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NIGERIA HIV/AIDS SERVICE PROVISION ASSESSMENT 2008



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Mission

The Health Systems 20/20 cooperative agreement, funded by the U.S. Agency for International Development (USAID) for the period 2006-2011, helps USAID-supported countries address health system barriers to the use of life-saving priority health services. Health Systems 20/20 works to strengthen health systems through integrated approaches to improving financing, governance, and operations, and building sustainable capacity of local institutions.

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ACRONYMS

ABC	Abacavir
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy/Treatment
ARV	Antiretroviral
AZT	Zidovudine
CT	Counseling and Testing
D4T	Stavudine
Ddl	Didanosine
DHS	Demographic and Health Survey
DOTS	Directly Observed Treatment, Short Course
EFV	Efavirenz
FBO	Faith-based Organization
FCT	Federal Capital Territory
FMOH	Federal Ministry of Health
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
LGA	Local Governing Authority
M&E	Monitoring and Evaluation
NACA	National Action Committee on AIDS
NASCP	National AIDS/STD Control Program
NGO	Nongovernmental Organization
NSF	National Strategic Framework
NVP	Nevirapine
OI	Opportunistic Infection
PEP	Post-exposure Prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PLHA	Person/People Living with HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission
RH	Reproductive Health
SPA	Service Provision Assessment

STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
3TC	Lamivudine
TB	Tuberculosis
TFV	Tenofovir
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
YFS	Youth-friendly Services

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EXECUTIVE SUMMARY

HIV/AIDS continues to pose major challenges to the socioeconomic development of Nigeria. As of 2006, 2.9 million Nigerians from age 0-49 are living with HIV, and AIDS deaths have taken 220,000 lives. The government in collaboration with development partners has made tremendous progress in expanding services across the country, but much more work is needed to make sure that country has the capacity to expand and sustain services over time. Policymakers and program planners need empirical evidence on the availability of HIV/AIDS-related services in both public and private health facilities in order to effectively and efficiently increase access to care and treatment. Building on the preceding human resources for health (Chankova et al. 2006) and ART costing (Kombe et al. 2004) assessments, the Nigeria HIV/AIDS Service Provision Assessment provides evidence-based results on the infrastructure, type of services, and logistics required to support HIV/AIDS service delivery scale-up. The objectives of the assessment were to:

- Measure the extent to which basic and advanced HIV/AIDS services are available in public and private faith-based organization (FBO) facilities
- Examine facilities' ability to provide auxiliary services
- Assess the quality of care being provided by facilities through infection control, training, reporting, and protocols
- Review facility management and administration practices

A national sample of 200 public and 100 FBO facilities was selected for the survey. In January 2008, interviews following a structured questionnaire format were completed at 280 public and FBO facilities in all 36 states and the Federal Capital Territory (FCT). Data were collected on the availability of basic and advanced HIV/AIDS prevention, treatment, and care and support services, as well as laboratory and pharmacy support, staff training, and management and quality assurance practices.

For almost all the key indicators analyzed, there are substantial disparities in service provision according to the level of facility, managing authority, and location. Higher-level and federally managed facilities are the most likely to provide key services, while service provision at the primary level, in rural areas, and in local governing authority (LGA)-managed facilities is substantially lower. Service availability at FBO-managed facilities matches (or slightly exceeds) that at LGA-managed facilities, but is frequently weaker than service availability at state-managed and federally managed facilities.

The assessment examined HIV/AIDS services and HIV/AIDS-related services including counseling and testing (CT), prevention of mother-to-child transmission (PMTCT) services, antiretroviral therapy (ART), tuberculosis (TB) services, and post-exposure prophylaxis (PEP) services. The study found that 68 percent of facilities offer HIV CT. One-quarter of all facilities offer PMTCT services (25 percent), while less than one in 10 offer ART services (7 percent). Just over one-third of the facilities surveyed provide TB diagnosis and/or treatment (36 percent). Of significant concern is the limited availability of PEP for health workers (14 percent).

The availability of appropriate drugs and laboratory services is critical for the success of ART programs. Of the facilities with pharmacies, at least 17 percent of secondary-level and at least 55 percent of

tertiary-level facilities had all the essential first-line ARV drugs (lamivudine [3TC], nevirapine [NVP], zidovudine [AZT], efavirenz [EFV], and stavudine [D4T]) in stock on the day of the survey. Similarly, of all facilities with pharmacies, 13 percent had all the first-line TB drugs – ethambutol, isoniazid, pyrazinamide, and rifampin – in stock on the day of the interview. The assessment found that approximately two-fifths of health facilities have laboratories (41 percent), with almost all secondary and tertiary facilities having labs; however, few labs have the capacity to measure CD4 counts (7 percent) or viral load (0.2 percent), or conduct liver function tests (14 percent), and only 11 percent of laboratories have the necessary supplies and equipment to analyze sputum smears for diagnosis of TB.

Training on HIV CT, confidentiality practices, and prevention is available in 40 percent or more of all facilities. However, only 23 percent of facilities provide training on PEP. Less than 50 percent of all facilities have national protocols or guidelines for ART, PMTCT, and CT available. Between 15 percent and 36 percent of facilities charge user fees for PMTCT, ART, or CT services despite national policies that mandate free provision of these services.

The Nigeria HIV/AIDS SPA report identifies 10 conclusions based on the assessment findings. An important positive conclusion is that CT services are quite widely available across Nigeria; 68 percent of facilities sampled provided CT. However, this is not matched by secondary prevention and treatment services like PMTCT, ART, and TB services that support individuals who have tested positive for HIV. Only 25 percent, 7 percent, and 36 percent of all facilities provide PMTCT, ART, and TB services, respectively.

Second, there is a great deal of heterogeneity in service availability by level, management, and location of facilities. Primary-level facilities are consistently less likely to provide CT, PMTCT, ART, TB, or PEP services than secondary or tertiary facilities. This heterogeneity is also mirrored in differences by managing authority, since most primary care facilities are LGA-managed. Rural facilities also have lower service availability than urban facilities. In particular, rural facilities are 85 percent less likely to provide ART and 25 percent less likely to provide PMTCT than urban facilities – this is a concern because most of the Nigerian population lives in rural areas.

Third, HIV/AIDS-related service availability at FBO-managed facilities slightly exceeds that at LGA-managed facilities, but is usually weaker than service availability at state-managed and federally managed facilities. This suggests both opportunities and challenges with expanding the role of FBO-managed facilities in HIV/AIDS service delivery through public-private partnerships.

Fourth, PEP services are available on site or by referral at only 14 percent of all facilities, with especially low availability in primary-level, LGA-managed, and rural facilities. Staff training on PEP is provided in almost a quarter of facilities, but this training is not translated into PEP service availability.

Fifth, limited laboratory capacity is a critical concern in primary-level, LGA-managed, and rural facilities. Among facilities that provide laboratory services, only small proportions have the equipment and supplies to perform critical tests like CD4, viral load, and liver function tests. Close to three-fourths of FBO-managed facilities have laboratories, which suggests potential for public-private partnerships to expand laboratory services at lower levels of the health system.

Sixth, the availability of HIV drugs (in terms of stocks on the day of the survey) is very low, especially at primary care and LGA-managed facilities. About half of all tertiary care facilities had all the main first-line ARV drugs: AZT, EFV, 3TC, NVP, and D4T. However, fewer than a fifth of all tertiary facilities had all key second-line drugs in stock (tenofovir, abacavir, didanosine, and protease inhibitors) and no primary facilities had any second-line drugs.

Seventh, less than one-tenth of surveyed facilities with pharmacies had each of the key TB drugs in stock on the day of the interview. This is of great concern given increasing TB prevalence rates and HIV/TB co-infections. For diagnosis of TB, most facilities use sputum smears alone or sputum smears in combination with X-rays.

Eighth, counseling HIV-positive mothers on infant feeding and provision of breast milk substitutes is limited at primary care facilities. Also, at the primary level there is a substantial gap between provision of ARV prophylaxis to mothers (33 percent) and newborns (23 percent) indicating an important missed opportunity for prevention.

Ninth, quality assurance, monitoring and evaluation (M&E), and surveillance are areas that require attention. A very limited proportion of facilities implement routine quality assurance activities. This is a problem in all types of facilities except federally managed and tertiary care facilities. The limited availability of HIV/AIDS or TB protocols in facilities is potentially also indicative of the problem, as is the small proportion of facilities that provide training on monitoring and surveillance.

Tenth, user fees are charged at 57 percent of all facilities in Nigeria, though more than half of facilities that charge fees report providing exemptions to some groups. Despite a national policy that ART and PMTCT services should be provided free of charge, 15 percent of all facilities charge user fees for these services.

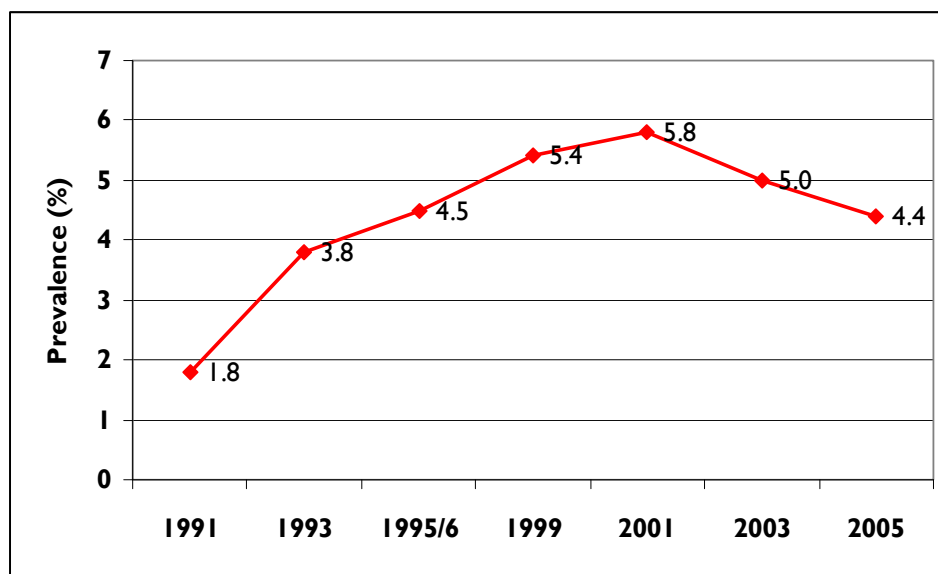
Key recommendations that emerge from this report include the following:

1. Expand the provision of ART, PMTCT, and TB services, especially in primary-level and LGA-managed facilities that are more accessible to rural populations.
2. Ensure that PEP services are available in all facilities to protect health workers from the risk of occupational exposure.
3. Ensure the consistent availability of HIV/AIDS and TB drugs at health facilities.
4. Institutionalize quality assurance programs and M&E at health facilities, especially at secondary- and primary-level facilities.
5. Explore public-private partnerships with FBOs to expand service availability to underserved populations.
6. Increase access to laboratory services, especially at the primary level.
7. Expand access to ARV prophylaxis for newborns and pregnant women, especially at the primary level and through outreach-based methods.

I. BACKGROUND

HIV/AIDS continues to pose major challenges to the socioeconomic development of Nigeria. With a population of more than 132 million, Nigeria is the most populous country in Africa. The first case of AIDS was formally diagnosed in Nigeria in 1986. Adult prevalence rates rose steadily from the first documentation of 1.8 percent in 1993 to a peak of 5.8 percent in 2001 (Federal Ministry of Health [FMOH] 2005; Figure 1.1). As of 2006, 2.9 million people ages 0-49 were living with HIV, and AIDS deaths had taken 220,000 lives.

FIGURE 1.1: TRENDS IN HIV PREVALENCE, NIGERIA 1991-2005



Source: FMOH (2005)

There is high political commitment to fight HIV/AIDS, as evidenced by the initiation of the Presidential Council on AIDS, the National AIDS/STD Control Programme (NASCP), and the National Agency for the Control of AIDS (NACA), a multi-sectoral agency that comprises members from many government ministries and civil society. At the state level, State Action Committees on AIDS have been established, while at the local level there are Local Action Committees on AIDS. A National Strategic Framework (NSF) and a National Health Sector Strategic Plan for HIV/AIDS 2005-2009 have been published.

The goals of the NSF are to reduce HIV/AIDS incidence and prevalence by at least 25 percent, and provide equitable prevention, care, treatment, and support while mitigating the impact of HIV/AIDS among women, children, and other vulnerable groups and the general population in Nigeria by 2009. NSF Objective 3 is of particular relevance here, as it addresses the issues of comprehensive care, treatment, and support for people living with HIV and AIDS (PLHA). In addition, the NSF calls for a more collaborative approach between the public and private health sectors to scale up antiretroviral therapy (ART) services. In reality, only limited public sector and faith-based organization (FBO) sites officially provide subsidized ART services, making accessibility and affordability a challenge to PLHA outside the geographic coverage of these sites. Full-priced private sector ART is available for those who

can afford to pay. The NSF recommends the upgrading of primary health care sites for antiretroviral drug (ARV) distribution and the integration of TB, HIV, and reproductive health services where acceptable to allow for increased uptake and access. Achieving these recommendations remains a challenge to FMOH/NASCP and NACA.

The majority of external funding for HIV/AIDS programs in Nigeria is coming from the United States President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Bank. Nigeria received Global Fund money in rounds 1 and 5 totaling approximately US\$75 million (theglobalfund.org). PEPFAR provided \$71 million in 2004, with funding increasing steadily each year to the total of nearly \$305 million in 2007 (pepfar.gov). PEPFAR reports show that those funds are currently providing 126,400 persons with ARVs, 244,600 persons with care and support, and 966,100 persons with CT.

Building on the preceding human resources for health (Chankova et al. 2006) and ART costing (Kombe et al. 2004) assessments, this HIV/AIDS Service Provision Assessment (SPA) provides evidence-based results on the infrastructure, staff capacities, and logistics available to support HIV/AIDS service delivery scale-up. Specific objectives of the HIV/AIDS SPA were to:

- Measure the extent to which basic and advanced HIV/AIDS services are available in public and FBO facilities
- Examine facilities' ability to provide auxiliary services
- Assess the quality of care being provided by facilities through infection control, training, reporting, and protocols
- Review facility management and administration practices

This report is structured according to the following sections. Section 1 describes the background leading to the Nigeria HIV/AIDS SPA. Section 2 describes the sample selection technique, data collection process, data analysis procedures, and limitations of the study. Section 3 begins with a broad overview of HIV/AIDS service availability followed by detailed sections that examine the provision of specific HIV/AIDS services; the facilities' ability to provide auxiliary services; whether facilities are ensuring good quality of care through infection control, training, reporting, and protocols; and various aspects of facility administration and management. Section 4 identifies 10 main conclusions based on the assessment findings. Finally, evidence-based recommendations complete the report.

