

IAEN 7th AIDS and Economics Pre-Conference
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“A Quality Review Process for HIV Prevention Costing Studies in Developing Countries”

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Introduction

- **33 million living with HIV, primarily in sub-Saharan Africa. However, incidence in many sub-Saharan African countries is stabilizing or decreasing, while it is increasing in 5 countries of Eastern Europe and Central Asia.**
- **Need for centralized costing data source.**
- **Variability in units costs, difficulty in interpreting why the costs would differ, and lack of quality evaluation.**
- **Basics missing from many studies: year, currency, location, intervention description.**
- **Past comparability problems: poor description of costing methodology, geographic scope, coverage of costing data, and prevalence of the epidemic.**
- **Need for ability to sort by region, country, type of intervention, delivery channel.**



Methodology: Unit Cost Database

Study search: Unit costs for the database are drawn from published literature available through PubMed, POPLINE, HIV InSite, and Google.

Study selection:

- Keywords ("HIV", "Cost"),
- A publication date of 1990-2010*, and
- A developing country focus.
- Regional-level estimates from the 2009/10 UNAIDS Global Resource Needs Estimates (GRNE) are also included.
- Grey literature from Futures Institute, Futures Group, and USAID that has been used for other published costing studies by L. Bollinger was included.

Exclusion criteria:

- Upper-income countries,
- Studies that used modeled unit cost estimates that were not based on *actual intervention program costs*,
- Studies that were repetitive of the same study population/program already included in the database, and
- Studies that did not present any basis for the unit cost given in the study were excluded.

* An update of the study search and selection (to 2012) is now ongoing

Methodology: Quality Review Process


Methodology from other quality review tools built upon:

- *The cost of treatment and care for people living with HIV infection: implications of published studies, 1999–2008, Eduard J. Beck, et al.*
- BMJ quality assessment checklist for the costing and reporting of economic evaluations (referenced in: *The cost-effectiveness of preventing mother-to-child transmission of HIV in low-and middle-income countries: systematic review by Mira Johri*).
- Peer review of the database to add quality criteria.


Results: Unit cost database

- Home
- Areas of Practice
- Projects
- Resources ▶
- About ▶
- Contact Us

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Interactive Web Applications

Welcome


Futures Institute specializes in the design and implementation of public health and social programs for developing countries. In particular, we focus on developing and applying models for long-range planning to assist with setting goals, strategies, and objectives.

Areas of Practice



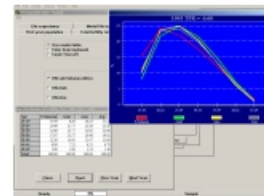
Wide-ranging practice areas for policy and planning purposes, including reproductive health, HIV/AIDS and other infectious diseases, and child survival.
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<http://policytools.futuresinstitute.org>

<http://032c73d.netsolhost.com/Restart.aspx>




Overview Unit Cost Database More Information Resources

Unit Cost Database

A critical gap in the arsenal needed for HIV/AIDS prevention planning is a centralized source of intervention costing data that is easily accessible to policy analysts, country officials and implementing organizations. This Unit Cost Database for HIV Prevention Interventions is intended to support the costing of national strategies, assist in Global Fund applications, identify opportunities for sustainability, and be used as an input to economic evaluations.



The unit cost database is organized around five principal characteristics:

Intervention	Population	Country/Region	Sector	Unit Cost
				

- Unit costs are in 2010 USD*
- Where numerous different unit costs are given in an article, the unit cost closest to the "per-person" level was chosen.
- If a study did not have a unit cost, but did present both a total program cost and the number of persons served, the total program cost was divided by the number of persons served to obtain a unit cost.
- If unclear, the unit cost was listed in the database as a financial unit cost.
- The economic and financial unit costs are broken down into four categories: "Personnel unit cost", "Recurrent goods unit cost", "Other recurrent items (overhead) unit cost", and "Capital goods unit cost".

* Unit costs in the original year of data gathering, and in local currency (if available) are also given in the database.

