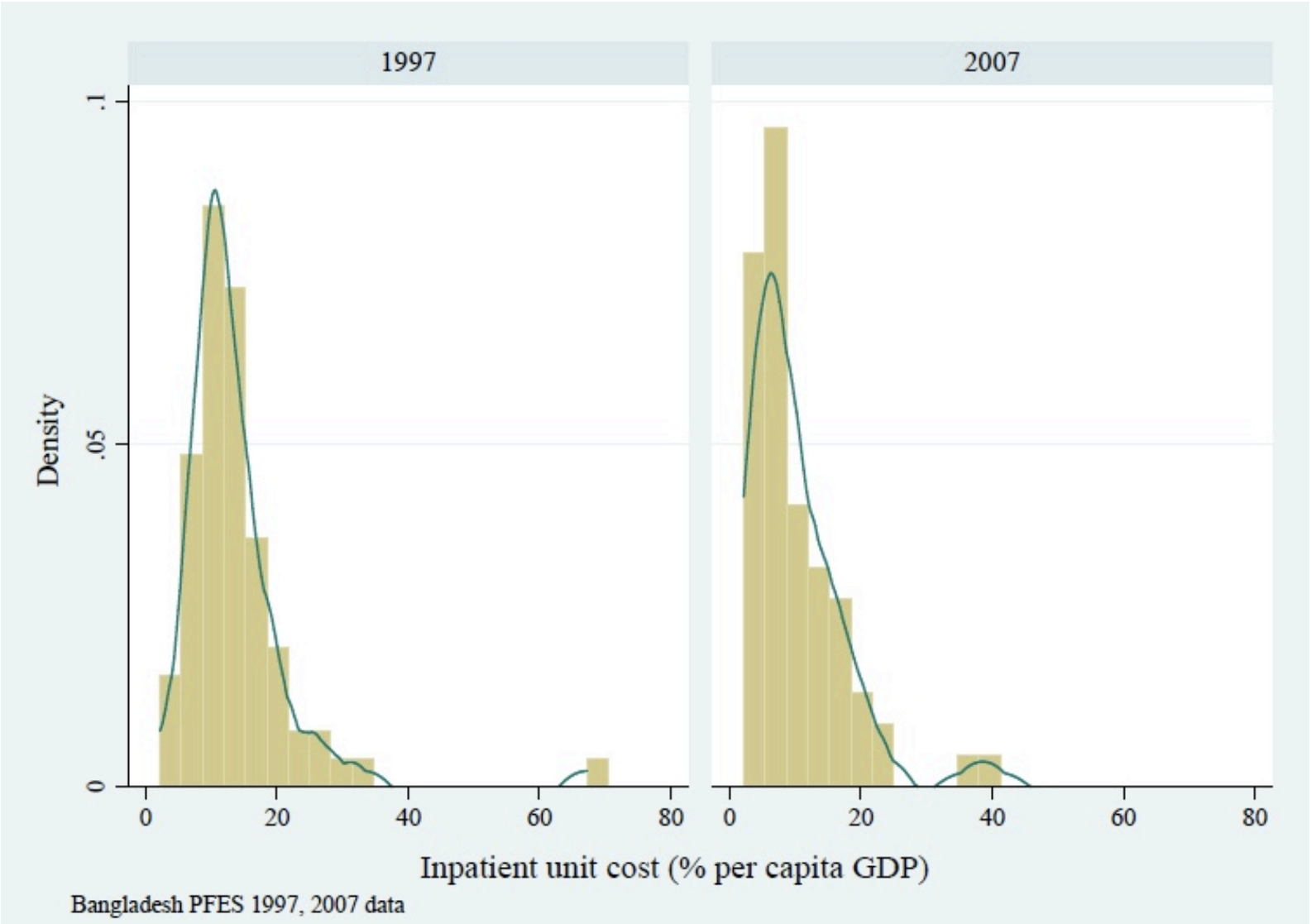
Inpatient admissions – Real unit costs (% of daily GDP per capita)



Outpatient visits– Real unit costs (% of daily GDP per capita)



Cost distributions 1997-2007



Bangladesh PFES 1997, 2007 data

Major results

Annual productivity gain (loss)

	Inpatient services	Outpatient services
Upazilla Health Complexes	2.8%	3.1%
District/General Hospitals	2.1%	(1.3%)

Case fatality rates (deaths per 100 admissions)

	1997	2007
Upazilla Health Complexes	1.75	0.93
District/General Hospitals	4.58	3.78

ALOS (days)

	1997	2007
Upazilla Health Complexes	3.9	2.8
District/General Hospitals	4.5	3.6

Key findings

- Evidence of significant cost-reducing productivity gains over decade
  - 1-3% per annum
  - Similar to Sri Lanka
- Indicators consistent with constant/improving quality
  - Declining case fatality rates
  - No increases in bed-occupancy
- Explanations
  - Increase in patient throughputs vs. beds/staffing
  - Declining ALOS
  - Better economies in scale at UHCs
  - Little change in structure/input mixes
- No impact from hospital autonomy pilots

Implications

- Productivity gains due to *learning-by-doing* occur even in Bangladesh
- Gains from productivity significant
  - Would enable doubling of service coverage every 20-30 years
- Incremental productivity gains more important than those from expensive delivery reforms