2. METHODOLOGY

2.1 OVERVIEW

The Nigeria SPA was supported by PEPFAR and implemented by USAID's Health Systems 20/20 project in collaboration with the FMOH and NACA. Both organizations provided focal persons to assist with ensuring contextual accuracy and provided technical guidance on the design and implementation of the survey.

2.2 SAMPLE SELECTION

The target population for this survey was all public and FBO health facilities in Nigeria. The sampling frame was taken from the 2006 human resources for health assessment sample (Chankova et al. 2006); the full list for that assessment had originally been provided by FMOH. This was updated with a 2007 listing of FBO facilities provided by the Christian Health Association of Nigeria and cross-referenced with NACA's 2007 list of known HIV/AIDS service providers. There were 773 public facilities and 496 FBO facilities in the final sampling frame for this assessment. No sampling frame was available for private for-profit sector health facilities. It was decided not to include private commercial facilities in this survey since no clear documentation of their numbers and location exists.

The target sample size was 300 facilities, allocated between public (n=200) and FBO (n=100) facilities. This allocation slightly overrepresented the proportion of public facilities in the country. All teaching hospitals, military hospitals, specialist hospitals, and federal medical centers that were listed on the sampling frame (N=83) were included with certainty in the sample of public facilities, in view of the importance and volume of HIV/AIDS work at these hospitals. The remaining 690 public sector facilities in the sampling frame were sorted by region, state, and type of facility. An equal probability systematic sample of 117 public facilities was selected using a fractional sampling interval of $690/117 = 5.897$. This selection method ensured proportional representation of regions and types of facilities.

Next, the sampling frame of 496 FBO facilities was sorted by region and then state. An equal probability systematic sample of 100 facilities was selected with a sampling interval of $496/100 = 4.96$. Again, this method ensured proportional representation for regions and states in the sample. The target sample size was selected to provide estimates of important survey characteristics with a margin of error of plus or minus 6 percentage points at the 95 percent confidence level under simple random sampling.

2.3 DATA COLLECTION

In drafting the Nigeria SPA questionnaire, the Health Systems 20/20 team adapted previous SPA data collection instruments developed by ORC Macro,¹ as well as the Côte d'Ivoire SPA protocol developed

¹ Please see the Demographic and Health Surveys (DHS) web site for a full listing of previous SPA reports (http://www.measuredhs.com/pubs/search/search_results.cfm?Type=21&srchTp=type&newSrch=1). SPAs have been conducted by ORC Macro as part of the MEASURE DHS project in Bangladesh, Egypt, Ghana, Guyana, Kenya, Rwanda, Tanzania, and Zambia.

by Health Systems 20/20 (Kombe et al. 2007). The protocol was carefully tailored to the Nigerian context, thoroughly updated and reviewed by Health Systems 20/20 experts, and approved by representatives of FMOH/NASCP and NACA. It was pilot tested in collaboration with NACA, NASCP, and Africa Health Project in November 2007 at three sites in the capital: the National Hospital Abuja, the General Hospital Kubwa, and the Daughters of Abraham Catholic Hospital Kubwa.

Sixty interviewers (40 data collectors and 20 supervisors) implemented the national roll-out of the survey. Health Systems 20/20 staff conducted a three-day training for the data collectors in mid-January 2008. They provided an in-depth overview of the survey protocol, training on interviewing techniques, and practice opportunities. In addition, the 20 supervisors were trained in the use of geographic positioning system (GPS) and digital cameras. Data collection took place in all 36 states and the Federal Capital Territory (FCT) between January 20 and February 1, 2008.

Of the 300 facilities in the original sampling plan, interviews were conducted at 292 health facilities. Access was denied at three facilities, two facilities were found to be duplicates, two facilities did not exist, and one was no longer operational. Of the 292 facilities where interviews were initiated, 12 did not provide any responses to the main questionnaire; these facilities were dropped from the analysis. The final analytic sample size was 280 facilities, representing a response rate of 96 percent (280/292).²

In each health facility, an initial screening questionnaire was used to determine the general types of services provided and identify the relevant sections of the questionnaire. Thereafter, each section of the instrument was administered to the health worker most familiar with the type of service being discussed. Most questions were close-ended as this allowed more flexibility for analysis and comparisons between regions and facility types. Open-ended questions were used for data related to numbers of patients at a facility and the costs associated with various facility services.

The data entry tool was developed using CSPro software version 3.2 (U.S. Bureau of the Census n.d.). Health Systems 20/20 trained eight data entry clerks to use the database. Data entry was conducted over the course of eight days, after which the data were cleaned and checked. Health Systems 20/20 staff on site oversaw the data entry and cleaning process to ensure a high standard of quality.

2.4 ANALYSIS

Data analysis was completed using SPSS version 13. Simple tabulations were used to explore the data and identify any variables that needed further cleaning. Two-way cross-tabulations were produced for each analytic outcome variable, using the facility level, managing authority, region, and urban/rural location as key predictor variables.

The facility-level variable reflects whether the facility was at the tertiary level (teaching hospitals and federal medical centers), secondary level (general, specialist, and mission hospitals), primary level (primary health center, comprehensive health center, maternity, health post), or other (a small number of FBO facilities that did not self-identify as being at the primary, secondary, or tertiary level). The managing authority variable captures the sector in which the facility operates: public (federal, state, local governing authority [LGA], or military), or private non-commercial (FBO).

² Facilities that are identified as “no longer operational,” doesn’t exist and duplicates are not considered nonrespondents.

The region variable was based upon the groupings of states and the FCT used in the 2003 Nigeria DHS (National Population Commission [Nigeria] and ORC Macro 2004). Table 2.1 displays the states included in each region.

TABLE 2.1: REGIONS OF NIGERIA

North Central	North East	North West	South East	South South	South West
Plateau	Taraba	Jigawa	Ebonyi	Bayelsa	Lagos
Benue	Adamawa	Kano	Anambra	Cross River	Oyo
Nasarawa	Gombe	Kebbi	Enugu	Akwa Ibom	Osun
Kogi	Borno	Kaduna	Abia	Rivers	Ogun
Kwara	Bauchi	Katsina	Imo	Delta	Ekiti
Niger	Yobe	Zamfara		Edo	Ondo
FCT		Sokoto			

For producing population-based estimates of means and percentages, each responding facility was assigned a sampling weight. This weight combined a base weight (the inverse of the probability of selection), an adjustment for over- and under-representation of various categories of facilities in that list as compared with the full original FMOH sampling frame, and a minor adjustment for nonresponse, and it can be thought of as the number of facilities in the population represented by the facilities in our sample. The public sector facilities selected with certainty received a weight of 1.00, the selected non-certainty public health facilities received a weight of 6.034, and the FBO facilities received a weight of 4.96. Table 2.2 contrasts unweighted and sample-weighted distributions in this analysis.

TABLE 2.2: DISTRIBUTION OF KEY BACKGROUND VARIABLES, COMPARING WEIGHTED AND UNWEIGHTED RESULTS

Variable	Unweighted N	Unweighted column %	Weighted column %
Level of facility			
Tertiary	48	17.4	0.7
Secondary	129	46.4	12
Primary	103	37	87
Managing authority			
Federal	41	14.3	0.5
State	95	34.4	21
LGA	55	20.4	73
Military	5	1.8	0.5
Faith-based private	83	26.9	5
Region			
North Central	77	27.5	23
North East	30	10.7	12
North West	44	15.7	24
South East	39	13.9	15
South South	47	16.8	13
South West	43	15.4	12
Location			
Urban	156	55.7	77
Rural	124	44.3	23
Total	280	100.0	100.0

The reader should note that all means and percentages presented in this report are sample-weighted, while all Ns are unweighted.

2.5 LIMITATIONS

This report provides robust data on the availability of HIV/AIDS services in Nigeria. However, some limitations should be noted. First, the private for-profit sector – which provides a large portion of health services in the country – is not reflected in this analysis. The lack of a sampling frame makes it nearly impossible to conduct a representative sample survey of private providers. Policymakers may wish to invest in enumerating such a sampling frame for purposes of future research.

Secondly, our sampling frame may not have been fully representative of all facilities in the country. It is notoriously difficult to get an accurate, up-to-date listing of all functional public sector facilities in Nigeria. Some states provided more comprehensive listings than others.

Thirdly, the structure of the questionnaire may have limited responses to some individual sections. After gathering background information on a health facility, interviewers were instructed to administer a screening form that indicated the specific questionnaire modules that the facilities were to complete. However, some facilities seem to have indicated in this screening form that they were *not* providers of a given service (such as CT, ART, or prevention of mother-to-child transmission [PMTCT]) when their responses elsewhere in the survey would indicate that they did indeed provide such services. This discrepancy may have arisen because facilities wished to minimize their response burden, or the screening form may have been unclear. To address this discrepancy, our analysis considered a facility to be a provider of a given service if *any* response in the entire survey indicated that they provided the service. However, not all facilities provided information on the module-specific questions.

Finally, as in any survey, there was some nonresponse to individual questions. Our general approach was to exclude nonrespondents from these individual tabulations, unless we had clear indication that the nonresponse in fact reflected nonprovision of a given service.

3. KEY FINDINGS

In this chapter, key results from the Nigeria SPA are presented in detail. In Section 3.1, a broad overview of HIV/AIDS service availability is presented, followed in Section 3.2 by a detailed examination of the provision of specific HIV/AIDS services. In Section 3.3, the facilities' ability to provide auxiliary services (including laboratory and pharmacy services) is presented. Section 3.4 reviews whether facilities are ensuring good quality of care through infection control, training, reporting, and protocols, and Section 3.5 details various aspects of facility administration and management.

3.1 OVERVIEW OF HIV/AIDS SERVICE AVAILABILITY

This section provides a summary of the availability of key HIV/AIDS services in Nigeria; subsequent sections provide greater detail about each service. Table 3.1 shows the availability of key HIV/AIDS services by type of facility, managing authority, region, and urban or rural location. The services examined include CT, PMTCT services, ART, tuberculosis (TB) services, and post-exposure prophylaxis (PEP) services.

TABLE 3.1: PERCENTAGE OF FACILITIES OFFERING KEY HIV/AIDS SERVICES

Among all facilities, % offering indicated services, by background characteristics:

Background characteristic	CT	PMTCT	ART	TB	PEP	Total number of facilities (n)
Type of facility						
Primary	64	22	4	31	9	103
Secondary	96	41	21	68	45	129
Tertiary	100	91	92	77	89	48
Managing authority						
Federal	100	55	55	55	83	41
State	88	36	8	44	36	95
Local	61	21	5	33	6	55
Military	100	85	85	51	85	5
Faith Based	79	31	19	44	23	83
Region						
North Central	67	38	9	38	3	77
North East	25	22	2	42	2	30
North West	69	3	2	26	16	44
South East	65	24	6	26	16	39
South South	84	42	5	19	44	47
South West	99	28	21	77	7	43
Urban/rural						
Rural	66	23	3	35	9	156
Urban	76	31	20	41	29	124
Total (%)	68	25	7	36	14	280

CT: Facility offered voluntary HIV counseling and testing services.

PMTCT: Facility offered any prevention of mother-to-child transmission services.

ART: Facility offered antiretroviral therapy.

TB: Facility offered diagnosis and/or treatment services for tuberculosis.

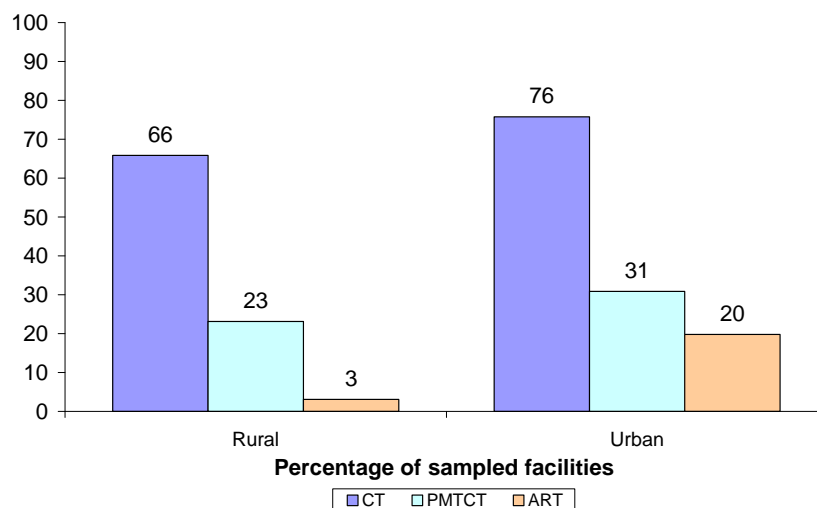
PEP: Facility provided (or referred patients for) post-exposure prophylaxis, to staff and/or clients.

It is clear from the table that, in general, the availability of CT services is relatively high across all levels of care; 68 percent of all facilities offer CT services. However, the availability of TB services (36 percent of facilities), PMTCT (25 percent), and PEP (14 percent) is much lower, and ART availability is extremely low (7 percent). All tertiary care facilities provide CT, almost all provide PMTCT, ART, and PEP services, and three-quarters provide TB services. At the secondary level, almost all facilities provide CT services but the availability of the remaining services examined leaves room for improvement, particularly for ART, PMTCT, and PEP services. Aside from CT, service availability at the primary level is more seriously limited. Just over one-fifth of primary-level facilities offer PMTCT services while nearly a third provide TB services. ART is generally not provided at the primary level (4 percent). PEP services are also especially lacking, with only 9 percent of primary-level facilities reporting the availability of PEP services.

Looking at service provision by managing authority (Table 3.1) it is evident that the availability of HIV/AIDS services at federal government-managed facilities is high. Eighty-eight percent of state-run facilities offer CT services, but (in keeping with the overall pattern) there are much lower levels of availability for PMTCT, ART, TB, and PEP services. LGA-managed facilities show even lower levels of HIV/AIDS service availability, especially for services other than CT. Availability of HIV/AIDS services at FBO facilities is slightly better than LGA-managed facilities. Caution must be exercised while making conclusions about military facilities due to the small numbers of facilities assessed here (5). It appears that HIV/AIDS service availability in military-run facilities is relatively higher than the overall average.

