

# High Rate of HIV- Positives in a Surgery Focused Medical Outreach in Jos Nigeria: Lessons from a Provider Initiated HIV Counseling and Testing

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**Abstract:** Background: Despite the multisectoral response to HIV epidemic and the promotion of combination prevention with HIV Counseling and Testing (HCT) as an entry into Treatment, Care and Support, coverage has remained low and certain HIV positive persons continue to witness stigmatization and discrimination. Though strategies to scale up HCT services have largely promoted provider initiated mobile HCT including home testing, we investigated the outcome of a provider initiated faith based organization, Faith Alive Foundation and Hospital located in Jos and its facility based HCT among pre-surgical patients in Jos Plateau state, North Central Nigeria. Methods: We conducted a cross sectional survey among pre-surgical patients at Faith Alive Foundation and Hospital in Jos Plateau state from 16-20th December 2013. Participants were selected by simple random as they presented at the hospital after vital signs and clinical diagnosis. HIV Counseling and Testing was provided according to the National guidelines and standards with the “opt out” algorithm. Data were captured and analyzed on Epi Info 6.04. Cross tabulations were used to generate descriptive statistics including frequency distribution, percentages and Fisher’s exact odds ratios at 95% confidence limits with 5% probability level of significance. Results: More than half (56%) of participants were males, 44% were females with a median age of 39 years. HIV seropositive rate was at least two fold higher in females than in male participants and overall HIV positive estimate was 12.2% (95%CI, 9.6 – 16.3). In addition, majority (84%) of surgical presentations identified during the outreach were hernia cases (33%), and the rest lipoma (25%), appendicitis (12%) and other forms of lumps (12%). Response rate during the provider initiated pre-surgical HCT “opt-out” design was 100%. Conclusion: Though strategies to scale up HCT services have largely promoted provider initiated mobile HCT, we found high rate of HIV in a provider initiated facility based HCT among pre-surgical patients in Jos, Plateau state of North Central Nigeria with 100% response rate in an “opt-out” design. Therefore, pre-surgical Patient Initiated HIV Testing and Counseling (PITC) is a viable strategy that may significantly contribute towards Universal Access to HIV/AIDS prevention services.

**Keywords:** HCT/HTC, PITC, Pre-surgical, Surgical Cases, Clinical Diagnosis, Treatment, Care, Support

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## 1. Introduction

Three decades into the HIV pandemic, sub-Saharan Africa has remained the worst hit with about 24.7 million people living with the virus. (1). Though the number of AIDS related

and new infections dropped by 39% and 33% respectively relative to 2005 and 2013. In most countries in the region, the epidemic is reversing the fragile socio economic gains,

dehumanizing and debilitating millions of lives, as well as challenging the sociocultural norms and constructs in villages and communities especially with gradual withdrawal of International donor agencies in Nigeria. The multi-country mode of transmission analysis showed that about 84% of new infections were attributable to heterosexual activities including multiple sexual partners and low risk stable couples. About 10 – 15% new infections were due to injection drug use and men who have sex with men in developed countries, while unsafe medical injections and contaminated blood transfusions accounted for about 1% and this still exists in developing countries(2).

Though HIV prevalence in Nigeria is on the decline with an estimated HIV prevalence of 3.4%(3), Nigeria has the second largest HIV burden in the world, a generalized HIV epidemic driven by low risk perception, multiple partnerships, trans-generational and transactional sex, unabated stigmatization and discrimination, poor management and access to Tuberculosis (TB)/Sexually Transmitted Infection (STI) services, as well as poverty and gender based vulnerabilities.

In addition, two series of integrated bio-behavioral sentinel surveys (IBSS) have shown that female sex workers (FSW), men who have sex with men (MSM) and people who inject drugs (PWID) are bridging populations with prevalence as high as 27.4%,17.2% and 4.2% respectively (4,5). About four million people live with HIV and AIDS in Nigeria. HIV prevalence estimates are higher among women (3.5%) than men (3.3%), slightly higher (6) in semi-urban areas (3.6%) compared with the urban (3.2%). Four of the top ten most affected states in the Country are in the North Central region(7) including, Benue state (12.5%), Federal Capital Territory (8.6%), Plateau state (7.7%) and Nassarawa (7.6%).

Despite the multisectoral response to HIV and the promotion of combination prevention with HIV Counseling and Testing as an entry into Treatment, Care and Support, coverage has remained low especially in rural areas and among pregnant women, with Nigeria having least HIV indicators in Africa. According to the National Reproductive and Health Survey (2012) only 23.5% of males and 29.2% of females reported ever being tested to HIV. Some of the challenges faced by the HCT programme in Nigeria include availability of HIV rapid test kits for screening, confirmation and as tie breaker, weak supply chain and logistics management and the wrong perception that HCT is only useful for the diagnosis and management of HIV positive clients. Worse still, HIV-positives are stigmatized and discriminated when it comes to surgical interventions. Though strategies to scale up HCT services have largely promoted provider initiated mobile HCT, we investigated the outcome of a provider initiated facility based HCT among pre-surgical patients at Faith Alive Foundation (FAF) and Hospital in Plateau state, North Central Nigeria. FAF was established in 1996 to meet the holistic health and Social Services need of the less privileged including Persons Living Positively at no cost to them.

