COSTING OF HIV/AIDS

PREVENTION INITIATIVES IN NIGERIA

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- Aids Education in Schools;
- in Lagos, Oyo and Plateau States.

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Introduction

In most parts of northern Nigeria, including Plateau State, the premium placed on having children often leads to child marriage and early childbearing. Girls as young as age ten are given to older men in marriage in order to cement friendship and economic ties between families. This usually leads to sexual abnormalities (FIH, 2001; Jegede *et al,* 2002) apart from health consequences (Jegede, 2002). This is because when girls are married to older men, they can be vulnerable to HIV infection because their husbands must have had a number of sexual partners. Social, political and religious barriers often hinder young wives from the world (Zabia and Kirgan, 1998), while their husbands frequently have other sexual partners (Ankrah, 1991).

Polygamy, the practice of a man having multiple wives, occurs in every part of Nigeria including Plateau State. Studies have shown that in Africa, when the husband seeks a new, often younger, wife he may have sexual contact with a number of women in the process and thus risk bringing into existence HIV home (Ainsworth and Okar, 1997; Ankrah, 1991, Cadwell *et al*, 1998, Osagbemi and Jegede, 2001). This may be due to society's attitude to barrenness. Nobody wants to marry a barren woman and as a result premarital sex is prevalent by sampling many women.

Premarital sex is a common phenomenon in Nigeria. According to a UN report (1989), more than 40 percent of Nigerian women give birth by age 18 while half of all women become mothers before the age of 20 years (NDHS, 1990). Ten 21 percent give birth before age 15, while 21 to 28 percent give birth between 15 and 17 years. Data have shown that 50 percent of adolescents

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10 to 19 years in Nigeria are sexually active, but only 10 percent of them use any form of contraception. On sexual experience, the WHO data show that 2/3 of adolescents aged 15 to 19 years have had sexual intercourse, they account for a disproportionate share of STIs, half of all HIV infections have occurred in adolescents under age 25 years, and 1/5 of people with AIDS are in their 20s (WHO 1998; Jegede 2000). Although data have shown that young men are more likely than women to report sexual experience (DHS, 1999, CDC 1999, Maticka-Tyndale 2001) this may be due to a culture of control of women's reproduction. Men feel more comfortable than women discussing sex matters openly. This may explain the finding.

Among some Nigerian ethnic groups, wife inheritance is practiced (a tradition in which a wife is given to her brother-in-law upon her husband's death). This is a common practice in Nigeria (Jegede 1999; Jegede *et al,* 2002). Studies have shown that either partner can be at risk of HIV infection if the other is infected since nobody can say exactly the cause of the husband's death (Jegede *et al*, 2002). In fact, younger widows are at particular risk because they are likely to seek and be sought by other sex partners (Oppong, 1995; Savage and Tchombe, 1994). The pattern is not different in Plateau State.

Some sexual practices such as dry sex – the insertion of foreign objects to dry the vaginal or to make it tighter – can cause cuts and HIV to pass through (Savage and Tchombe, 1994). Other practices, such as testing virginity of women, may place such a high premium on chastity before marriage that unmarried women practice anal sex instead, putting themselves at even greater risk of HIV/AIDS than if they had vaginal sex (Frost *et al*, 2001). Although virginity is highly valued in Nigeria, recent data show that in the northern part of Nigeria, including Plateau State, young girls are usually married out at first menstruation (Jegede *et al*, 2002). Anal sex for women to preserve virginity has not been reported, however, evidence abounds of dry sex in most part of the country especially among young girls. Hence, one cannot rule out

the possibility and as a result there is need for proper investigation of this problem.

Another sexual behavior commonly practiced in the north central region of Nigeria, including Plateau State, is spouse sharing. Spouse sharing, locally referred to as "*ale*" or "*alase*" among the Okun people of Kogi State is a common practice involving the acceptance of sexual relations between men and the wives of their male kin. (Osagbeni and Jegede, 2001). Although, this practice is frowned at, it is wide spread due to material gratification of gifts from men (Osagbemi *et al*, 1995). Various types of spouse sharing exist in the north central part of Nigeria. For instance, among the Tiv of Benue, which can also be found in Plateau and other neighboring states, is the habit of entertaining their visitors with their wives (Onurujegbuli, 1975; FHI, 2001).

Generally, young people are more vulnerable than adults due to their physical, psychological and social attributes. In fact, risky sexual behavior often is part of a larger pattern of adolescent behavior, including alcohol and drug use (Jegede *et al,* 2002), delinquency and challenging authority (Ensmiger, 1987). In Nigeria, social norms and expectations, along with peer opinion, powerfully affect young people's behavior, often in ways that increase their health risks (Jegede *et al,* 2002). This, of course, is a common trend in the northern part of Nigeria including Plateau State due to the Islamic injunction, which allows for multiple partners. Although Plateau state is a Christian dominated society, it receives a lot of influence from the neighboring states of Bauchi, Benue and the traditional association with the core Hausa /Fulani cultural heritage.