The availability of all HIV/AIDS services is lower in rural areas than in urban areas (Table 3.1 and Figure 3.1). CT services are relatively widely available in rural areas (66 percent of rural facilities offer CT), but the availability of the remaining services examined is far more limited. The extremely low availability of PMTCT (23 percent) and ART services (3 percent) in rural areas is a specific point of concern. It is also important to note that, because most of the facilities located in rural areas are primary-level facilities, this is typically the only health care accessible to rural populations. Less than one in 10 rural facilities provides access to PEP services.

FIGURE 3.1: PERCENTAGE OF FACILITIES OFFERING KEY HIV/AIDS SERVICES, BY URBAN/RURAL LOCATION



3.2 PROVISION OF SPECIFIC HIV/AIDS AND HIV/AIDS-RELATED SERVICES

3.2.1 COUNSELING AND TESTING

CT is the primary entry point for accessing ART services in Nigeria, and, as noted above in Table 3.1, 68 percent of facilities provide these services. Table 3.2 examines the availability of specific CT services for those facilities that completed the CT module of the questionnaire (n=176).

The availability of CT services is high in general. Almost all facilities that provide any CT services provide both pre- and post-test counseling (87 percent). Seventy-three percent of all facilities have visual and auditory privacy for counseling and 96 percent have a trained counselor. However, large disparities are evident by facility level – only about two-thirds of primary-level facilities report having privacy for counseling compared with nearly all secondary and tertiary-level facilities. When differences are examined by managing authority, LGA-managed facilities fare considerably worse than federal- or state-managed facilities in terms of privacy but are equally likely to have a trained counselor on staff.

TABLE 3.2: KEY INDICATORS FOR CT

Among facilities that completed the CT questionnaire module, percentage offering indicated services, by background characteristic

Background characteristic	% of CT units that:						Among CT units that draw blood (n=59):		Total number of CT facilities
	Provide any counseling	Provide both pre-test and post-test counseling	Have visual and auditory privacy for counseling	Have trained counselor on staff	Provide HIV testing	Keep records on counseling and testing	Percent with sharps container	Percent with disposable gloves	
Type of facility									
Primary	68	84	66	96	71	72	84	100	40
Secondary	90	99	98	98	95	93	82	100	93
Tertiary	97	99	95	100	95	99	100	100	43
Managing authority									
Federal	94	98	92	100	90	98	100	100	35
State	68	100	93	100	98	98	78	100	68
Local	72	79	59	95	63	64	100	100	19
Military	100	100	100	100	100	100	100	100	5
Faith Based	91	98	95	91	97	85	68	100	49
Region									
North Central	66	64	64	87	51	62	78	100	52
North East	16	100	20	100	100	100	97	100	19
North West	95	100	34	100	57	55	85	100	21
South East	65	69	98	98	69	91	60	100	22
South South	57	100	90	100	98	100	79	100	34
South West	100	100	100	100	99	78	93	100	28
Urban/rural									
Rural	67	81	65	95	72	78	84	100	77
Urban	84	100	89	100	87	74	82	100	99
Total (%)	72	87	73	96	77	77	84	100	176

Of the facilities that provide any CT services, only 77 percent provide HIV testing on site. Once again, a much smaller proportion of primary-level facilities provide HIV testing on the premises (71 percent

compared with 95 percent of secondary and tertiary facilities). The disparities are even wider when we compare facilities by managing authority: only 63 percent of LGA-managed CT facilities provide HIV testing compared with 98 percent and 90 percent of state and federally managed facilities.

Military facilities show very high service availability. However, caution must be exercised in making inferences about this group given the very small number of facilities that are reporting (see Table 3.1).

Record-keeping on CT is also relatively good with 77 percent of CT facilities reporting that they keep records. Record-keeping at the primary level (72 percent) is lower than at secondary and tertiary facilities (93 percent and 99 percent, respectively). LGA-managed facilities exhibit much lower levels of record keeping than federal or state facilities: Only 64 percent of LGA-managed facilities report-keeping records compared with 98 percent, 98 percent, and 85 percent of state, federally, and FBO-managed facilities respectively.

A positive finding is that safety standards for testing are relatively high. More than four-fifths of facilities (84 percent) that draw blood in the CT unit report having sharps containers and all facilities (100 percent) have disposable gloves. However, it is important to note that the number of facilities that report on this indicator is low – only 59 out of 176 – and this is because they either refer clients to draw blood elsewhere in the facility (such as in the laboratory) or they are testing with rapid kits that might not require that blood be drawn by venipuncture, or they do not offer testing services.

3.2.2 ANTIRETROVIRAL THERAPY SERVICES

In our survey, only 7 percent of facilities reported providing ART services. Most of these were at the secondary and tertiary levels and were run by the federal government, state government, or an FBO. The sample of LGA and military facilities providing ART was very small (n=6). Table 3.3 examines the availability and quality of specific ART services for those facilities that completed the ART section of the questionnaire (N=78).

Facilities tend to use at least one of several medical criteria to determine eligibility for ART. Most ART providers (88 percent) use CD4 count to determine eligibility for ART. CD4 counts are used as a criterion by most tertiary (71 percent), secondary (93 percent), and primary (100 percent)-level facilities. This criterion is frequently used across types of facility by management-type. About 80 percent of rural facilities rely on CD4 count. Rural facilities were more likely than urban facilities to rely on the World Health Organization (WHO) staging criteria as well (84 percent vs. 44 percent) (WHO 2005).

Fewer than 20 percent of all facilities that provide ART services use a doctor's discretion to determine client eligibility for ART. Notably, none of the facilities reported using ability to pay as an eligibility criterion for ART.

TABLE 3.3: CRITERIA USED BY ART FACILITIES FOR DETERMINING CLIENT ELIGIBILITY FOR ART

Among facilities that completed the ART module, percent that use each criterion for determining client eligibility

Background characteristic	WHO staging criteria	National ART guidelines	CD4 Count	Viral load	Full blood count	History of adherence to OI treatment	Client's ability to pay	Doctor's discretion	Total number of ART facilities (n)
Type of facility									
Primary	94	44	100	0	50	44	0	0	3
Secondary	46	45	93	30	42	7	0	17	30
Tertiary	59	64	71	23	38	22	0	30	45
Managing authority									
Federal	71	79	93	17	27	17	0	10	38
State	32	48	100	39	55	1	0	25	24
Local	0	92	8	0	0	0	0	0	2
Military	60	25	60	25	25	25	0	40	4
Faith Based	83	50	88	12	33	29	0	0	10
Region									
North Central	81	59	84	1	16	21	0	0	20
North East	60	6	100	3	29	3	0	3	11
North West	92	92	96	60	64	64	0	0	10
South East	66	48	90	34	43	10	0	0	13
South South	10	14	74	5	32	3	0	32	15
South West	14	100	100	88	92	3	0	86	9
Urban/rural									
Rural	84	47	82	3	29	26	0	1	16
Urban	44	50	89	33	44	9	0	23	62
Total (%)	51	49	88	27	41	12	0	19	78

OI: opportunistic infection

Table 3.4 examines the tests conducted prior to initiating ART. Close to 91 percent of facilities that offer ART routinely conduct hemoglobin or hematocrit testing before starting treatment. The difference between primary and secondary facility types are small but tertiary facilities are less likely to conduct these blood tests. Although 87 percent of rural facilities conduct hemoglobin tests before starting ART treatment, it is still lower than the corresponding proportion for urban facilities (92 percent).

Just over 90 percent of facilities that provide ART routinely conduct a full blood count prior to commencing ART. Three-fourths of rural ART facilities routinely conduct full blood count compared with 95 percent of urban facilities, indicating room for improvement.

Liver function tests are also essential before starting ART and for monitoring drug side effects. Fewer than two-thirds of all ART facilities (65 percent) routinely conduct liver function tests before starting ART. There is room for improvement at the tertiary and secondary levels on this indicator. The proportion of state-managed facilities conducting liver function tests is also very low at 60 percent. Only 18 percent of military facilities report conducting liver function tests prior to ART; however, this must be interpreted with caution because of the small number of military facilities in the sample (n=4).

The proportions of facilities that conduct a TB sputum test or chest X-ray prior to starting ART are very low (35 percent and 21 percent, respectively). While treatment guidelines encourage routine TB testing of all HIV clients and vice versa, this is not yet mandatory. This may constitute an important area for improvement.

TABLE 3.4: TESTS CONDUCTED ROUTINELY PRIOR TO INITIATING ART

% of ART facilities that routinely conduct the following tests before starting ART:

Background characteristic	Hemo-globin/hemato-crit	Full blood count	Pregnan-cy test	Serum electro-lytes (incl. creati-nine)	Urin-alysis	Liver function tests	TB sputum test	Chest X-ray	Total number of ART facilities (n)
Type of facility									
Primary	100	94	50	94	50	94	44	0	3
Secondary	96	89	68	70	85	71	38	20	30
Tertiary	73	97	30	68	61	40	26	29	45
Managing authority									
Federal	95	93	44	88	51	79	31	59	38
State	94	90	80	59	95	60	55	15	24
Local	100	92	8	92	8	92	0	0	2
Military	60	100	35	75	75	18	18	35	4
Faith Based	100	88	38	83	62	96	8	12	10
Region									
North Central	98	97	81	84	63	72	36	28	20
North East	79	59	63	37	74	40	65	12	11
North West	88	88	13	24	4	13	20	20	10
South East	100	90	34	90	89	99	24	13	13
South South	73	97	59	41	87	14	4	35	15
South West	100	100	92	100	98	100	92	15	9
Urban/rural									
Rural	87	76	68	54	72	54	59	6	16
Urban	92	95	56	75	79	68	30	25	62
Total (%)	91	91	59	71	78	65	35	21	78

Table 3.5 describes the proportion of facilities prescribing key ARV drugs. According to national protocols, all ART sites should dispense the following drugs for first-line treatment: stavudine (d4T), lamivudine (3TC), nevirapine (NVP), zidovudine (AZT), and efavirenz (EFV). In our sample, 3TC (at 99 percent of ART facilities), AZT (89 percent), NVP (88 percent), and d4T (84 percent) were most commonly available, while EFV was available at two-thirds of facilities. There was little meaningful variation in the prescription of these key drugs by level of facility, managing authority, region, or urban/rural location. The most commonly prescribed first-line combination was D4T + 3TC + NVP (49 percent).

However, drugs that are more commonly used for second-line therapy were rarely prescribed by these facilities. One-third or less of facilities prescribed abacavir (ABC), didanosine (ddI), or tenofovir (TFV), while less than a fifth prescribed any of the protease inhibitors (indinavir, nelfinavir, ritonavir, saquinavir). Second-line drugs were almost completely unavailable in rural facilities.

TABLE 3.5. ART DRUGS PRESCRIBED BY FACILITIES THAT OFFER ART

Background characteristic	Percent of ART facilities that routinely prescribe the following drugs:									Most commonly prescribed first-line regimens:		Total number of ART facilities (n)
	Abacavir (ABC)	Didanosine (ddl)	Efavirenz (EFV)	Lamivudine (3TC)	Nevirapine (NVP)	Protease inhibitors*	Stavudine (d4T)	Tenofovir (TFV)	Zidovudine (AZT)	D4T + 3TC + NVP	AZT + 3TC + NVP	
Type of facility												
Primary	28	0	94	100	100	0	94	44	100	48	52	3
Secondary	56	18	72	99	92	13	90	19	95	51	32	30
Tertiary	0	29	51	97	74	32	65	33	66	41	55	45
Managing authority												
Federal	31	29	69	93	98	16	76	31	79	69	23	38
State	36	20	77	99	95	15	96	13	99	54	22	24
Local	0	0	0	100	8	0	92	0	100	91	9	2
Military	65	42	42	100	60	40	42	25	42	35	65	4
Faith Based	12	4	71	100	96	8	88	45	100	34	66	10
Region												
North Central	7	28	60	99	87	12	84	14	84	75	23	20
North East	9	6	66	100	74	3	69	9	97	69	31	11
North West	64	68	88	92	100	0	92	64	92	27	73	10
South East	10	2	80	99	100	24	90	29	100	35	65	13
South South	54	36	36	99	67	29	73	29	68	68	31	15
South West	90	5	97	100	100	3	98	8	98	10	6	9
Urban/rural												
Rural	3	4	53	100	88	0	87	13	95	59	40	16
Urban	40	23	72	98	88	20	84	26	88	47	38	62
Total (%)	33	20	68	99	88	17	84	24	89	49	38	78

3.2.3 PMTCT SERVICES

As described in Table 3.1, one-quarter (25 percent) of all surveyed facilities in our sample reported providing PMTCT services. Table 3.6 examines the availability of specific PMTCT services for those facilities that completed the PMTCT module of the questionnaire (n=113).

TABLE 3.6. AVAILABILITY OF PMTCT SERVICES

% of PMTCT units that provide:

Background characteristic	A trained counselor on staff	Routine HIV testing during ANC	Any pre-test or post-test counseling	Counseling on infant feeding for HIV+ mothers	Breast-milk substitutes	ARV prophylaxis to pregnant women	ARV prophylaxis to newborns	Total number of PMTCT facilities
Type of facility								
Primary	87	53	92	32	32	23	9	13
Secondary	100	100	100	100	100	49	48	57
Tertiary	97	100	100	100	100	96	76	43
Managing authority								
Federal	93	100	100	98	98	88	73	37
State	100	85	85	85	84	40	41	44
Local	82	48	100	19	19	19	0.1	8
Military	100	100	100	100	100	82	65	4
Faith Based	100	100	100	100	100	58	56	20
Region								
North Central	75	49	100	49	48	37	7	36
North East	100	100	100	12	10	9	7	15
North West	97	100	100	99	99	31	31	13
South East	100	48	100	48	41	33	41	17
South South	100	74	74	74	74	43	43	20
South West	100	100	100	100	100	33	32	12
Urban/rural								
Rural	88	59	92	40	38	23	11	36
Urban	99	98	100	100	98	63	59	77
Total (%)	91	68	94	54	52	33	23	113

About half of all facilities providing PMTCT services provide these services in one integrated unit along with antenatal care (ANC) and delivery care. Another third combine PMTCT with one other unit (CT, ANC, or delivery). Almost all facilities that provide PMTCT services (91 percent) have a trained counselor on staff. As is the case with the other indicators examined so far, a slightly smaller proportion of primary care facilities (87 percent) and LGA-managed (82 percent) facilities have a trained counselor on staff (compared with secondary- and tertiary-level facilities or federal-, state-, and FBO-managed facilities).