## 2. Methods and Materials

### 2.1. Study Design

We conducted a cross sectional survey among pre-surgical patients at Faith Alive Foundation and Hospital in Jos Plateau state from 16-20th December 2013. Ethical approval was obtained from the Ethics Committee of FAF and Jos North Local Government Health unit where FAF is located in Plateau State, North Central Nigeria. Participants were selected by simple random as they presented at the hospital after vital signs and clinical diagnosis. HIV Counseling and Testing was provided according to the National guidelines and standards with the “opt out” algorithm. Pretest counseling was administered for about 20 – 30 minutes in audio-visual privacy followed by the documentation of the consent form. Participants were explained the nature and the scope of the rapid testing, as well as the algorithm used (Determine® was used for screening and UNIGOLD® as the confirmatory test, while Statpak® was the tie breaker). Rapid testing lasted about 15 – 25 minutes in the presence of the participants. All participants consented to HCT. Results were disclosed on the spot after Post test counseling. Further confirmation was done by western blot method.

The sample size for this study was anticipated to be 55 surgical participants. We had envisaged that with a steady flow of 11 participants per day, given a state prevalence of 7.7% at 5% precision, 55 participants will give us 95% percent confidence level. We therefore recruited 57 participants with various surgical presentations in a five day free surgical outreach at Faith Alive Foundation and Hospital, Jos.

### 2.2. Data Capture and Analysis

Data were captured and analyzed on Epi Info 6.04. Cross tabulations were used to generate descriptive statistics including frequency distribution, percentages and Fisher’s exact odds ratios at 95% confidence limits with 5% probability level of significance.

*Table 1. Summary profile of participants.*

Study parameters	Men-n	Men-%	Women(W)-n	W-%	Total
Median Age	39		39		NA
Gender	32	56	25	44	57
Number of surgical cases	32	56	25	44	57
HIV Positive Clients	2	29	5	71	7
HIV Negative Clients	30	60	20	40	50
*Opt-out cases	0	0	0	0	0

\*Number of patients who opted-out after pre-test counseling (0 = 100% response rate to HCT).

## 3. Results

More than half (56%) of participants were males, 44% were females with a median age was 39years (Table 1). HIV

seropositive rate was at least two fold higher in females than in male participants (Table 1) and overall HIV positive estimate was 12.2% ( 95%CI , 9.6 – 16.3).None of the patients opted out. In addition, majority (84%) of surgical presentations identified during the outreach were hernia cases (33%), others were lipoma (25%), appendicitis (12%) and other forms of lumps (12%).

*Table 2. Gender Distribution of Surgical Cases.*

Surgical Presentation	Male (n, %)	Female (n,%)	Total (n, %)
Appendicitis	3, 9	4, 16	7, 12
Hernia	19, 59	-	19, 33
Hydrocele	2, 7	-	2, 4
Lipoma	-	14, 56	14, 25
Other lumps	5, 16	2, 8	7, 12
Uterine Fibroid	-	2, 8	2, 4
Obstructed Labor	-	2, 8	2, 4
Splenic Tumor	1, 3	-	1, 2
Ruptured Ectopic + Ovarian Cyst	-	1, 4	1, 2
Goiter	1, 3	-	1, 2
Bilateral Undescended Testis	1, 3	-	1, 2
Total	32, 56	25, 44	57

## 4. Discussion

In most sub-Sahara African countries including Nigeria, provider initiated mobile HCT/HIV Testing and Counseling (HTC) has been the major strategy for scaling up HTC to underserved communities. However, poor health seeking behavior and low personal risk perception among most apparently healthy Nigerians remain the major barriers to achieving universal access to HTC in Nigeria. We found high rate of HIV infection (12.5%) among pre-surgical patients in a provider initiated facility based HTC outreach in Plateau state, North Central Nigeria.

This outcome was 58% higher than HIV prevalence in Plateau state (7.7%) and at least three times higher than the national prevalence (3.4%). It is not uncommon to find HIV rates higher in facility based studies than population based studies. A systematic review of nineteen studies showed prevalence rate range of 6% to 13% in different settings including antenatal clinics, STI clinics, Tuberculosis clinics, family planning clinics and postpartum child health clinics(8). Though our setting was a pre-surgical clinic, we observed similar findings to other facility based provider initiated HTC clinics. Some of these clients may have had HTC done previously but denied surgery due to their HIV status and representing for surgical intervention with the assumption they could avoid screening for HIV before surgery at a faith based organization even though voluntary testing.It should however be noted that infection with HIV is a two way traffic in a surgical environment.HIV-positive surgeons or health care providers can infect their patients or clients as no law prohibits them from performing surgeries or practicing their profession in any setting. Equally, HIV positive patients or clients can infect surgeons or health care providers as one of

the known occupational hazards. The key to prevention is knowing one's HIV status and adopting all the necessary behavioral changes and for the surgeon or health care provider, universal precautions pre and post-surgery including double glove use.HIV infection via pricks or perhaps cuts is less likely including with Post Exposure Prophylaxis (PEP) interventions with antiretrovirals or Highly Active Antiretrovirals and more likely with hepatitis infections.