Purpose of Study

The major focus of this study is to undertake a cost analysis of the various AIDS-prevention interventions with relation to STIs. The central aim was to be able to determine the unit cost of each program that is, what it will cost to reach an individual person in respect of enlightenment program or what it will cost to treat an STI patient, or to peer-educate such an individual.

Selected NGOs

The three NGOs selected for the study are Faith Alive Clinic and Counselor Centre, International Centre for Gender and Social Research (INTERGENDER), and Mashiah Foundation (MF). They were purposively selected for the study, based on the following criteria:

- activeness of the organization;
- rapport with the Chief Executive;
- assurance of cooperation with researchers;
- availability of Records; and
- relevance of program activities.

In specific terms, Halt AIDS Group (HAG) is a foremost group focusing on utilizing the mass media to reach the general public and also in organizing workshops for specific professionals. Faith Alive Clinic is mainly concerned with treatment of infected persons, counseling and providing financial assistance for medical attention, such as for medical tests. Mashiah Foundation is concerned with counseling, treatment of infections, home visits and working with people living with AIDS. The central focus of Intergender is running workshops for enlightenment and economic empowerment projects for girls and women for prevention purposes.

Results and Discussion

Table 4.14 presents the summary of aggregated costs data. This Table does not distinguish between financial costs and economic costs. In Tables 4.15 and 4.16 the distinction in terms of financial and economic costs is accommodated. Conceptually, economic costs are believed to reflect the values that organization would be willing to pay for a good or a service, while financial costs reflect prices that are actually paid (Ward and Deren, 1991). Table 4.17 presents the outcomes of data analysis.

Table 4.14: Summary of Costs (Aggregation of Financial and Economic)

Cost Category	FA	ITGDER	MF	FA (percent)	ITGDER (percent)	MF (percent)
Capital						
Buildings	423600	17600.00	71500.00	1.6	0.1	2.4
Equipment	1134532.84	167262.52	782002.70	4.3	1.4	25.8
Vehicles	206574.30	105629.95	142860.97	0.8	0.9	4.7
Consultancies (non-recurrent)	0	10130984.00	0	0.0	81.9	0.0
Recurrent						
Personnel	24437000	946520	348400	92.3	7.7	11.5
Supplies	44200	456642	793819	0.2	3.7	26.2
Vehicle operating and maintenance	134400	84870	285350	0.5	0.7	9.4
Building operating and maintenance	27335	68211.85	99612.5	0.1	0.6	3.3
Consultancies (recurrent)	0	256200	182000	0.0	2.1	6.0
Other	75000	132100	328250	0.3	1.1	10.8
Total Capital Costs	**1764707.14**	**10421476.47**	**996363.67**	**6.7**	**84.3**	**32.8**
Total Recurrent Costs	**24717935.00**	**1944543.85**	**2037431.50**	**93.3**	**15.7**	**67.2**
TOTAL COSTS	**26482642.14**	**12366020.32**	**3033795.17**	**100.0**	**100.0**	**100.0**

Source: **Field Survey, 2002.**

Note: **FA= Faith Alive Clinic and Counsellor Centre**
ITGDER =International Centre for Gender and Social Research
MF= Mashiah Foundation

Table 4.15: Summary of Costs Disaggregated into Financial and Economic Cost Category

	FA	ITGDER	MF	FA	ITGDER	MF
	Fin. Costs	Fin. Costs	Fin. Costs	Eco. Costs	Eco. Costs	Eco. Costs
Capital						
Buildings	75800.00	17600.00	71500.00	347800.00	0.00	0.00
Equipment	40000.00	61534.00	287690.00	1094532.84	105728.52	494312.70
Vehicles	54000.00	31750.00	39000.00	152574.30	73879.95	103860.97
Consultancies (non-recurrent)	0.00	0.00	0.00	0.00	10130984.00	0.00
Recurrent						
Personnel	12000.00	942520.00	348400.00	24425000.00	40000.00	0.00
Supplies	44200.00	456642.00	793819.00	0.00	0.00	0.00
Vehicle operating and maintenance	128400.00	84870.00	283400.00	6000.00	0.00	1950.00
Building operating and maintenance	25560.00	68211.85	99612.50	1775.00	0.00	0.00
Consultancies (recurrent)	0.00	256200.00	136500.00	0.00	0.00	45500.00
Other	63000.00	132100.00	328250.00	12000.00	0.00	0.00
Total Capital Costs	**169800.00**	**110884.00**	**398190.00**	**1594907.14**	**10310592.47**	**598173.67**
Total Recurrent Costs	**273160.00**	**1940543.85**	**1989981.50**	**24444775.00**	**40000.00**	**47450.00**
TOTAL COSTS	**442960.00**	**2051427.85**	**2388171.50**	**26039682.14**	**10314592.47**	**645623.67**

Source: Field Survey, 2002.