About 68 percent of all facilities that provide PMTCT services reported that they routinely offer HIV testing to all pregnant women at the first ANC visit. It is a missed opportunity, however, that only a little more than half of all primary-level facilities offering PMTCT routinely provide HIV testing services during ANC (see Figure 3.2). When facilities are compared by management authority, it is clear that a very small proportion (48 percent) of LGA-managed facilities offering PMTCT routinely provide HIV testing during ANC – although the corresponding proportions of state-, federal-, and FBO-managed facilities are quite high (85 percent, 100 percent, and 100 percent, respectively). There is a substantial rural-urban gap as well.

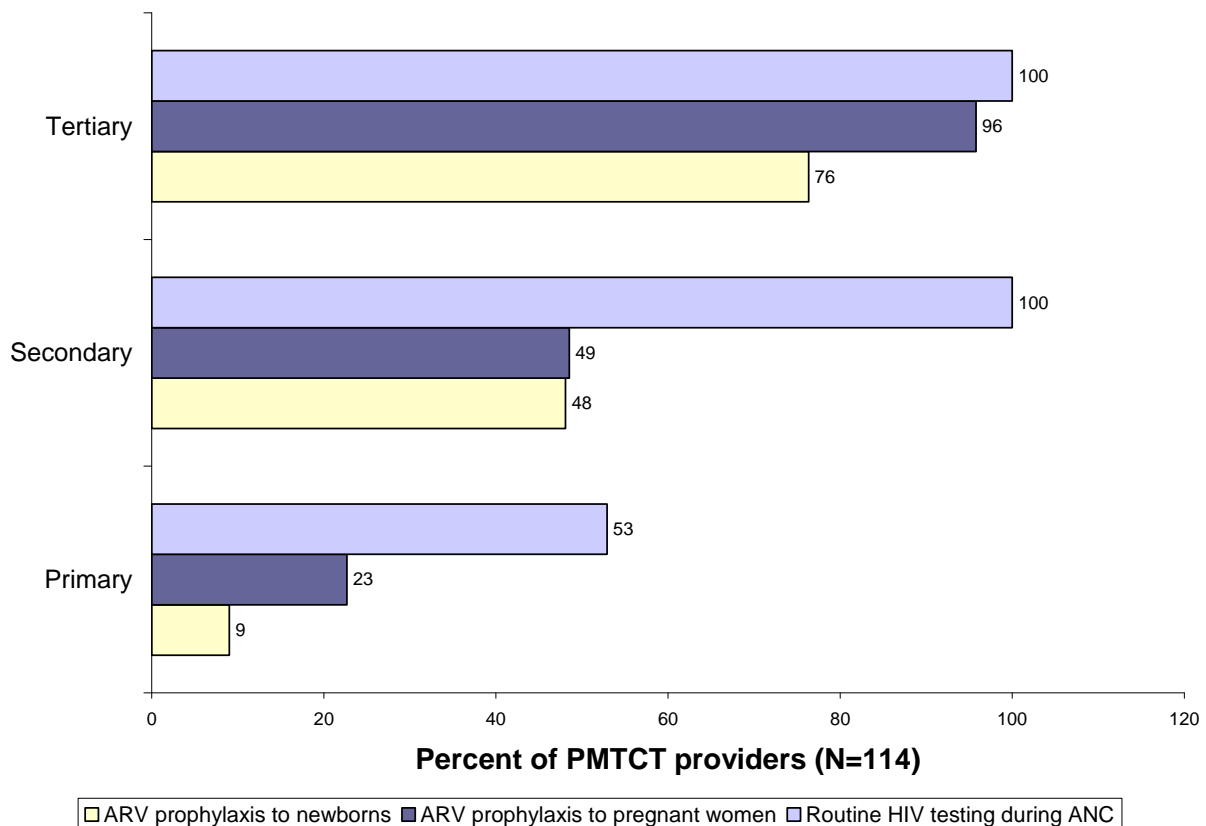
At 94 percent, provision of any pre-test or post-test counseling is near universal (Table 3.6). Primary-level facilities and facilities in the South show the lowest levels of provision (92 percent and 74 percent, respectively) among all facilities providing PMTCT services – although the absolute levels are high.

Over 54 percent of all facilities providing PMTCT services counsel HIV-positive mothers on infant feeding. Almost all secondary- and tertiary-level facilities that provide PMTCT counsel HIV-positive mothers on infant feeding. However, only 32 percent of the corresponding primary-level facilities provide the same counseling on infant feeding. LGA-managed facilities show similar disparities compared with federal-, state-, and FBO-managed facilities. Infant feeding counseling is near universal at all but LGA-managed facilities (19 percent). A smaller proportion of rural facilities counsel HIV-positive mothers on infant feeding (40 percent) compared with urban facilities (100 percent).

The picture is less positive when we examine the proportion of PMTCT facilities that provide breast-milk substitutes for newborns of HIV-positive women. Just over half (52 percent) of all PMTCT facilities offer breast-milk substitutes. However, this average conceals large disparities by facility type and managing authority. Almost all tertiary and secondary facilities (100 percent) provide breast-milk substitutes for newborns of HIV-positive women. However, only 32 percent of primary facilities provide breast-milk substitutes. A similar gradation is visible by managing authority with 98 percent of federally managed, 84 percent of state-managed, and only 19 percent of LGA-managed facilities providing breast-milk substitutes, while all FBO-managed facilities offer breast-milk substitutes. Rural-urban disparities are also very sharp with only 38 percent of rural PMTCT facilities offering breast-milk substitutes compared with 98 percent of urban facilities.

Three-quarters or more tertiary-level PMTCT units offer ARV prophylaxis to pregnant women and newborns (Figure 3.2). Around half of secondary-level PMTCT units offer these services to pregnant women and newborns. However, a very small proportion of primary-level PMTCT units offer ARV prophylaxis to pregnant women (23 percent) and newborns (9 percent). Part of the disparity in rates of provision to mothers and newborns may be explained by the low rates of facility deliveries in Nigeria; according to the most recent DHS, only 33 percent of deliveries occur in a health facility (National Population Commission [Nigeria] and ORC Macro 2004). A similar gradation is visible by managing authority with LGA-managed PMTCT facilities being least likely to offer ARV prophylaxis to pregnant women. A larger proportion of state- and FBO-managed facilities (40 percent and 58 percent) offer ARV prophylaxis, while more than four-fifths of all federally managed facilities (88 percent) offer this service. These patterns are closely mirrored for ARV prophylaxis to newborns in PMTCT units but the absolute numbers for newborns are consistently lower.

FIGURE 3.2: AVAILABILITY OF KEY SERVICES AMONG PMTCT-PROVIDING FACILITIES, BY LEVEL OF FACILITY



3.2.4 YOUTH-FRIENDLY SERVICES

Table 3.7 presents facilities that provide youth-friendly services as a proportion of all facilities that provide CT or PMTCT services. Youth-friendly services were defined in this survey to include any reproductive health or family planning services that are specifically targeted to young people, such as providing services in a different room or at a different time, lower fees for young people, especially trained counselors, or communications materials aimed at youths.

In general, the availability of youth-friendly services is low. Only 13 percent of facilities providing CT and 2 percent of facilities providing PMTCT services offer any youth-friendly services. The reported availability of youth-friendly services is low in absolute terms across all facility background characteristics. In particular, availability of youth-friendly services is low in North Central and South East region facilities offering PMTCT (5 percent and 4 percent, respectively) and non-existent in the surveyed PMTCT facilities in the remaining regions (North East, North West, South South, and South West).

TABLE 3.7. AVAILABILITY OF YOUTH-FRIENDLY SERVICES IN CT OR PMTCT UNITS

Background characteristic	Any YFS in CT unit	<i>Total number of CT facilities</i>	Any YFS in PMTCT unit	<i>Total number of PMTCT facilities</i>
Type of facility				
Primary	14	42	0	13
Secondary	10	91	8	57
Tertiary	12	44	5	44
Managing authority				
Federal	22	36	10	38
State	2	67	4	44
Local	17	21	0	8
Military	0	5	0	4
Faith Based	27	48	12	20
Region				
North Central	25	55	5	36
North East	0.2	18	0	15
North West	2	21	0	13
South East	8	22	4	17
South South	0.5	33	0	20
South West	21	28	0	13
Urban/rural				
Rural	10	76	1	36
Urban	19	101	6	78
Total (%)	13	177	2	114

*na: Not Applicable

CT: Counseling and Testing

PMTCT: Prevention of Mother to Child Transmission

YFS: Youth-friendly Services

3.2.5 TB SERVICES

TB is an important problem among people with HIV, and it is the main opportunistic infection associated with HIV in sub-Saharan Africa. In our sample, 36 percent of facilities reported providing TB diagnosis and care (Table 3.1). Table 3.8 describes specific TB-related services provided by facilities that completed the TB module in the questionnaire (n=146).

TABLE 3.8. AVAILABILITY OF TB DIAGNOSTIC AND TREATMENT SERVICES

Background characteristic	Among facilities offering TB services, % which:			Number of TB facilities (n)	Among DOTS facilities, percent at which:				Number of DOTS Providers (n)
	Routinely use only sputum smear for diagnosis	Routinely use both sputum smear and X-ray for diagnosis	Provide DOTS*		Client hospitalized	Client comes to facility	Outreach worker goes to client	Family or community observes	
Type of facility									
Primary	41	29	72	14	0	100	0	0	12
Secondary	55	32	86	84	15	100	12	11	78
Tertiary	18	60	94	48	11	92	25	63	45
Managing authority									
Federal	21	70	88	39	17	85	25	63	36
State	28	67	93	62	7	100	10	10	60
Local	62	1	65	10	0	100	0	0	8
Military	0	42	100	4	0	100	0	0	3
Faith Based	33	38	71	31	41	100	18	18	28
Region									
North Central	7	10	59	34	2	99	0	20	30
North East	40	50	61	20	24	98	0	10	20
North West	85	10	95	25	5	100	29	23	24
South East	22	53	85	18	75	97	0	0	16
South South	58	29	88	23	2	100	0	0	19
South West	49	50	77	26	1	100	11	11	26
Urban/rural									
Rural	37	33	83	58	4	100	39	28	55
Urban	60	27	67	88	11	99	5	8	80
Total (%)	45	31	78	146	6	100	13	13	135

*DOTS: Directly Observed Treatment Short Course (TB treatment)

Close to 45 percent of all facilities that provide TB services diagnose TB using sputum smears only. Another 31 percent routinely use both sputum smear and X-ray for diagnosis. The remaining facilities use either method as available or refer patients elsewhere for diagnosis. The findings suggest that primary-level, LGA-managed, and rural facilities tend to rely more heavily on sputum smear only for diagnosis (41 percent, 62 percent, and 37 percent, respectively), while tertiary-level and federally managed facilities use both sputum smear and X-ray for diagnosis (60 percent and 70 percent, respectively). The proportions of secondary facilities and FBO-managed facilities that rely on either sputum smear alone or sputum smear in combination with X-ray is relatively even.

A little more than three-fourths (78 percent) of all TB service-providing facilities provide Directly Observed Treatment, Short Course (DOTS). A lower proportion of primary-level TB facilities provide DOTS (72 percent) compared with secondary (86 percent) and tertiary (94 percent) facilities. Comparing by type of managing authority a similar gradation is evident, with the lowest proportion of DOTS-providing facilities among LGA-managed TB facilities, followed by federal and state facilities. Although military facilities show virtually universal DOTS provision, this should be interpreted with caution due to the small sample size for military facilities. The proportion of FBO-managed TB facilities that provide DOTS is similar to LGA-managed facilities. Interestingly, more than four-fifths of rural TB facilities (83 percent) provide DOTS while a slightly lower level of provision is evident at urban facilities (67 percent).

The most widely implemented treatment strategy among DOTS providers is to have clients come to the facility themselves (100 percent), rather than to hospitalize clients (6 percent), use outreach workers (13 percent), or depend on family or community workers to observe compliance (13 percent). No primary-level or LGA-managed DOTS facilities and only a small proportion of tertiary (25 percent), secondary (12 percent), federally managed (25 percent), and state-managed (10 percent) facilities use outreach workers for direct patient observation. Nearly a fifth of FBO-managed facilities use outreach workers for direct observation (18 percent). The small numbers of primary-level, LGA-managed, and military-managed facilities in these analyses suggest that inferences for these groups must be drawn with great caution.

3.2.6 AVAILABILITY OF PEP SERVICES

Table 3.9 describes the proportion of facilities that reported providing PEP services for staff on site and the proportion that refer accidentally exposed staff to other facilities for PEP.

Only 6 percent of facilities provide PEP services somewhere in the facility while 8 percent refer exposed staff to another facility for PEP. Conversely, 86 percent of facilities reported that they do not provide access to PEP on site or through referral. Half of all tertiary-level and federally managed facilities provide PEP in the facility. Availability of PEP services is extremely limited in all the other types of facilities. This suggests a clear need to focus on increasing the availability of PEP.

TABLE 3.9 KEY INDICATORS FOR PEP SERVICES

Background characteristic	Among facilities with PEP, % with:			Total number of facilities (n)	Among facilities with each type of unit, % with:		
	PEP available somewhere in the facility	PEP available only through referral	No access to PEP		PEP available in outpatient unit (n=244)	PEP available in inpatient unit (n=186)	PEP available in laboratory (n=206)
Type of facility							
Primary	3	6	91	103	0.1	0	4
Secondary	24	21	55	129	15	14	13
Tertiary	55	33	12	48	26	36	22
Managing authority							
Federal	51	31	18	41	31	48	40
State	14	22	64	95	8	12	13
Local	2	4	94	55	0.1	0	0
Military	36	49	15	5	15	42	0
Faith Based	22	1	77	83	10	9	14
Region							
North Central	3	1	97	77	2	4	2
North East	1	1	98	30	1	13	3
North West	2	13	85	44	1	3	3
South East	16	0	84	39	7	9	23
South South	12	32	56	47	2	1	22
South West	4	3	93	43	4	40	1
Urban/rural							
Rural	4	5	91	156	1	2	5
Urban	11	18	71	124	7	22	9
Total (%)	6	8	86	280	3	6	7

3.2.7 AVAILABILITY OF MALARIA AND SEXUALLY TRANSMITTED INFECTION SERVICES

Table 3.10 describes the proportion of all facilities that provide malaria and sexually transmitted infection (STI) services. Again, inferences based on findings from military facilities should be made with caution since the sample sizes are small.

A high proportion of facilities (91 percent) report that they offer treatment for malaria. This is an important positive finding. The proportion of facilities that offer STI services is lower (68 percent). However, when availability is examined by background characteristics, important differences emerge. A clearly smaller proportion of primary-level facilities, LGA-managed, FBO-managed, and rural facilities offer STI services. Looking at service availability by region, the South East region lags behind other regions of the country, with fewer than half (42 percent) of facilities offering STI services.