Several studies indicate that facility based provider initiated HTC is a unique strategy to increase HIV prevention knowledge, impart HIV prevention life saving skills and offer all patients the opportunity to know their HIV status. In Malawi, HIV testing uptake rose after the introduction of opt-out testing, from 45% to 73%(9). HIV testing uptake among infants born to HIV-positive women also increased after adoption of the opt-out approach, from 19.4% to 34.5% and the percentage of pregnant women delivering in facilities increased from23.5% to 54.6%.In Kenya, after opt-out testing was instituted, uptake rose from 57% to 70%(10). A cohort study in Côte d'Ivoire reported increased rates of ever using condoms (HIV-positive: 23.2% to 48.8%; HIV-negative: 36.4% to 58.7%) and increased discussions with their regular partners about STIs (HIV-positive: 28.4% to 65%; HIV-negative 65.1% to 96.6%) after exposure to facility based provider initiated HTC. Finally, a 24 month time series design in India (11) showed a reduction in the proportion of men reporting visiting commercial sex workers after provider initiated testing and counseling (PITC), from 65% at baseline to 16%(12).In Nigeria, though data are not disaggregated at PITC levels, it is pertinent to note that as at December 2013, the number of women and men aged 15 and older who received HIV testing and counseling increased by 50% relative to 2012 and the number of HCT sites like ours (provider initiated) increased by 34% from 2,391 in 2012 to 7,075 in 2013(13).

As effective as PITC may appear, its pre-surgical variant has not been adequately documented in Nigeria and its potential in scaling up the impact of PITC in facility based interventions remains largely unknown. Our findings suggest that at least one in ten pre-surgical patients in Plateau State is likely to be infected with the HIV virus. This is a major burden for most hospitals in the state characterized by poor and inadequate infrastructure, pervasive stigma and discrimination against People Living With HIV/AIDS (PLWHA) and People Affected By HIV/AIDS (PABA), limited man power and heavy reliance on dwindling donor funding. In response,Nigeria has set ambitious country specific targets to secure significantly increased resources (human, material, financial and technical) for the national HIV/AIDS response from both domestic and international sources and monitor progress towards Universal Access to HIV/AIDS Interventions including HIV Counseling and Testing (13,14). A number of large scale interventions have been identified as critical to the success of progress towards the universal access goal of testing and treatment of all HIV-positive persons irrespective of CD4 test result. These interventions include gender mainstreaming, advocacy at all levels, capacity

building including training and skills development, increased access to material goods, technical assistance and sustainable funding in six thematic areas (promotion of behaviour change and prevention of new Infections, Treatment of HIV/AIDS and related health complications, and Support of PLWHA, PABA and Orphans and Vulnerable Children(OVC) policy, Advocacy, Human Rights and Legal Issues, Institutional Architecture, Systems, Coordination and Resourcing, Monitoring and Evaluation, Research and Knowledge Management).

In this study PITC was integrated and mainstreamed into pre-surgical counseling and none of the patients reached out through PITC opted-out during pre-test counseling, though the “opt-out” option was part of the protocol and guideline deployed in the study, indicating a 100% response rate and their need for surgery despite their HIV –positive status and inherent challenges socially, emotionally and medically. Therefore pre-surgical PITC is a viable strategy that may significantly contribute towards Universal Access to HIV/AIDS prevention services and similar intervention measures should be extended to all In-patient hospitalizations/clients. Worth considering also is the project Leonardo which represented a feasibility study to evaluate the impact of a disease and care management (D&CM) model and the introduction of “Care Manager” nurses, trained in specialized roles into Primary Health Care system. Leonardo was feasible and highly effective in increasing patient knowledge, self management skills, their rights and in this case to desired surgeries in spite of their HIV status without stigmatization and discrimination and readiness to make changes in health behaviors(15)

## 5. Conclusion and Recommendation

Though strategies to scale up HCT/HTC services have largely promoted provider initiated mobile HCT, we found high rate of HIV in a provider initiated facility based HCT among pre-surgical patients in Jos Plateau state, North Central Nigeria with 100% response rate in an “opt-out” design. Therefore, pre-surgical PITC is a viable strategy that may significantly contribute towards Universal Access to HIV/AIDS prevention services.

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