Table 4.16: Distribution of Costs Disaggregated into Financial and Economic Cost Category Percentage

	FA Fin. Costs	ITGDER Fin. Costs	MF Fin. Costs	FA Eco. Costs	ITGDER Eco. Costs	MF Eco. Costs
Capital						
Buildings	0.3	0.1	2.4	1.3	0.0	0.0
Equipment	0.2	0.5	9.5	4.1	0.9	16.3
Vehicles	0.2	0.3	1.3	0.6	0.6	3.4
Consultancies (non-recurrent)	0.0	0.0	0.0	0.0	81.9	0.0
Recurrent						
Personnel	0.0	7.6	11.5	92.2	0.3	0.0
Supplies	0.2	3.7	26.2	0.0	0.0	0.0
Vehicle operating and maintenance	0.5	0.7	9.3	0.0	0.0	0.1
Building operating and maintenance	0.1	0.6	3.3	0.0	0.0	0.0
Consultancies (recurrent)	0.0	2.1	4.5	0.0	0.0	1.5
Other	0.2	1.1	10.8	0.0	0.0	0.0
Total Recurrent Costs	1.0	15.7	65.6	92.3	0.3	1.6
Total Capital Costs	0.6	0.9	13.1	6.0	83.4	19.7
TOTAL COSTS	1.7	16.6	78.7	98.3	83.4	21.3

Source: Field Survey 2002

Table 4.17: Output/Outcome Data

Organization	Process Indicators	Quantity	Intermediate Indicators	Quantity
Faith Alive	Treatment of STI Patients	2,190	Counseling	3,000
Intergender	Skill Development & Acquisition	121	Workshops	2000
Mashiah Foundation	Treatment of STI Patients	1,825	Awareness Campaign	50,000
			Home Based Care	3,000

Source: Field Survey, 2002

The base year and year for which data were collected are same; year 2000. Thus, no conversion to base year was done for any data. In the case of annualizing economic costs data that spread beyond one year, the prime-lending rate of 21.3 percent[1] was used. The annualization factor is obtained using the estimator expressed in the equation below:

$$\partial = \frac{1}{(1+r)} + \frac{1}{(1+r)^2} + \frac{1}{(1+r)^3} + \ldots\ldots\ldots\ldots + \frac{1}{(1+r)^t}$$

Where ∂ represents the annualization factor, r represents the prime lending rate, and t the number of years involved.

Table 4.14 presents costs data obtained from the organization under study at the level of aggregation of financial costs and economic costs. The Table contains the summary of all the costs incurred by the three organizations in the course of providing services for the purpose of STIs prevention in Plateau State. As can be seen from the Table, capital costs on building have values ranging between ₦423, 600 and ₦17, 600 per annum. Faith Alive has the highest value on buildings (₦423, 600), followed by MF (₦71, 500), and Intergender with the least amount of (₦17, 600). In the same Table 4.14, the proportions of capital costs on building in relation to total costs in each of the organizations are shown in the last three columns of the table. The proportions are 1.6, 0.1, and 2.4 percent for Faith Alive, Intergender, and MF respectively. At the level of total capital costs, Intergender has the highest amount of ₦10, 421,476.47 translating to 84.3 percent of its total costs. This amount is followed by that of Faith Alive's ₦1,764,707.14 representing 6.7 percent of its total costs. MF has 32.8 percent of its total costs as capital costs amounting to ₦996, 363.67. At Faith Alive, it is interesting to note that 92.3 percent of its total costs goes for recurrent personnel cost (₦24, 437,000). This phenomenon explains clearly why total recurrent costs account for 93.3 percent of the total costs (₦26, 482,642.14).

In Table 4.15, the various costs incurred are disaggregated into financial and economic costs. Table 4.16 shows the relative proportions of financial costs and economic cots across all the cost categories. The

[1] See Central Bank Annual Report and Statement of Accounts, 2000.

last row of Table 4.16 presents the proportions of financial and economic costs in total costs for all the organizations. For example, at Faith Alive, economic costs (₦26, 039,682.14) constitute 98.3 percent, while the remaining 1.7 percent is on financial costs (₦442, 96.00). It is worthy to note that, only MF has proportion of financial costs in total costs that outweigh that of economic costs.