TABLE 3.10. AVAILABILITY OF SERVICES FOR MALARIA AND STIS

% of facilities offering treatment for:				
Background characteristic	Malaria	Total number of facilities (n)	STI	Total number of facilities (n)
Type of facility				
Primary	90	82	63	81
Secondary	99	118	95	118
Tertiary	100	48	100	48
Managing authority				
Federal	100	41	69	41
State	100	86	81	86
Local	89	44	64	43
Military	100	5	100	5
Faith Based	94	71	73	71
Region				
North Central	66	68	55	68
North East	100	26	99	26
North West	100	39	67	39
South East	100	35	42	35
South South	92	42	58	41
South West	99	38	99	38
Urban/rural				
Rural	88	135	59	134
Urban	100	113	95	113
Total (%)	91	248	68	247

3.3 AUXILIARY UNITS IN HEALTH FACILITIES

3.3.1 OVERVIEW OF AUXILIARY HEALTH UNITS IN FACILITIES

Table 3.11 displays an overview of the capacity of health facilities to provide auxiliary services, including health management information systems (HMIS), emergency transport, laboratory, and pharmacy services.

HMIS are critical to manage treatment for HIV and, more generally, to ensure that health systems are efficiently managed. Only about 18 percent of facilities report having an HMIS unit. Almost all tertiary facilities have an HMIS unit, as do 54 percent of secondary facilities. However, only 12 percent of primary care facilities have an HMIS unit. This pattern is mirrored in the proportion of facilities with HMIS units by managing authority, with a smaller proportion of state-managed and a much smaller proportion of LGA-managed facilities having an HMIS unit than federally managed facilities. A third of all FBO-managed facilities have an HMIS unit (33 percent), suggesting low HMIS capacity in the private FBO sector as well. There are important regional differences, with South South facilities having the highest HMIS capacity (51 percent have an HMIS unit). Facilities in the North East, North West, and South East are a priority for HMIS capacity building – less than one-tenth report having an HMIS unit. Rural facilities are also considerably less likely to have an HMIS unit (15 percent) compared with urban facilities (30 percent). In general, building HMIS capacity is a priority in all facilities except tertiary care or federally managed facilities.

TABLE 3.11. AVAILABILITY OF HMIS UNITS, EMERGENCY TRANSPORT, LABORATORIES, AND PHARMACIES

% of facilities with the following units:

Background characteristic	HMIS Unit	Functional ambulance	Laboratory	Pharmacy	Total number of facilities (n)
Type of facility					
Primary	12	4	33	45	103
Secondary	54	61	90	80	129
Tertiary	92	91	99	98	48
Managing authority					
Federal	57	68	68	66	41
State	46	43	68	59	95
Local	8	0.1	30	45	55
Military	70	100	100	100	5
Faith Based	33	36	74	71	83
Region					
North Central	11	6	49	54	77
North East	2	3	6	24	30
North West	9	5	32	69	44
South East	8	12	20	13	39
South South	51	31	47	48	47
South West	43	25	98	81	43
Urban/rural					
Rural	15	7	34	41	156
Urban	30	27	64	80	124
Total (%)	18	12	41	50	280

HMIS: Health Management Information System

Only 12 percent of all facilities surveyed report having a functional ambulance. This problem is especially acute for primary facilities and LGA-managed facilities, where clients have virtually no access to functional ambulances – only 4 percent and 0 percent, respectively, report having a functional ambulance. Few FBO-managed facilities have functional ambulances (36 percent). Rural facilities are far less likely to have a functional ambulance (7 percent) than urban facilities (27 percent), a finding of particular concern given their greater need.

The proportion of health facilities with pharmacies is considerably more reassuring. Fifty percent of facilities surveyed reported having a pharmacy on the premises. A high proportion of tertiary- and secondary-level facilities have a pharmacy (98 percent and 80 percent, respectively). By contrast, fewer than half of primary facilities reported having a pharmacy (45 percent). Federally managed and state-managed facilities are better equipped (66 percent and 59 percent report having a pharmacy). Just under half of LGA-managed facilities have pharmacies (45 percent). Close to three-quarters of FBO-managed facilities have pharmacies. Rural facilities are less likely to report having a pharmacy (41 percent compared with 80 percent of urban facilities).

3.3.2 LABORATORY SERVICES

Laboratory capacity is a very critical support service for HIV/AIDS service provision. On average, 41 percent of surveyed facilities report having a laboratory (Table 3.11 above). Virtually all tertiary-level facilities (99 percent) and nearly all secondary-level facilities (90 percent) have a laboratory. This is mirrored in the availability of laboratory services in federally managed and state-managed facilities. However, only about 33 percent of primary-level and 30 percent of LGA-managed facilities report an on-site laboratory, indicating an important gap in service provision at lower-level facilities. Rural-urban disparities are large, with a little over one-third (34 percent) of all rural facilities reporting a laboratory. In contrast, 64 percent of urban facilities report having a laboratory. This suggests that the most important gaps in laboratory services are in primary-level, LGA-managed, and rural facilities.

Working Laboratory Equipment and Supplies

Table 3.12 describes the proportion of laboratories with different types of working equipment.

TABLE 3.12: LABORATORY EQUIPMENT

Background characteristic	Percentage of laboratories with the following equipment in working order:								Total number of facilities with labs (n)
	Micro-scope	Refri-gerator	Incub-ator	Hemo-cyto-meter	Centri-fuge	Spectro-scope	CD4 Count machine	X-ray	
Type of facility									
Primary	76	46	27	46	69	8	7	0.2	44
Secondary	89	81	55	37	82	19	11	29	115
Tertiary	94	95	67	66	92	74	52	84	48
Managing authority									
Federal	91	92	83	75	85	50	68	70	40
State	78	73	43	49	74	24	7	16	82
Local	78	42	27	39	71	0	9	0.3	19
Military	100	100	51	34	100	55	36	85	5
Faith Based	89	73	52	52	76	27	10	30	60
Region									
North Central	96	42	25	74	80	3	2	7	61
North East	99	66	33	31	66	6	17	18	22
North West	79	57	69	28	76	8	2	7	32
South East	42	90	33	24	33	12	7	31	23
South South	94	82	29	60	94	11	10	10	32
South West	65	48	29	24	65	25	21	8	37
Urban/rural									
Rural	85	56	33	48	77	11	1	5	97
Urban	70	59	41	36	67	14	23	19	110
Total (%)	80	57	36	44	73	12	9	10	207

Most operational laboratories had working microscopes (80 percent), refrigerators (57 percent), and centrifuges (73 percent). Although there were differences in these proportions by category of facility, the differences were relatively small. Over a third of all facilities with laboratories report having a working incubator (36 percent) and hemocytometer (44 percent). Less than one-sixth of facilities with laboratories report having a working spectroscope (12 percent) or CD4 count machine (9 percent). However over half of tertiary-level (52 percent) and federally managed (68 percent) laboratories report a working CD4 count machine. A very low proportion of the laboratories in other categories of facility have working CD4 machines.

While X-ray machines are part of radiology services and not laboratories, we did not survey radiology departments for this study and instead included one question on X-ray machines in the laboratory questionnaire; respondents were asked whether there was an X-ray machine anywhere in the facility. Approximately one in 10 facilities that completed the laboratory questionnaire reported having a functional X-ray machine.

Table 3.13 displays information about the availability of equipment and supplies necessary for laboratories to conduct key tests.

Almost all laboratories provide HIV testing (88 percent). This high overall figure is not driven by any one category of facility. Rapid tests are the primary means of ascertaining HIV status; a fairly high proportion of laboratories have the necessary supplies and equipment to conduct rapid HIV tests (70 percent). There are some important distinctions by facility background characteristics, however. Higher-level and federal- and state-managed facilities are more likely to have the equipment and supplies for rapid HIV tests (97 percent, 94 percent and 72 percent, respectively). Primary-level (63 percent) and LGA-managed facilities (67 percent) are less likely to have this equipment and supplies. Furthermore, there are clear geographic disparities, with a smaller proportion of facilities in the South East (38 percent) and in rural areas (59 percent) reporting adequate equipment and supplies for rapid HIV testing.

An extremely low proportion of laboratories have the equipment and supplies to conduct viral load tests (0.2 percent).

Less than a tenth of all laboratories (7 percent) have the necessary supplies and equipment to measure CD4 counts. Tertiary-level laboratories (80 percent) and federally managed laboratories (76 percent) are relatively more likely to have adequate equipment and supplies. State, LGA, and FBO providers with labs do not have the necessary supplies and equipment for CD4 count measurements, which suggests that this may be a general priority for lab strengthening.

Laboratory capacity to conduct malaria, anemia, and pregnancy tests in terms of having adequate supplies and equipment is high (87 percent, 82 percent, and 90 percent, respectively). The availability of supplies and equipment is relatively high across most facility categories for these specific tests. The proportions of facilities with laboratories reporting adequate supplies and equipment to conduct tests for syphilis, gonorrhea, and chlamydia are quite different. Overall, 43 percent, 25 percent, and 4 percent of all facilities with labs report adequate supplies and equipment to conduct syphilis, gonorrhea, and chlamydia tests, respectively.

The proportion of facilities with laboratories that have the equipment and supplies to conduct TB sputum smears is very low – 11 percent. It also suggests that while many facilities offer TB services (34 percent of all facilities, Table 3.1), relatively few of these actually have the necessary support from in-facility laboratory units to conduct TB sputum smears. This is a matter of concern because TB affects many patients with HIV.

Well under a fifth of all facilities with laboratories surveyed (14 percent) had the necessary equipment and supplies to conduct liver function tests that are important for ART. A much higher proportion of tertiary care facility labs (78 percent) and federally managed facility labs (72 percent) had the equipment and supplies to conduct liver function tests. The remaining categories of facilities with laboratories are less able to conduct the tests. The problem is especially acute in primary (8 percent), LGA-managed (0 percent), rural facilities (10 percent), and facilities in the North West/North Central (both 5 percent).

TABLE 3.13. EQUIPMENT AND SUPPLIES FOR SPECIFIC TESTS

Background characteristic	Percent of labs that provide HIV testing	% of laboratories that have the necessary supplies and functioning equipment to conduct the following tests:											Total number of facilities with labs (n)	
		Rapid test for HIV	Viral load test	CD4 count	Malaria tests	Syphilis tests	Gonorrhea tests	Chlamydia tests	TB sputum smear	Anemia test	Full blood count	Liver function tests		Pregnancy tests
Type of facility														
Primary	84	63	0.0	0.4	83	24	19	0.2	0.2	77	33	8	87	44
Secondary	97	85	0.1	17	99	86	37	14	36	95	77	25	98	115
Tertiary	99	97	10	80	95	96	92	27	64	96	97	78	96	48
Managing authority														
Federal	98	94	20.8	76	92	96	91	35	45	92	94	72	92	40
State	99	72	0.1	10	85	59	35	4	11	84	73	28	84	82
Local	80	67	0.0	0.3	87	27	13	0.0	7	80	23	0.3	93	19
Military	100	100	0.0	70	100	100	100	0.0	49	100	100	70	100	5
Faith Based	85	70	0.0	15	98	62	41	32	37	89	72	26	91	60
Region														
North Central	71	70	0.2	5	100	41	25	4	7	100	43	5	84	61
North East	99	100	0.9	17	100	59	43	5	22	91	59	18	100	22
North West	99	61	0.2	3	79	55	33	5	23	38	13	5	99	32
South East	49	38	0.2	16	58	55	31	17	36	91	55	21	93	23
South South	100	70	0.3	13	97	49	15	4	5	100	85	14	100	32
South West	100	81	0.2	4	82	28	23	2	4	82	47	25	83	37
Urban/rural														
Rural	81	59	0.0	2	81	44	26	3	10	79	38	10	86	97
Urban	99	88	0.6	15	99	39	23	6	13	88	61	19	98	110
Total (%)	88	70	0.2	7	87	43	25	4	11	82	46	14	90	207

Quality Assurance in Laboratories

Table 3.14 details two measures of the quality of services provided by laboratories in our sample. First, 24 percent of laboratories report that they have some type of external quality control for their HIV tests. As expected, higher-level and urban facilities were more likely to participate in some type of quality control program. Secondly, approximately only 49 percent of facilities indicate conducting some screening of blood for infectious diseases. Less than two-fifths of primary-level facilities with labs conduct any blood screening, but even the tertiary-level and federally managed facilities do not universally screen blood, even prior to transfusion.

TABLE 3.14. LABORATORY QUALITY ASSURANCE

Background characteristic	Percent of labs		Total number of facilities with labs (n)
	with any external quality control for HIV tests	Percent of labs that do any blood screening	
Type of facility*			
Primary	21	36	44
Secondary	29	77	115
Tertiary	49	97	48
Managing authority			
Federal	55	96	40
State	17	60	82
Local	25	36	19
Military	0	100	5
Faith Based	37	72	60
Region			
North Central	21	67	61
North East	15	67	22
North West	7	22	32
South East	31	52	23
South South	7	49	32
South West	44	47	37
Urban/rural			
Rural	11	47	97
Urban	47	52	110
Total (%)	24	49	207

3.3.3 PHARMACY STOCKS FOR HIV/AIDS AND TB DRUGS

Table 3.15 examines the proportion of pharmacies with specific drug stocks available on the day of the survey. Drugs are perhaps the most critical input for TB and HIV care. Drugs are also a very large component of the total costs of delivering HIV/AIDS treatment. The most frequently used drugs (and drug combinations) for TB and HIV/AIDS treatment are examined here. Note that all facilities with pharmacies are included here, not just facilities that reported providing ART.

