

325 Ninth Avenue Box 359931 Seattle, WA 98104-2499 Tel: 206.543.0670 Fax: 206.744.3694 www.dcp-3.org

> Series Editors: Dean Jamison Hellen Gelband Prabhat Jha Ramanan Laxminarayan Rachel Nugent

The Costs of Improving Quality

Carol Levin Aditi Nigam Marcia Weaver



















Today's presentation

- What costs are we looking at?
 - Which policies or interventions?
 - Economic costs (direct)
 - Some financial costs
- A sample from the published literature
 - What can we learn about state-of –the –art costing for improving access, uptake and quality?
- Deep dive
 - Look at some examples more closely for lessons learned, gaps, way forward
- Observations, gaps and Issues



Take home messages first

- New challenges for amassing a body of work compared to disease specific interventions.
- Imperative to define the mechanisms by which a policy or intervention improves quality.
- Use updated DCP3 conceptual model to understand the full economic and financial costs would be an asset to guiding this work.
- Pressing need for economic and financial costs.
 - Support economic evaluations (CEA, CUA)
 - Support financial projections (country planning)



Policies and intervention to improve access, uptake and quality

Change Structural conditions	Affect Provider Practice
National and local guidelines	Training with Peer review
Quality Improving Technology	Performance-Based Remuneration
Public Private Provision of Care	High Volume Care
Targeted educational and professional retraining (i.e. CME)	Performance based professional recognition
Organizational change	



Economic costs

- Rational for interventions to increase access, uptake and quality is often to reduce direct and indirect costs
- Direct costs
 - Human and physical resources needed to plan and implement interventions
 - DCP2 cost of training providers ranged from US\$1 to US430
- Challenging to estimate direct and indirect cost associated with interventions that increase access, uptake and quality
 - Especially at the central or state/provincial/district government level

A review of costs from the literature-1

Disease Control Priorities

economic evaluation for health

			Costs			
Intervention	Country	Total annual cost	Total cost per facility	Cost per person	Cost per procedure	Annual cost per patient
Training						
Curriculum Development	Uganda 2013		\$35,112			
Curriculum Development and on- site supervision			\$89,268			
Task Shifting demo project	Angola 2012	\$242,393		\$7,574		
Task shifting scaled up	Angola 2013			\$3,214		
Task shifting in provision of c-sect Training and deployment costs of p Clinical officers Specialists (Ob-gyn) Cost per provider-led surgical team Obstetricians GPs Clinical officers	t ions (Burkina I providers of c-s	Faso 2006) ection (pre \$654 \$3,638	-service ar \$20,950 \$8,467 \$7,870	nd in-servia	e training)	
Task shifting for ART follow up (U	lganda 2007)					
Physician intensive						\$32
Nurse Intensive						\$27
Pharmacy worker intensive						\$11
Training costs to perform obstetr	ic surgery, inclu	uding first-	level train	ing (Moza	mbique 2006	5)
Training course for medical officers				\$17,180	38.9	
Medical school for physicians				\$59,744	144.1	



A review of costs from the literature-2

	Country	Costs			
Intervention		Total	Cost per	Cost	
		annual	beneficiary	per	
		cost	reached	person	
Multi-prong approaches					
Mentoring, community					
mobilization					
ARISE project to					
strengthen PMTCT	Zimbabwe				
services		\$1,107,452	\$53		
СНѠ					
	Sub-Saharan				
Cost of scaling up	Africa	40	4-	40	
		\$3,750	\$7	\$3	
Quality Improvement					
demonstration project	Philippines				
(QIDS)					
Expanded health					
insurance coverage		\$80,000			
Pay for performance		\$13,000			



325 Ninth Avenue Box 359931 Seattle, WA 98104-2499 Tel: 206.543.0670 Fax: 206.744.3694 www.dcp-3.org

> Series Editors: Dean Jamison Hellen Gelband Prabhat Jha Ramanan Laxminarayan Rachel Nugent

EXAMPLES FROM THE FIELD



World Health Partners Bihar,India

• Example of public private provision of care

- Enterprise model based on telemedicine SkyCare
- Curative care (can be developed to deliver prevention services too)
- $\circ~$ WHP connects to call centers
- Entirely commercial
- Practitioners charge patients
- Practitioners pay a franchise fee to WHP to cover training an branding (US\$ 1000 set up)
- Can recover investment because of increase in patient load by 40-60%.
- Scalable- In 2011, scheme covered 3.6 million; Goal it reach 70m by 2015
- But what does it cost to establish? No information on investment costs or recurrent costs; WHP funded by grants



Training: Integrated Infectious Disease Capacity-Building Evaluation (IDCAP)

Activities and inputs	Curriculum development and on-site support (US\$)	Curriculum development only (US\$)	Cost share (%)	
	(IMID & OSS)	IMID	(IMID & OSS)	IMID
Curriculum development	16,994	12,610	19%	36%
Transport and per diem for trainees for new curriculum	22,047	22,047	25%	63%
Transport and per diem mobile teams for on-site support	49,230		55%	
Total per site	88,271	34,657	99%	99%
MOH Salaries	997	456	1%	1%
Total Cost per site	89,268	35,113	100%	100%