Unit Cost Database

[User Information](#)
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Key Characteristic Selection:

Intervention Category Primary Population Region Country Sector Avbl. Cost Breakdown

Key Characteristic Results:

Intervention Category	Primary Population	Region	Country	Sector	Unit of Measurement	Economic Unit Cost (2010 US\$)	Financial Unit Cost (2010 US\$)	Quality Score/Review Link	More Info
Community mobilization	Youth	SSA	Uganda	NGO	Cost per person reached	\$0.97		38.5	
Condom provision	Female sex workers	SSA	South Africa	Public	Cost per female condom		\$0.84	24	
Condom provision	Female sex workers	SSA	South Africa	Public	Cost per male condom		\$0.04	24	
Condom provision	General	ASIA	GRNE		Cost per male condom sold through social marketing		\$0.14		
Condom provision	General	ASIA	GRNE	Public	Cost per male condom		\$0.10		
Condom provision	General	ASIA	India	Public	Cost per person served	\$1.51		19	
Condom provision	General	LAC	Brazil		Cost per female condom		\$0.80	17.5	
Condom provision	General	LAC	GRNE		Cost per male condom sold through social marketing		\$0.95		
Condom provision	General	LAC	GRNE	Public	Cost per male condom		\$0.39		
Condom provision	General	SSA	Ang. Afr- GRNE		Cost per male condom sold through social marketing		\$0.83		
Condom provision	General	SSA	Ang. Afr- GRNE	Public	Cost per male condom		\$0.23		
Condom provision	General	SSA	Fr. Afr- GRNE		Cost per male condom sold through social marketing		\$0.18		
Condom provision	General	SSA	Fr. Afr- GRNE	Public	Cost per male condom		\$0.16		
Condom provision	General	SSA	South Africa		Cost per female condom		\$1.09	17.5	
Condom provision	General	SSA	Uganda	NGO	Cost per male condom	\$0.12		56.5	
Condom provision	Youth	SSA	Tanzania	Public, NGO	Cost per male condom	\$1.88	\$1.82	56.5	
Drug substitution	IDU	ASIA	GRNE		cost per person reached		\$551.99		



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More information available when clicking on

Intervention detail:








- Description of the intervention
- Region
- Year of data gathering
- Service delivery location
- Geographic scope of study
- Population served
- Study abstract results
- Limitations

Emerging Topics:

- Incremental cost
- User Fee
- Items included in user fee
- Efficiency of scale
- Cost type
- Cost duration

Publication Information:

- Author
- Title
- Publication information
- Study link
- Correspondence address

Intervention Category 	Primary Population 	Region 	Country 	Sector 	Unit of Measurement	Economic Unit Cost (2010 US\$)	Financial Unit Cost (2010 US\$)	Quality Score/Review Link	More Info 
Community mobilization	Youth	SSA	Uqanda	NGO	Cost per person reached	\$0.97		38.5	

Intervention Detail

Further Unit Cost Detail

Emerging Topics

Publication Info.

The authors calculated economic costs by estimating the annualised cost of capital items. They used a 5% discount rate in annualising all capital costs. They used 5% because it is the most commonly used rate, although a 3% rate has been used in some studies and is sometimes recommended. Given the size of capital costs, the use of a 3% discount rate would not have made a significant change on the overall result. In the analysis, the cost of IEC materials was considered as recurrent expenditure because it was difficult to disaggregate the total IEC costs in a manner that would allow for annualisation of some of the components of the IEC costs, such as the cost of designing the IEC materials. Costs include expatriate consultants.

Economic cost reported currency

US dollars

Financial unit cost reported currency

Author currency conversion

At all the study sites, cost data were collected for the year 2008. Costs are converted to US Dollars using an average annual exchange rate of 1,696.45 to one Dollar

Items included

Cost breakdown by percentage

IEC costs take up the most significant proportion (47%) of total costs for CM, and human resources costs make up the second largest proportion (at 10%).

Results: Quality review instrument

The structure of the quality review instrument follows closely upon that of the database.

Although an article may include detailed costing data, other basic information might be missing as to *why* the given unit cost is relatively high or low.

Studies will score higher in quality if they clearly describe: the year that the cost data were gathered, currency, service delivery sector and mode, duration of follow-up, data sources and number of sites, depreciation rates, existence of donated goods and services, user fees, geographic setting, HIV prevalence in the area, client utilization and economies of scale over time.