TABLE 3.15. STOCKS OF ARV DRUGS

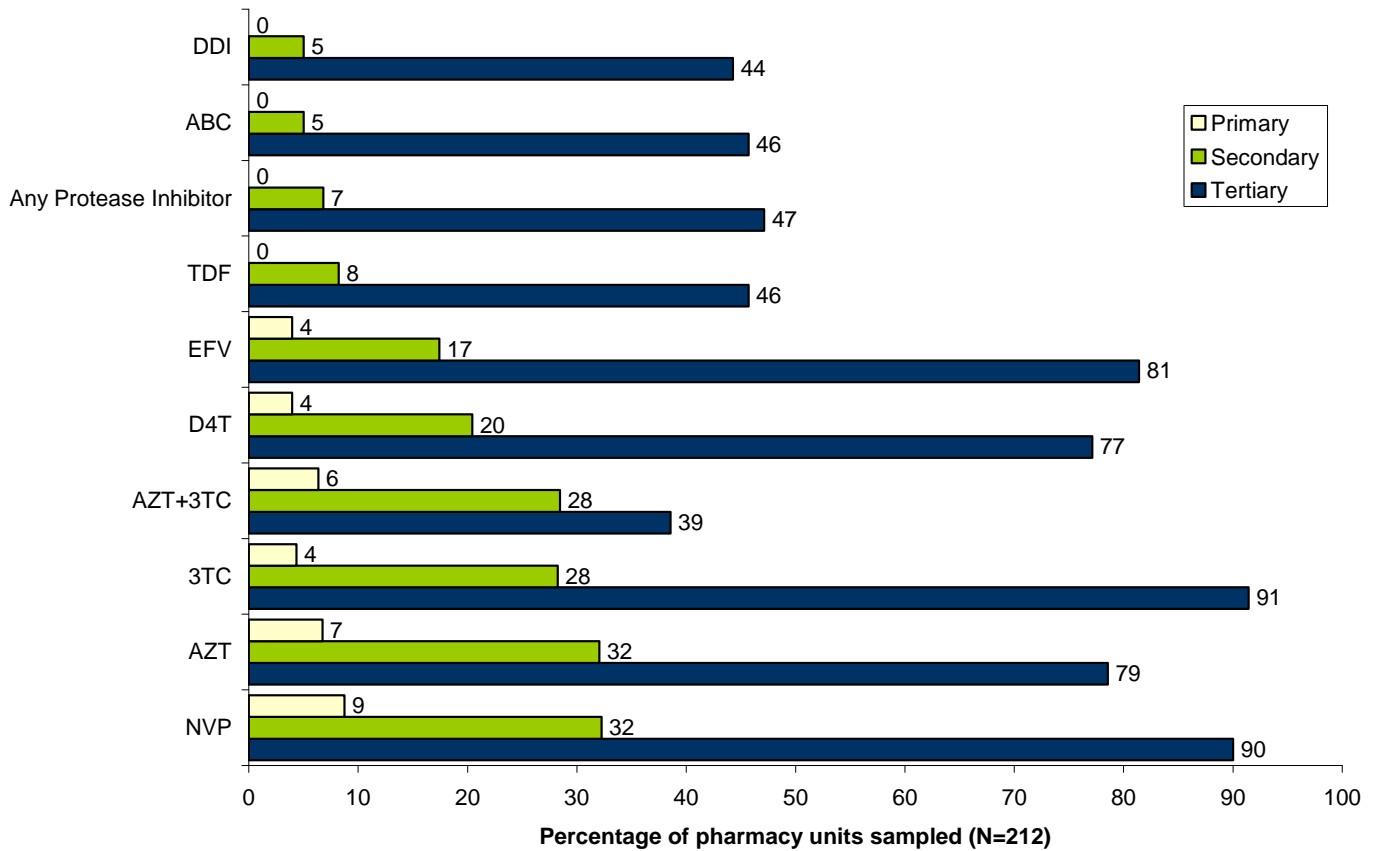
Background characteristic	% of facilities with pharmacies that have Antiretroviral drug stocks*										Total number of facilities with pharmacy
	AZT+3TC	AZT	ABC	DDI	EFV	3TC	NVP	TDF	Protease Inhibitors	D4T	
Type of facility											
Primary	3	3	0	0	0.3	0.3	3	0	0	0.3	50
Secondary	19	32	6	7	17	25	32	8	7	20	114
Tertiary	55	86	24	23	79	90	90	37	25	55	46
Managing authority											
Federal	71	69	41	41	75	79	75	43	45	73	38
State	16	26	3	5	9	14	26	3	2	10	82
Local	0.3	0.3	0	0	0.2	0.3	0.3	0.2	0	0.2	26
Military	51	85	0	0	70	85	85	21	15	21	5
Faith Based	20	25	5	3	19	26	30	12	12	23	58
Region											
North Central	4	7	0.3	0.2	3	6	7	1	2	4	60
North East	4	10	1	1	8	10	8	1	1	6	23
North West	1	2	0.2	0.2	1	2	2	1	0.1	1	38
South East	44	53	19	25	39	44	58	18	24	43	23
South South	19	25	4	3	7	11	25	1	1	7	33
South West	4	8	0.4	0.4	4	4	8	4	0.4	4	33
Urban/rural											
Rural	4	6	0.3	0.3	1	3	6	1	1	2	101
Urban	11	16	3	4	11	13	17	5	4	11	109
Total (%)	7	10	2	2	5	7	10	2	2	5	210

*Availability on the day of the survey

The availability of ARV drug stocks in pharmacies is extremely low. Overall, only one in 10 or fewer of all facilities with pharmacies had any given ARV drug in stock on the day of the survey. A significant proportion of tertiary and federally managed facilities had stocks of first-line drugs (86 percent and 69 percent respectively for AZT; 79 percent and 75 percent respectively for EFV; 90 percent and 79 percent respectively for 3TC; 90 percent and 75 percent respectively for NVP; and 55 percent and 73 percent respectively for D4T). The relatively high availability at tertiary levels is not mirrored in the availability of first-line drugs at secondary or primary levels or in other publicly managed facilities (state- or LGA-managed), indicating a need to extend improvements in drug supplies beyond tertiary care/federally managed facilities. As for second-line drugs, the proportions of facility pharmacies with ABC, ddl, TDF, and protease inhibitors were especially small – just 2 percent on average.

Figure 3.3 displays the availability of key ARV drugs in pharmacies, by level of facility. Most primary and secondary facilities did not have essential ARV drugs in stock on the day of the survey. Availability was better at the tertiary level, but even there many second-line drugs were not in stock.

FIGURE 3.3: PERCENTAGE OF PHARMACY UNITS WITH KEY ARV DRUGS IN STOCK ON THE DAY OF THE SURVEY, BY LEVEL OF FACILITY



TB drug stocks (Table 3.16) in the surveyed pharmacies are slightly better but remain a critical concern. Less than a fifth of surveyed facilities with pharmacies had ethambutol, isoniazid, pyrazinamide, or rifampin on the day of the survey (17 percent, 13 percent, 15 percent, and 14 percent, respectively). Less than a third (31 percent) had streptomycin on the day of the survey.

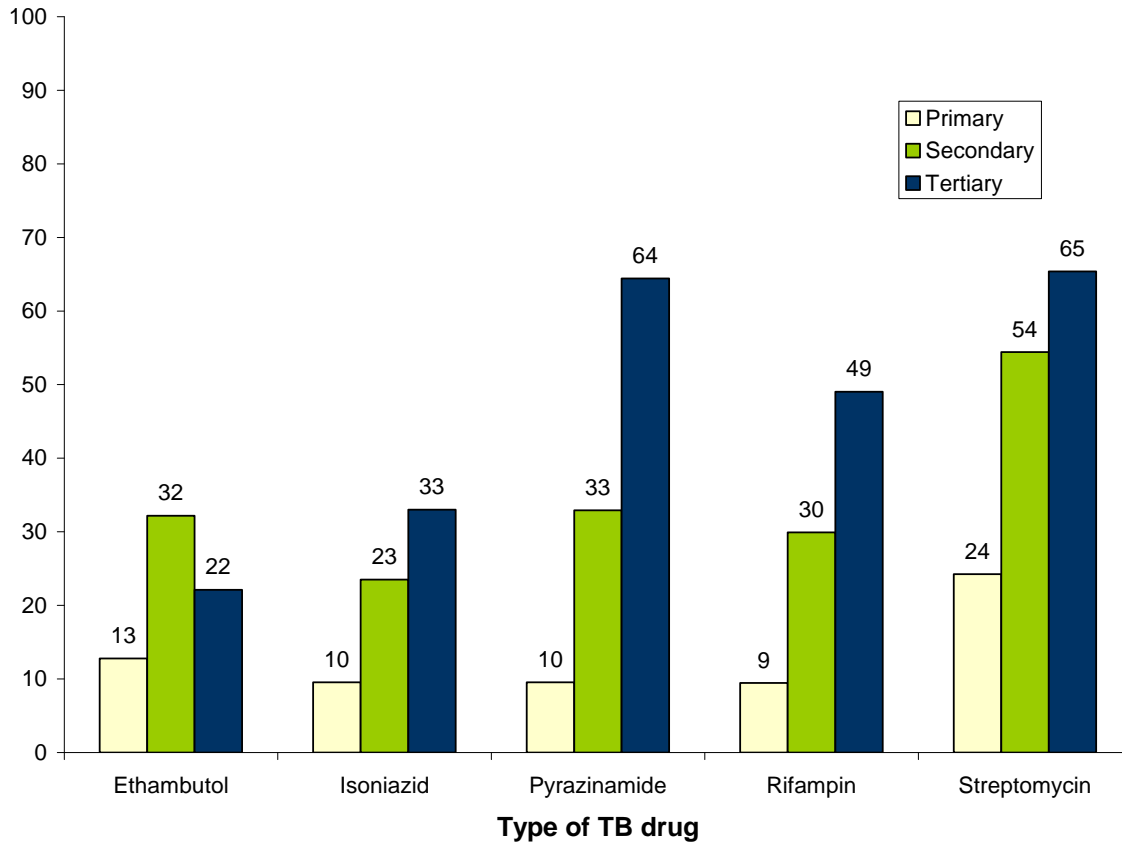
TABLE 3.16. STOCKS OF TB DRUGS

Background characteristic	% of facilities with pharmacies that have TB drug stocks*					Total number of facilities with pharmacy
	Ethambutol	Isoniazid	Pyrazina- mide	Rifampin	Strepto- mycin	
Type of facility						
Primary	13	10	10	9	24	50
Secondary	32	23	33	30	54	114
Tertiary	22	33	64	49	65	46
Managing authority						
Federal	39	41	49	47	69	38
State	17	12	17	15	32	82
Local	15	10	11	10	28	26
Military	30	15	85	64	64	5
Faith Based	32	34	37	37	50	58
Region						
North Central	29	17	18	17	58	60
North East	11	7	9	9	3	23
North West	4	4	6	4	14	38
South East	42	37	57	52	66	23
South South	1	1	4	7	27	33
South West	30	26	27	27	30	33
Urban/rural						
Rural	14	8	10	9	28	101
Urban	21	20	24	23	35	109
Total (%)	17	13	15	14	31	210

*Availability on the day of the survey

Figure 3.4 helps illustrate the disparities in TB drug availability by level of facility. Even at the tertiary level, stocks of TB drugs were absent at many of the facilities.

FIGURE 3.4: PERCENTAGE OF PHARMACY UNITS WITH TB DRUGS IN STOCK ON THE DAY OF THE SURVEY, BY LEVEL OF FACILITY



3.4 ENSURING GOOD QUALITY CARE THROUGH INFECTION CONTROL, TRAINING, REPORTING, AND PROTOCOLS

3.4.1 INFECTION CONTROL PRACTICES

Table 3.17 shows the proportion of facilities with outpatient or inpatient units that have specific infection control amenities or follow specified infection control practices.

The proportion of outpatient units and inpatient units with running water in the exam rooms is relatively low – 43 percent and 29 percent, respectively. The likelihood of having running water in exam rooms is higher at higher-level facilities. To illustrate, only 41 percent of primary care facility outpatient units have running water in their exam rooms, while almost all tertiary care facility outpatient units do. FBO-managed facilities have better infrastructure than LGA-managed facilities (close to 47 percent, vs 39 percent, report having running water) but there is considerable room for improvement.

On a more positive note, more than four-fifths of outpatient and inpatient units (in facilities with an infection control unit) have soap in the exam room. This suggests that even facilities without running water seek to maintain cleanliness standards by using soap with water stored in containers.

TABLE 3.17. SELECTED INFECTION CONTROL PRACTICES

Background characteristic	% of outpatient units that have:					% of inpatient units that have:					% of facilities	
	Running		Sharps			Running		Sharps			with infection control unit that have on-site incinerator	Number of facilities with infection control unit
	water in exam rooms	Soap in exam rooms	container in exam rooms	Disposable needles in exam rooms	Number of facilities with outpatient unit	water in exam rooms	Soap in exam rooms	container in exam rooms	Disposable needles in exam rooms	Number of facilities with inpatient unit		
Type of facility												
Primary	41	82	59	83	84	19	81	56	65	38	30	17
Secondary	56	92	57	78	118	45	95	56	78	102	15	33
Tertiary	95	98	90	63	48	98	98	83	63	45	27	38
Managing authority												
Federal	94	97	86	91	41	95	95	80	88	37	52	29
State	57	96	71	95	87	46	96	76	95	73	26	27
Local	39	80	56	78	47	15	80	47	54	18	27	10
Military	100	100	85	66	5	100	100	82	60	4	42	2
Faith Based	47	85	57	86	69	48	91	55	84	52	9	20
Region												
North Central	35	77	66	83	71	15	62	38	62	49	24	37
North East	52	77	29	99	26	82	100	80	99	20	28	12
North West	43	76	52	68	41	54	96	53	74	28	50	13
South East	19	88	59	66	34	8	89	58	53	34	2	12
South South	38	100	70	87	42	39	97	75	94	32	3	6
South West	81	96	77	99	36	90	90	79	90	22	2	8
Urban/rural												
Rural	34	81	53	79	136	19	84	51	65	95	24	35
Urban	69	91	76	90	114	74	95	82	89	90	27	53
Total (%)	43	84	59	82	250	29	86	56	69	185	26	88

Safe disposal of sharps and other waste is an important concern, especially in contexts with high HIV prevalence. More than half of facilities with infection control units reported having a sharps container in inpatient and outpatient exam rooms. There is a clear gradation by level of health facility, with tertiary facility exam rooms more likely to report having a sharps container (90 percent for outpatient units and 83 percent for inpatient units) and primary facility exam rooms least likely to report having a sharps container (59 percent for outpatient units and 56 percent in inpatient units). When these differences are examined by managing authority, a similar gradation is evident among federally managed, state-managed, and LGA-managed facilities. FBO-managed facilities are more likely to report sharps containers in their outpatient (57 percent) and inpatient (55 percent) exam rooms than LGA-managed facilities, but are less likely to report sharps containers than federal- or state-managed facilities.

Of the 84 facilities in our sample that report having a separate infection control unit, about one quarter have an on-site incinerator. Even among tertiary facilities, only a little over a quarter report having an on-site incinerator (27 percent). Thirty percent of primary facilities report having an incinerator on the premises, while only 15 percent of secondary facilities report having one. When we compare facilities by type of management authority, publicly managed facilities (federal-, state-, and LGA-managed) are more likely to have an incinerator (52 percent, 26 percent, and 27 percent, respectively) than FBO-managed facilities (9 percent). From a regional perspective, facilities in the South East, South South, and South West have an especially severe lack of incinerators, with only 2 percent, 3 percent, and 2 percent, respectively, reporting that they have one on site.