Source: Marcia Weaver, ITECH









Costs of Training Nurses for Taskshifting in Angola

- HIV Clinical Mentoring Training Program for nurses
- Huambo Province of Angola May Sept. 2012.
- Components:
 - Training of mentors
 physicians
 14 local
 - Intensive didactic & practical lessons 32 nurses
 - Follow up phase- clinical mentoring
 Months

economic evaluation for health

Disease Control

Priorities

Costs of training nurses for Task Shifting Angola (Total cost US \$ 2012)

Categories	Financial	Economic	Total	% of total
Training Development				
Technical Working Group	\$900	\$703	\$1,603	0.7%
Operational	\$510	\$1,500	\$2,010	0.8%
Management	\$4,366		\$4,366	1.8%
Allocation of Misc. Costs	\$272		\$272	0.1%
SubTotal	\$6,048	\$2,203	\$8,251	3.4%
Implementation				
Training of Mentors	\$1,201	\$7,074	\$8,275	3.4%
Nurse Training: Intensive phase	\$13,828	\$32,869	\$46,697	19.3%
Nurse Training: Follow-up phase	\$11,200	\$11,854	\$23,054	9.5%
Management	\$21,428		\$21,428	8.8%
Allocation of Misc. Costs	\$3,392		\$3,392	1.4%
SubTotal	\$51,049	\$51,797	\$102,846	42.4%
Technical Assistance (TA)				
Trips	\$30,021	\$3,850	\$33,871	14.0%
Training Development	\$40,034		\$40,034	16.5%
Training Implementation	\$36,591		\$36,591	15.1%
Management	\$16,464		\$16,464	6.8%
Allocation of Misc. Costs	\$4,336		\$4,336	1.8%
SubTotal	\$127,446	\$3,850	\$131,296	54.2%
SubTotal all Categories	\$184,543	\$57,850	\$242,393	100.0%

Source: Fernanda M. Freistadt. 'Cost-Effectiveness Analysis of Training Nurses for Task-shifting in Angola' Unpublished MPH thesis ,University of Washington, 2013.



Mentoring

- Mentoring focuses on more training at district and HC levels
- Less reliance on didactic training
- Focus on practice-based learning
- Should reduce cost
- Decrease strain on HCs related to prolonged nurse absences while they attended longer training sessions in the capital city (productivity gain all around)







Pay for performance Rwanda

- P4P aimed at higher quality care in Rwanda on child health outcomes.
- Provider costs:
 - High marginal cost and low payoff for providers
 - Payment for prenatal care \$0.09 for women who initiate care and an additional \$0.37 for women completing 4 visits.
 - Well child care unit payment \$0.18 per visit
 - Treatment of malnourished child \$2.03
 - Institutional delivery \$4.59 payment rate
- No estimates of cost of establishing and running pay for performance



QIDS study in the Philippines

 Policy objective to increase coverage (Intervention Access)

	Intervention Access	Intervention Bonus		
	Zero copay; increased enrollment	Pay for Performance		
Cost per district	\$80, 000	\$13,000		

OBSERVATIONS, GAPS AND ISSUES FOR FUTURE RESEARCH



325 Ninth Avenue Box 359931 Seattle, WA 98104-2499 Tel: 206.543.0670 Fax: 206.744.3694 www.dcp-3.org

> Series Editors: Dean Jamison Hellen Gelband Prabhat Jha Ramanan Laxminarayan Rachel Nugent



- Disease specific or direct intervention to improve quality? Some quality improvement cheaper than others (i.e. immunization)
- Multiple paths to achieving the same gains.
- Need to measure cost per intermediate output, finding a common metric
 - Per nurse? Per facility? Per beneficiary reached?
- Beware of focusing on the cost of the incentive only.
- Conduct scenario analysis as project costs will be different from national level scaled up program
- Critical to improve methods for linking quality improvements to improved performance indicators and health outcomes.



- Lack of consistent methods and reporting for capturing costs of policies and interventions to increase access, uptake and quality
- Need to systematically understand cost drivers of different policies and interventions—who bears the costs, at what level of the system?
- Given importance of full economic evaluation (i.e. cost-effectiveness analysis)...
 - How to quantify the impact of quality of service on outcomes—some cases easier than others



Issues for future research

- Costs of interventions that focus explicitly on quality interventions as opposed to interventions that only aim to affect access.
- What are the returns from increasing access in the developing country context where focus is on improving access but without a real handle on quality (i.e., what are the returns when you increase access yet quality is bad?)
- Consider costs of measuring quality given electronic records. Can this reduce the cost of systematically measuring quality?
- What are the costs of diagnostic error in low-middle income countries ?

DCP3 Disease Control Priorities

MC

Thank you

Technical updates of the guidelines on the Integrated Management of Childhood Illness (IMCI)

> Evidence and recommendations for further adaptations