Total possible: **80 points**



Descriptive Information			
Author	Guinness L, Kumaranayake L, Rajamaran B, Sankaranarayanan G.		
Title	Does scale matter? The costs of HIV-prevention interventions for		
Citation	Bulletin of the World Health Organization. 2005; 83: 747-755		
Year of publication	2005		
Country of study	India		
Question	Response		Score
Type of Publication	No paper/verbal estimate		0
	Grey-literature		1
	Peer-reviewed	3	3
Nature of cost data	No source/model not based on program data		0
	Modeled estimate based on program data		1
	Program records	2	2
	Facility-based costing exercise		3
Is it clear who is implementing the program (public, private, NGO)?	No		0
	Yes	2	2
Are costs disaggregated by public, private, NGO?	No	0	0
	Yes		2
Is the service delivery mode clear (hospital, clinic, mobile-outreach, home)?	No	0	0
	Yes		1
Are costs disaggregated by service delivery mode?	No	0	0
	Yes		2
Is the type of cost reported clear (economic, financial)?	No		0
	Yes	1	1
Are costs disaggregated by type of cost (economic, financial)?	No	0	0
	Yes		2
Are the dates of program duration reported?	No		0
	Yes	1	1
Duration of follow-up	< 3 months		0
	3-11 months		1
	12-23 months	2	2
	>24 months		3

Is it clear what items are included in the unit cost*?	No		0
	Somewhat	1	1
	Yes		2
i.e. doctor, nurse, and anaesthetist are under personnel, condoms and latex gloves are under medical supplies, radio ads and bill are under promotion activities, utilities were not accounted for with overhead....			
Are cost breakdowns also given in percentage terms for:	Economic/financial costs		1
	Personnel/recurrent/overhead/capital costs		2
	All unit costs	3	3
Is the source of the data for each unit cost given*?	No		0
	Some costs/somewhat described	1	1
	Yes, fully		2
*Actual program costs, estimates from staff, government rates, market rates applied to estimated usage, bulk pricing, including of			

Does the author give information on economies of scale, or other efficiency factors?	No		0
	Yes	2	2
User fees reported	No	0	0
	Yes		1
	Yes, and fee includes accounting for time/travel		2
Number of sites surveyed	Unclear		0
	1 facility, or 1-9 programs		1
	2-5 facilities, or 10+ programs	2	2
	>5 facilities		3

Utilization data client sample	<30		0
	30-100		1
	>100	2	2
HIV prevalence given for:	Not given	0	0
	Country		1
	Study population		2
Study population characteristics reported	Age		0.5
	Sex		0.5
	Economic Status		0.5
	Religion		0.5
	Educational level	0.5	0.5
	Co-morbidities		0.5
	Other relevant information*		1
* This may include information that pertains to risk of infection, how HIV might be acquired, and the cost of reaching/treating that p such as: type of sex worker (brothel based, home,street), type of drug addict, type of employee (trucker, miner.)			
Geographical settings covered	Urban	1	1
	Peri-urban	1	1
	Rural	1	1
Terrain described*	No	0	0
	Yes		1
*For the purposes of costing, it is important to know how accessible the study population is. The author may cite the type of terra (mountainous, flat, jungle, seasonal flooding), the type of roads (paved, dirt, no accessible road), or walking time to the nearest he			
Intervention is well described*	No		0
	Somewhat	1	1
	Yes		3
*i.e. Number of peer contacts, number of IEC/counseling sessions attended, length (hours) of sessions, if circumcisions include c how many medical staff, of what level, how much time involved from each staff, number of condoms/needles provided per contact, type/quantity of drugs given, type of lab test, number of training sessions, type of mobile outreach (truck, container, tents, free lo			
Author contact information given	No		0
	Yes	2	2
Bonus	No		0
	Yes	2	2
Total possible			46.5 80

Results: Quality review summary



- 56 articles were reviewed
- The scores ranged from 7 to 59, with an average score of 38. There were 18% that scored above 50 and 16% that scored below 25.
- Geographic representation: 66% of studies from SSA, 26% from Asia, 5% from LAC, 3% from E. Europe, 0% from MENA. Within SSA, 29% of the studies are from South Africa alone, 95% are Anglophone countries. Within Asia, 67% of the studies are from India.
- Intervention representation: Primarily outreach (FSW), community mobilization, male circumcision, HCT/VCT, and mass media.
- Future research needs:
 - a) Francophone and Lusophone SSA, Central Asia, E. Europe, LAC (particularly Caribbean), and MENA;
 - b) IDU, women and girls (education, violence, post-rape), human rights, disabled, prisoners, treatment as prevention, economies of scale, user fees, and cost bundling.

Conclusion and Recommendations

Limitations

- Cost breakdown categories (economic/financial/personnel, overhead, etc.) are not uniform across studies
- Costs were put into categories using best judgement
- Converting to common currency when original currency and year not given
- Space constraints for including information
- Need to include more grey literature

The quality review scores will facilitate the interpretation of available unit cost data in the policy planning and resource needs estimation process for HIV prevention interventions in developing countries, and will contribute to guiding published scholarship in this area.

Thank-you



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