3.4.2 TRAINING

Table 3.18 shows the proportion of all facilities that provide specific types of training to staff. Such training may be on-site, in-service training, or it may be held off site.

Given the high availability of CT (68 percent of all facilities), it is noteworthy that only 40 percent of facilities routinely provide training on HIV/AIDS confidentiality for new staff. Routine provision of confidentiality training is higher at higher-level facilities (tertiary 73 percent; secondary 83 percent). A major gap is presented at primary facilities, where 64 percent offer CT services but only 33 percent routinely train new staff on confidentiality. The gradations visible by facility type mirror those evident by managing authority for federal-, state-, and LGA-managed facilities, suggesting a need to expand training in LGA-managed facilities. FBO-managed facilities are more likely to train new staff on confidentiality than LGA-managed or federally managed facilities but are less likely to train new staff compared with state-managed facilities. Unsurprisingly, urban facilities are more likely to train new staff on confidentiality (60 percent) than rural facilities (34 percent).

More than three-fifths of all facilities (62 percent) support training for staff on HIV counseling, indicating that this service component of CT is fairly widely implemented. However, this relatively high average proportion conceals differences by facility background characteristics. Almost all tertiary facilities (98 percent) and secondary facilities (86 percent) provide training on counseling. Fewer than three-fifths of primary-level facilities (58 percent) provide the same training, indicating once again that capacity at the primary level needs strengthening. These gradations by facility type are reflected in differences by managing authority in publicly managed facilities, with the smallest proportion of LGA-managed facilities reporting in-service training for counseling (55 percent). A higher proportion of FBO-managed facilities provide counseling training (77 percent). A clear rural-urban gap is also evident, with about 59 percent of rural facilities and 74 percent of urban facilities providing in-service HIV counseling training.

TABLE 3.18: TRAINING PROVIDED TO STAFF

Percent of facilities that have provided in-service training on the following topics

Background characteristic	M&E in HMIS unit (n=148)	HIV/AIDS confidentiality to new staff	HIV counseling	HIV testing	Safer sex and HIV prevention	Injection safety	Post-exposure prophylaxis	Community and home-based care	Patient tracking and follow-up	HIV surveillance	Total number of facilities
Type of facility											
Primary	2	33	58	43	36	54	17	32	24	10	103
Secondary	32	83	86	83	65	75	56	40	48	26	129
Tertiary	65	73	98	98	89	97	87	66	57	53	48
Managing authority											
Federal	39	51	66	66	51	96	49	73	42	41	41
State	23	87	84	59	37	59	20	32	33	10	95
Local	0.1	26	55	44	40	55	21	32	25	12	55
Military	36	51	100	100	100	100	85	36	51	21	5
Faith Based	26	61	77	67	57	76	39	50	43	28	83
Region											
North Central	3	21	63	36	34	48	32	39	32	23	77
North East	1	6	30	52	30	31	5	5	28	2	30
North West	1	26	65	56	55	65	37	36	22	1	44
South East	8	35	43	32	20	60	11	37	29	15	39
South South	22	69	71	61	40	58	7	22	4	5	47
South West	11	98	99	64	65	82	29	43	46	25	43
Urban/rural											
Rural	4	34	59	41	34	51	18	32	25	10	156
Urban	15	60	74	73	63	79	37	38	35	22	124
Total (%)	7	40	62	48	40	57	23	33	27	13	280

Provision of training related to HIV testing follows a similar pattern to the one described above, although the average proportion of facilities that provide such training is lower at 48 percent. This lower overall proportion is reflected in larger gaps between primary facilities, on the one hand, and secondary and tertiary facilities on the other. It is also mirrored in the differences between LGA-managed facilities and state and federally managed facilities, and rural and urban facilities.

Less than half of all facilities (40 percent) support training on safer sex and HIV prevention. The most acute need for increased training is at the primary level or in LGA-managed facilities where somewhat more than a third of facilities (36 percent and 40 percent, respectively) provide safer sex and HIV prevention training. Rural facilities (34 percent) also lag considerably behind urban facilities (63 percent) in the provision of this training.

In general, a relatively high proportion of facilities offer training on injection safety (57 percent). However, although almost all tertiary facilities offer injection safety training (97 percent), only about three-quarters of secondary facilities (75 percent) and about half of primary facilities (54 percent) offer the same training. These differences are very similar to the differences between federal-, state-, and LGA-managed facilities. Injection safety training is relatively limited in rural facilities – only about 51 percent of rural facilities provide injection safety training compared with 79 percent of urban facilities.

The proportion of facilities that offer training on PEP is extremely low – 23 percent. Nevertheless, the need is especially acute in primary facilities, LGA-managed facilities, facilities in the South South and North East regions, and rural facilities. The proportion of facilities reporting the *provision* of PEP services (14 percent) is considerably lower than those that report *training* for PEP (23 percent).

On average, only about half of the 148 facilities with an HMIS unit (7 percent) support training on monitoring and evaluation (M&E). A larger proportion of higher-level facilities offer M&E training in their HMIS units, with close to 65 percent of tertiary-level facilities offering training, while 32 percent of secondary-level and just 2 percent of primary-level facilities provide M&E training. This distribution is mirrored in the proportion of facilities with an HMIS unit offering M&E training by managing authority, with no LGA-managed facilities offering M&E training. FBO-managed facilities offer M&E training to a greater extent (26 percent) than state (23 percent). From a geographic perspective, facilities in the North Central (3 percent), North East (1 percent), and North West (1 percent) and rural facilities in general (4 percent) are less likely to offer training than urban facilities (15 percent). The availability of in-service training for patient tracking and follow-up and for HIV surveillance tells much the same story as training for M&E, although the overall proportion of facilities with staff trained on patient tracking and HIV surveillance are higher. The average proportion of facilities that offer training for HIV surveillance is especially low at 13 percent.

3.4.3 REPORTING

Table 3.19 describes the proportion of facilities that regularly compile specific reports as a percentage of facilities that provide specified services.

The proportion of facilities that regularly compile reports on CT, ART, PMTCT, and diagnosed HIV/AIDS cases is relatively high (66 percent, 85 percent, 59 percent, 75 percent, respectively). This contrasts with the proportion of facilities reporting on more generic indicators like outpatient visits and admissions or discharges to inpatient units. When reporting on CT and PMTCT is examined, the heterogeneity between tertiary, secondary, and primary facilities follows the pattern of higher likelihood at higher-level facilities. A smaller proportion of LGA-managed facilities routinely compile reports on CT (48 percent) and PMTCT (30 percent) than either state-managed or federally managed facilities, indicating that routine reporting is less prevalent in these facilities. Higher proportions of FBO-managed facilities report routinely on CT (85 percent) and PMTCT (72 percent) than LGA-managed facilities. This is not the case with reporting for ART and HIV/AIDS laboratory diagnosis, where there is no substantial heterogeneity by facility type.

TABLE 3.19. REPORTING STANDARDS

% of relevant units in which reports are regularly compiled about:						
Background characteristic	Number of client visits to outpatient unit	Number of admissions/ discharges to inpatient unit	Number of clients receiving counseling and/or testing in VCT unit	Number of clients receiving ART	Number of pregnant women receiving PMTCT services	Number of newly diagnosed HIV/AIDS cases in laboratory
Type of facility						
Primary	42	45	62	94	48	71
Secondary	39	73	78	84	82	85
Tertiary	73	96	94	87	90	91
Managing authority						
Federal	48	90	67	95	98	85
State	43	92	98	87	91	75
Local	41	33	48	92	30	73
Military	85	100	100	100	100	100
Faith Based	45	72	85	70	72	80
Region						
North Central	36	38	45	89	19	69
North East	73	64	98	37	100	73
North West	27	34	33	100	77	59
South East	7	53	65	80	44	83
South South	50	98	100	100	90	99
South West	74	95	78	98	97	76
Urban/rural						
Rural	38	47	63	48	52	71
Urban	52	93	73	95	84	83
Total (%)	42	55	66	85	59	75
Total (n)*	250	185	177	79	114	207

VCT: Voluntary Counseling and Testing

*The total N for each variable refers to the number of facilities with the given unit (outpatient, inpatient, etc.)

3.4.4 PROTOCOLS

Table 3.20 describes the proportion of facilities with guidelines or protocols as a percentage of facilities that provide services relevant to the specified guidelines or protocols. A facility is considered to have the guidelines or protocols only if the surveyor observed the copy himself or herself.

TABLE 3.20. AVAILABILITY OF PROTOCOLS

Background characteristic	% of relevant units where the following guidelines or protocols were observed:									
	Guidelines on HIV/AIDS surveillance available in HMIS unit	National ART guidelines available in ART unit	Policy requiring pre- and post-test counseling for HIV test recipients in VCT unit	Guidelines on HIV testing procedures in VCT unit	Informed consent policy in VCT unit	Confidentiality policy in VCT unit	Policy guidelines in PMTCT unit	PEP protocols available somewhere in the facility	Guidelines on universal precautions available in lab	Guidelines on blood safety available in lab
Type of facility										
Primary	6	6	12	11	0	12	22	1	18	14
Secondary	27	48	14	17	16	15	40	36	24	19
Tertiary	23	17	14	15	19	15	35	40	57	41
Managing authority										
Federal	42	39	24	24	40	24	51	56	34	34
State	21	51	12	13	7	6	36	19	20	24
Local	0	100	12	10	0	15	19	1	19	10
Military	0	18	0	0	15	15	60	25	70	49
Faith Based	18	19	19	24	14	18	22	37	23	19
Region										
North Central	3	34	12	23	2	33	31	8	3	3
North East	39	23	0.5	5	1	1	3	1	12	11
North West	6	20	0.3	3	2	2	91	48	4	5
South East	29	11	6	6	4	6	12	16	28	18
South South	21	60	11	11	2	1	27	2	22	36
South West	11	97	30	9	9	9	65	66	45	25
Urban/rural										
Rural	2	11	8	14	1	15	23	4	6	7
Urban	38	47	22	8	8	8	42	40	44	32
Total (%)	13	39	13	12	4	13	27	12	20	16
Total (n)**	148	79	177	177	177	177	144	280	207	207

*Facilities were only counted as having a protocol or guideline 'available' if they could show it to the interviewer.

**The total N for each variable refers to the number of facilities with the given unit (outpatient, inpatient, etc.)

In general, availability of guidelines or protocols is low in all types of facilities. The most commonly available guidelines were national guidelines for ART (39 percent) and policy guidelines for PMTCT (27 percent). Only 4 percent of CT units could show an informed consent policy to the interviewers. In this context, the fact that less than a fifth of facilities offering PEP were able to show PEP guidelines to survey teams points to the need to ensure appropriate and adequate dissemination and distribution of guideline documents. Even at the tertiary level, 57 percent or fewer of respondent facilities for a given protocol were able to produce the document during the interview. Although all LGA-managed facilities with ART units had national ART guidelines, sample size restrictions suggest that these figures should be cautiously interpreted since only two LGA-managed facilities reported having an ART unit.

3.5 FACILITY ADMINISTRATION AND MANAGEMENT

3.5.1 FEES

Table 3.21 examines the proportion of facilities with fees among facilities offering the relevant services and the proportion of facilities with exemptions as a proportion of facilities charging specific fees.

A majority of facilities (57 percent) charge some routine “user fees” for adults. These include fees for client health cards, consultation fees, medications, tests, and registration. More than half of tertiary facilities (58 percent) and primary care facilities (53 percent) charge routine user fees. Eighty-three percent of secondary facilities charge user fees. In general, publicly managed facilities (federal, state, and LGA) are less likely to charge user fees than FBO-managed facilities: 78 percent of FBO-managed facilities charge routine user fees compared with 59 percent of federal-, 56 percent of state-, and 56 percent of LGA-managed facilities. Rural facilities are slightly more likely to charge fees than urban facilities (58 percent vs. 52 percent). A higher proportion of facilities in the North Central region (91 percent) charge routine user fees than the other regions.

It is also important to note that most facilities that routinely charge fees have exemption systems in place – 50 percent of facilities that charge fees have fee exemptions for some client groups. Primary facilities that charge fees are less likely to have fee exemptions (49 percent) than secondary (53 percent) or tertiary (68 percent) facilities that charge fees. Fee exemptions are most common at FBO-managed facilities that charge fees (72 percent). Rural facilities are more likely to have fee exemptions than urban ones, 53 percent vs. 41 percent. Overall, facilities are most likely to charge fees for medications (91 percent) and for registration (90 percent).

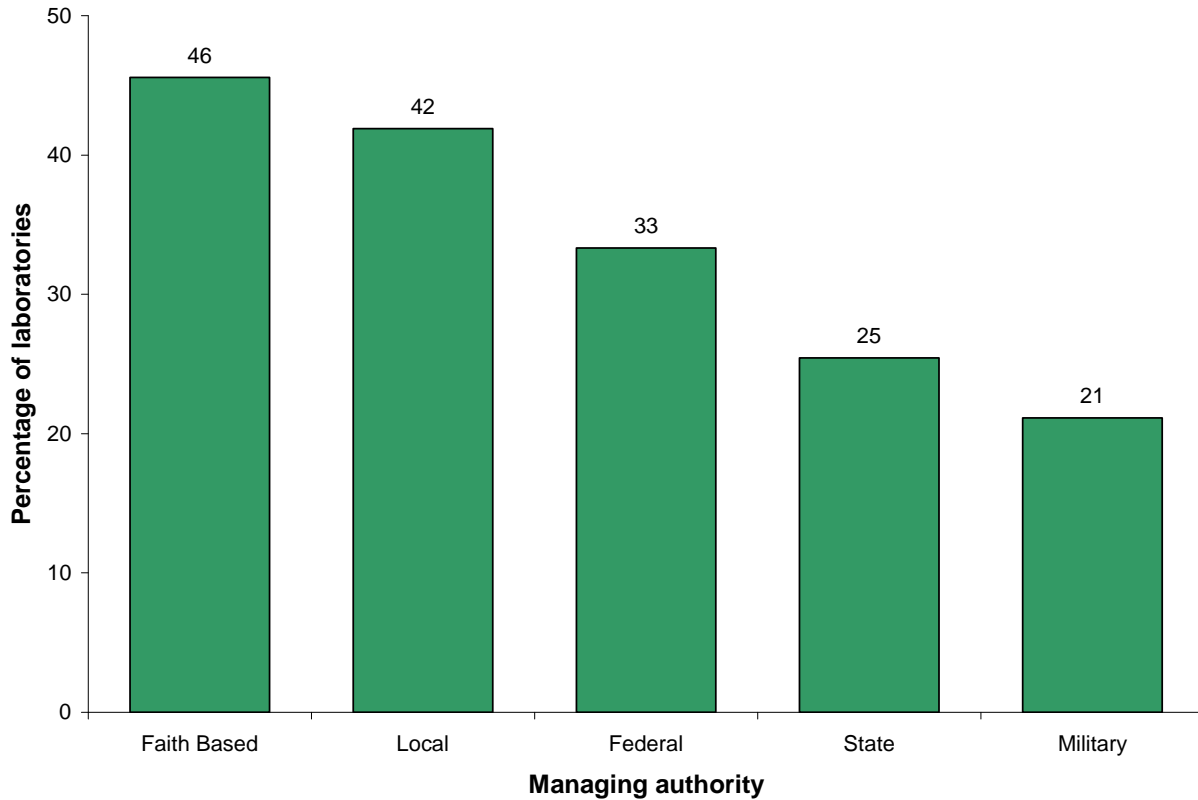
According to national policy, ART, PMTCT, and CT services should be provided free of charge in public facilities. However, of the providers that offer ART services, this survey found that 15 percent charge some fees for ART-related services. Fees ranged from 50 to 2,500 Naira for HIV tests, from 1,500 to 200 Naira for ARV prophylaxis, and from 250 to 3,500 Naira for CD4 count. More than two-fifths of federally managed facilities charge fees for some ART services. Fifteen percent of PMTCT providers charge some fees for PMTCT, and 36 percent of laboratories charge fees for HIV tests. These fees may pose a barrier to accessing care for some groups.