While recurrent costs on personnel took the lead with 92.3 percent in Faith Alive, capital costs on consultancies that are non-recurrent accounted for the bulk of Intergender's cost of operation. The proportion stood at 81.9 percent. In MF, recurrent costs on supplies led with 26.2 percent of total costs slightly above capital equipment cost with 25.8 percent. On the whole, Faith Alive has the highest total costs of about ₦26.5 million, followed by Intergender (₦12.4 million), and MF with the least total costs of ₦3.03 million.

One of the ultimate end-uses of knowledge of the cost structure of an organization as argued previously is to establish the cost per unit of output with a view to appreciating the cost effectiveness of an organization in relation to others engaged in the same line of production. In Table 4.17, outcomes data of the three organizations under study are presented. At the level of process indicators, two of the organizations reported their outcomes in form of the number of STIs patients treated. The third organization reported the number of individuals that received skill development and acquisition. Faith Alive has the highest level of outcomes of 2190 STIs patients. MF's 1825 patients follow this figure. Intergender gave skill development and acquisition to 121 individuals.

As seen in Table 4.17, all the organizations have intermediate outcomes in form of counseling, workshops, awareness campaigns and home based care. However, to prevent using outcome data that merely reflect intermediate changes, which are not easily defined and established, process outcomes that indicate direct outputs of the organizations are used.

Average cost otherwise known as unit cost is calculated by diving total costs by total output produced. In this study, this means dividing the total costs of each of the organization studied by their corresponding outcome data in terms of the process indicators of organizational performance. This operation produces Tables 4.18 and 4.19 below.

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showing unit costs of the three organizations at different levels of cost definitions.

As can be seen in Table 4.18, the unit cost of treating an STI patient in Faith Alive is ₦12, 092.53. At MF, the unit cost is ₦1662.35. These two organizations have the same process outcome (Number of STI patients treated). It is therefore interesting to note the wide disparity between the unit costs of the two organizations.

Judging from the cost structure of the two organizations, it is plausible to argue that the unit cost of treating an STI patient at Faith Alive could be this high for three important reasons. One, the organization has the highest total cost of ₦26, 482,642.14 as against that of MF ₦3, 033,795.17. Two, the economic costs as a proportion of total cost at Faith Alive is 98.3 percent as against MF's 21.3 percent (See Table 4.16). Three, Faith Alive has 93.3 percent of its total costs as recurrent costs as against MF's 67.2 percent (See Table 4.14). The implication of overwhelming influence of recurrent costs at Faith Alive is that unit cost may not actually fall as capital costs as a proportion of total cost is as low as 6.7 percent. On the other hand, the relative weight of capital costs in total cost at Mashiah Foundation might possibly lubricate the treatment of STI patients in the organization.

Table 4.18 : Organizational Unit Costs

Organization	Total Costs	Output/Outcome	Unit Cost
Faith Alive	26,482,642.14	2,190	12,092.53
Intergender	12,366,020.32	121	10,2198.52
Mashiah Foundation	3,033,795.17	1,825	1,662.35

Source: Field Survey, 2002

Table 4.19: Organizational Unit Costs Disaggregated into Total Financial, Economic, Capital and Recurrent Costs

	Faith Alive	Intergender	Mashiah Foundation
Recurrent Cost per Unit	11286.73	16070.61	1116.40
Capital Cost per Unit	805.80	86127.90	545.95
Financial Cost per Unit	202.26	16953.95	1308.59
Economic Cost per Unit	11890.27	85244.57	353.77

Source: Field Survey, 2002

Likely explanations on why the observed gap between unit costs of STIs treatment at Faith Alive and MF may not be exhaustive, except the cost structure for each of the inputs used is closely examined and analyzed. For example, as can be seen in Table 4.17, the gap appears to be smaller at the level of capital cost per unit (₦805.80 at Faith Alive; ₦545.95 at MF). This again informs that, the wide disparity in the unit costs of Faith Alive and MF is more of the cost profile of these organizations. Hence, the conclusion on the cost effectiveness to the advantage of MF might be tentative.

At Intergender where the process outcome is skill development and acquisition, 121 individuals enjoyed these services in the period under study (2000), and the unit cost is ₦102, 198.52. This unit cost is in no way comparable to the unit costs of the other organizations. One direct explanation for this huge unit cost at Intergender is the fact that the service that is rendered goes beyond treatment of an infection to outright human capital development. It should therefore be expected that the unit cost should be higher.

Again, Table 4.17 reveals that capital cost per unit at Intergender is the highest (₦86, 127.90), followed by economic cost per unit (₦85, 244.57). The recurrent cost per unit is the least (₦16, 070.61) at Intergender, though still higher than the recurrent unit costs of other organizations, showing again that skill development and acquisition is not a one-year period event. It is however not feasible to compare unit cost at Intergender with that of others realizing the obvious difference in their outcomes.