TABLE 3.21. FEES CHARGED AT HEALTH FACILITIES

Background characteristic	Percent of facilities with any routine user fees	Among those with fees, percent with fee exemptions	% of facilities with:				Percent of ARV providers that charge fees for ARVs	Percent of PMTCT providers that charge fees for PMTCT services	Percent of labs that charge fees for HIV tests	Percent of labs that charge fees for CD4 counts and have cytoflowmeter
			Fees for health card or registration	Fees for consultations	Fees for medications	Fees for lab tests				
Type of facility										
Primary	53	49	88	28	89	60	0	14	36	0
Secondary	83	53	95	29	98	99	16	19	37	0.1
Tertiary	58	68	100	32	98	100	17	20	22	12
Managing authority										
Federal	59	57	100	61	74	100	44	13	33	21
State	56	67	88	14	91	92	1	10	25	0.1
Local	56	44	89	29	91	58	92	18	42	0
Military	51	69	100	31	69	69	0	25	21	0
Faith Based	78	72	98	60	98	93	34	27	46	0
Region										
North Central	91	40	93	39	92	59	15	29	46	0
North East	23	5	100	2	98	98	2	0	68	3
North West	31	34	58	4	78	59	4	23	49	1
South East	75	57	100	44	100	66	33	4	24	2
South South	51	55	86	31	72	57	5	5	1	1
South West	61	98	95	3	100	100	5	36	37	0.5
Urban/rural										
Rural	58	53	90	31	91	64	17	13	38	0.2
Urban	52	41	88	18	91	80	15	23	32	1
Total	57	50	90	28	91	67	15	15	36	0.4
Total (n)	280	202	202	202	202	202	79	114	207	120

Figure 3.5 highlights graphically the frequency of fees charged by laboratories for HIV tests, according to the facility’s managing authority. These fees are most common in the private FBO sector – about 46 percent of FBO laboratories charge fees for HIV tests. Forty-two percent of LGA facilities also charge fees for the tests, as do a third of federally managed facilities. Military and state facilities are the least likely to charge fees for the tests.

FIGURE 3.5: PERCENTAGE OF LABORATORIES THAT CHARGE FEES FOR HIV TESTS, BY MANAGING AUTHORITY



3.5.2 MANAGEMENT

Table 3.22 shows the proportion of all facilities that carry out specific management-related activities.

TABLE 3.22. MANAGEMENT, QUALITY ASSURANCE, AND MAINTENANCE

Background characteristic	% of facilities that carry out the following management activities:				Total number of facilities
	Routine management meetings	Routine quality assurance activities	Program for routine infrastructure maintenance	Program for routine equipment maintenance	
Type of facility					
Primary	52	14	42	41	103
Secondary	93	41	65	72	129
Tertiary	99	82	75	75	48
Managing authority					
Federal	68	51	99	99	41
State	82	27	65	65	95
Local	49	13	37	37	55
Military	100	79	79	79	5
Faith Based	81	41	66	64	83
Region					
North Central	66	19	39	45	77
North East	25	4	23	23	30
North West	38	10	43	36	44
South East	47	16	24	25	39
South South	85	6	55	55	47
South West	99	62	100	99	43
Urban/rural					
Rural	49	11	37	36	156
Urban	86	43	71	75	124
Total (%)	58	18	45	45	280

On average, 58 percent of all facilities reported routine meetings to review managerial or administrative matters. The majority of all facilities (in most facility background characteristics) carry out regular management meetings. However, a smaller proportion of primary facilities and LGA-managed facilities report routine meetings (52 percent and 49 percent, respectively). A smaller proportion of rural facilities report routine management meetings than do urban facilities. In addition, certain regions (North East and North West) reported that substantially fewer than 50 percent of facilities have routine management meetings.

Quality assurance activities are defined as any kind of formal system for reviewing quality or the comparison of work or systems to a standard. It is a matter of concern that less than a fifth of facilities report routine quality assurance activities. Only tertiary care and military facilities report relatively high quality assurance activities (more than 75 percent of facilities in those categories). Primary care, LGA-

managed, and rural facilities indicate especially low levels of routine quality assurance activities (less than 15 percent).

Less than half of all facilities reported having a program for routine infrastructure maintenance or routine maintenance for equipment such as refrigerators, sterilizers, or generators. Higher-level facilities are more likely to have routine maintenance programs. At the primary level, less than half of all facilities have programs for infrastructure maintenance (42 percent) and equipment maintenance (41 percent). These gradations are reflected closely in the proportions of federally managed, state-managed, and LGA-managed facilities with routine maintenance programs. There are clear regional differences, with a greater proportion of (virtually all) facilities in the South West region reporting routine maintenance programs. A far lower proportion of facilities in the South East region have routine maintenance programs (24 percent for infrastructure maintenance and 25 percent for equipment maintenance). There is a gap between rural and urban facilities in routine programs for maintenance, with about half of rural facilities reporting maintenance programs (37 percent for infrastructure and 36 percent for equipment) compared with about three-quarters of urban facilities reporting corresponding programs (71 percent for infrastructure and 75 percent for equipment).

3.5.3 BASIC AMENITIES THAT SUPPORT HEALTH SERVICE PROVISION

Table 3.23 describes the proportion of facilities with basic amenities by background characteristics.

TABLE 3.23. BASIC AMENITIES

Background characteristic	% of all facilities with:				% of outpatient units with:			% of inpatient units with:	
	Some electricity	Phone or radio*	Piped water or protected well	Ever have water shortages	Protected waiting area	Functioning client toilet	Private examination rooms	Any bednets in use	Functioning client toilet
Type of facility									
Primary	78	27	70	50	86	68	58	40	84
Secondary	94	45	73	38	98	89	90	23	88
Tertiary	100	45	98	40	99	96	91	54	97
Managing authority									
Federal	100	92	97	20	100	96	90	39	95
State	87	33	79	25	99	88	93	43	81
Local	78	27	68	56	84	65	52	30	87
Military	100	42	100	21	100	100	100	100	100
Faith Based	83	35	79	41	98	93	86	28	81
Region									
North Central	84	18	71	64	71	62	69	8	76
North East	100	63	69	95	99	54	99	48	90
North West	66	26	78	38	85	76	29	26	95
South East	81	37	46	70	89	78	30	42	87
South South	70	10	63	34	100	61	90	55	79
South West	100	52	100	4	100	100	81	23	94
Urban/rural									
Rural	76	26	67	54	86	64	58	33	84
Urban	94	37	82	34	93	92	74	44	92
Total (%)	81	29	71	49	88	71	63	35	85
Total (n)	270	155	267	267	250	250	250	185	185

*Phone or radio communications within 5 minutes of the facility

Close to 81 percent of facilities have electricity at least some of the time, and most have pipe-borne water or a protected well for water (71 percent). Just over a quarter of all facilities have phone or radio communications facilities within five minutes of the facility (29 percent), indicating that a substantial proportion of facilities lack convenient access to essential communications technology. As expected, higher-level facilities have better amenities than lower-level facilities, with sampled tertiary care facilities most likely to report universal availability of basic amenities like electricity and piped water. Smaller proportions of primary care, LGA-managed, and rural facilities have basic amenities than average.

Most outpatient units (88 percent) report having a protected waiting area for patients and caregivers. About two-thirds also report having private examination rooms (63 percent). Primary-level, LGA-managed, and rural facilities are least likely to have a private exam room (58 percent, 52 percent, and 58 percent, respectively) than all facilities on average.

Nearly three-quarters of outpatient units (71 percent) report having a functioning toilet for clients. Inpatient units are much more likely to have a functioning client toilet (85 percent) with fewer differences by facility background characteristics. At about one-third of inpatient facilities (35 percent) were any bednets observed to be in use on the day of the interview.

4. CONCLUSIONS AND RECOMMENDATIONS

Nigeria has made strides in improving the availability of HIV/AIDS services for its population. However, there remains a need to focus on strengthening specific services and scaling up their delivery. This section summarizes the main conclusions of the SPA and presents key recommendations based on the findings.

4.1 CONCLUSIONS

An important positive conclusion is that CT services are widely available across Nigeria; 68 percent of facilities sampled provided CT. However, this is not matched by secondary prevention and treatment services like PMTCT services, ART, and TB services that support individuals who have tested positive for HIV. Only 25 percent, 7 percent, and 36 percent of all facilities provide PMTCT, ART, and TB services, respectively.

Second, there is a great deal of heterogeneity in service availability by level, management, and location of facilities. Primary-level facilities are consistently less likely to provide CT, PMTCT, ART, TB, or PEP services than secondary or tertiary facilities. This heterogeneity is also mirrored in differences by managing authority, since most primary care facilities are LGA-managed. Rural facilities also have lower service availability than urban facilities. In particular, rural facilities are 85 percent less likely to provide ART and 25 percent less likely to provide PMTCT than urban facilities – this is a concern since most of the Nigerian population lives in rural areas.

Third, HIV/AIDS-related service availability at FBO-managed facilities exceeds that at LGA-managed facilities, but is usually weaker than service availability at state-managed and federally managed facilities. This suggests both opportunities and challenges with expanding the role of FBO-managed facilities in HIV/AIDS service delivery through public-private partnerships.

Fourth, PEP services are available in just 14 percent of all facilities, with especially low availability in primary-level, LGA-managed, and rural facilities. Staff training on PEP is provided in slightly more than a fifth of facilities, but this training is not translated into PEP service availability.

Fifth, limited laboratory capacity is a critical concern in primary-level, LGA-managed, and rural facilities. Among facilities that provide laboratory services, only small proportions have the equipment and supplies to perform critical tests like CD4, viral load, and liver function tests. Close to three-fourths of FBO-managed facilities have laboratories, which suggests potential for public-private partnerships to expand laboratory services at lower levels of the health system.

Sixth, the availability of HIV drugs (in terms of stocks on the day of the survey) is very low, especially at primary care and LGA-managed facilities. Tertiary care facilities had relatively widespread availability of first-line ARV drugs: 3TC, NVP, AZT, EFV, and D4T. However, fewer than half of all tertiary facilities had second-line drugs in stock.

Seventh, less than one-fifth of surveyed facilities with pharmacies had all of the key TB drugs in stock on the day of the interview. This is of great concern given increasing TB prevalence rates and HIV/TB co-infections. For diagnosis of TB, most facilities use sputum smears alone or sputum smears in combination with X-rays (45 percent and 31 percent).

Eighth, counseling HIV-positive mothers on infant feeding and provision of breast milk substitutes is limited at primary care facilities. As well, at the primary level there is a substantial gap between provision of ARV prophylaxis to mothers (23 percent) and newborns (9 percent) indicating an important missed opportunity for prevention.

Ninth, quality assurance, M&E, and surveillance are areas that require attention. A very limited proportion of facilities implement routine quality assurance activities. This is a problem in all types of facilities except federally managed and tertiary care facilities. The limited availability of HIV/AIDS-related protocols in facilities is potentially also indicative of the problem, as is the small proportion of facilities that provide training on monitoring and surveillance.

Tenth, user fees are charged at 57 percent of all facilities in Nigeria, though half of facilities that charge fees report providing exemptions to some groups. Despite a national policy that ART and PMTCT services should be provided free of charge, 15 percent of all facilities charge user fees for these services.

4.2 RECOMMENDATIONS

1. Expand the provision of ART, PMTCT, and TB services to lower levels of care. The strategic focus should be on primary-level and LGA-managed facilities that are more accessible to rural populations. These facilities may require capacity-building support to improve quality and service availability.
2. Ensure that PEP services are available in *all* facilities to protect health workers from the risk of occupational exposure. Expand staff training on PEP in facilities that provide PEP already.
3. Improve the availability of HIV/AIDS and TB drugs at health facilities. Increasing the availability of second-line ARV drugs is critical given concerns about resistance to first-line ARV drugs.
4. Institutionalize quality assurance programs and M&E at health facilities, especially at secondary- and primary-level facilities. Expanding training and ensuring the availability of technical protocols relevant to HIV/AIDS-related services is an important first step that is particularly critical in secondary- and primary-level facilities.
5. Explore public-private partnerships with FBOs to expand service availability to underserved populations. However, FBO-managed facilities may require capacity-building support to raise quality and service availability, so partnerships should ideally take these concerns into account.
6. Increase access to laboratory services, especially at the primary level. This can be accomplished either through in-facility laboratories or through referral arrangements with strategically located laboratories in higher-level health facilities or in the private sector. Because more than three-fourths of FBO-managed facilities reported having laboratories, exploring partnerships with these private sector providers may be a quick route to expanding laboratory access.
7. A greater focus on infant feeding counseling and provision of breast-milk substitutes at primary care and LGA-managed facilities is critical. ARV prophylaxis services to newborns and pregnant

women should also be expanded – if necessary by referring pregnant women to higher-level facilities. Given that only one-third of women deliver in health facilities, outreach-based methods for providing ARV prophylaxis should also be pursued.

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