



# NIGERIA HIV/AIDS SERVICE PROVISION ASSESSMENT 2008



A Joint  
Federal Government of Nigeria  
FMOH and NACA  
Project



June 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. HS 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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# **NIGERIA HIV/AIDS SERVICE PROVISION ASSESSMENT 2008**

## **DISCLAIMER**

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# ACRONYMS

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

<b>STD</b>	Sexually Transmitted Disease
<b>STI</b>	Sexually Transmitted Infection
<b>3TC</b>	Lamivudine
<b>TB</b>	Tuberculosis
<b>TFV</b>	Tenofovir
<b>UNDP</b>	United Nations Development Programme
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization

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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. Much more work is needed to make sure that country has the capacity to expand and sustain services over time. Policy makers 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 faith-based 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 representative national sample of 200 public and 100 faith-based facilities was selected for the survey. In January 2008, interviews following a structured questionnaire format were completed at 280 public and private faith-based facilities in all 36 states and the 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 LGA-managed facilities is substantially lower. Service availability at Faith-Based Organization-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 77% of facilities offer HIV counseling and testing. Less than two-fifths of all facilities offer PMTCT services (39%), while less than one in six offer ART services (16%). A little under half of the facilities surveyed provide TB diagnosis and/or treatment (48%). Of significant concern is the limited availability of post-exposure prophylaxis for health workers (20%).

The availability of appropriate drugs and laboratory services is critical for the success ART programs. Despite providing the bulk of ART services, most secondary facilities (81%) did not have essential first-

line ARV drugs (such as AZT, EFV, 3TC, NVP, and D4T) in stock on the day of the survey. Similarly, less than one-third of all pharmacies had the first-line tuberculosis drugs – ethambutol, isoniazid, pyrazinamide, or rifampin – in stock on the day of the interview. The assessment found that approximately two-thirds of health facilities have laboratories; however, few have the capacity to measure CD4 counts (20%), viral load (2%), or conduct liver function tests (28%), and only 28% of laboratories have the necessary supplies and equipment to analyze sputum smears for diagnosis of tuberculosis.

Training on HIV counseling, testing, confidentiality practices, and prevention is available in more than half of all facilities. However, only 39% of facilities provide training on post-exposure prophylaxis. Half or fewer of all facilities have national protocols or guidelines for ART, PMTCT, and VCT available. Between 18% and 24% of facilities charge user fees for PMTCT, ART, or VCT 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 widely available across Nigeria; 77% 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 39%, 16%, and 48% 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 75% less likely to provide ART and half as likely to provide PMTCT as urban facilities– this is a concern since most of the Nigerian population lives in rural areas.

Third, HIV/AIDS-related service availability at Faith-Based Organization (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 in only 20% of all facilities, with especially low availability in primary-level, LGA-managed, and rural facilities. Staff training on PEP is provided in almost two-fifths 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 widespread availability of first line ARV drugs: lamivudine, nevirapine, zidovudine, efavirenz and stavudine. However, fewer than half of all tertiary facilities had second line drugs in stock.

Seventh, less than one-third 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, although 4% of facilities that provide TB services rely only on X-rays or clinical symptoms for diagnosis.

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 (36%) and newborns (10%) 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 three-quarters 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 CT, ART, and PMTCT services should be provided free of charge, 18 to 24% of all facilities charge user fees for these services.

Key recommendations that emerge from this report include the following:

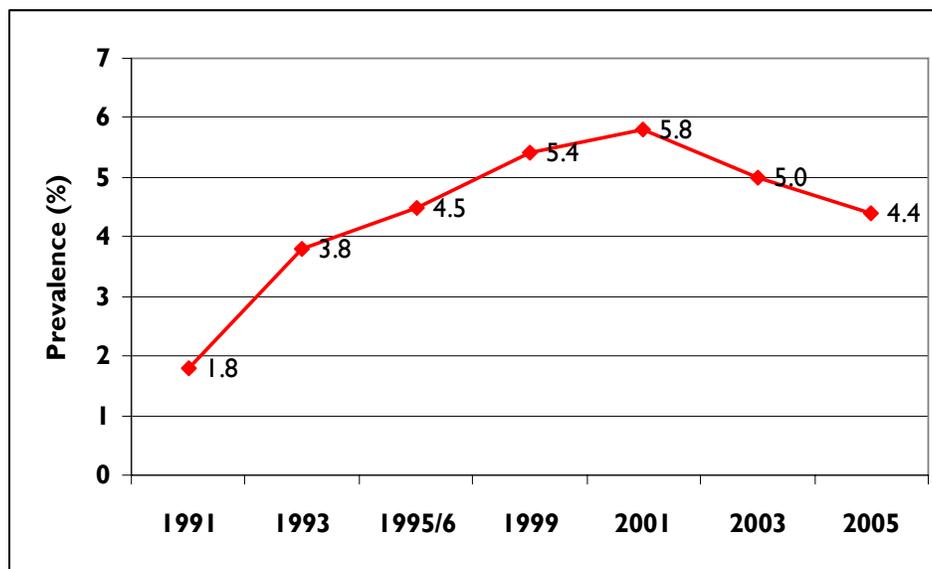
1. Expand the provision of ART, PMTCT, and TB services, especially in primary-level and LGA-managed facilities that are more accessible to rural populations.
2. Ensure that PEP services are available in all facilities to protect health workers from the risk of occupational exposure.
3. Ensure the consistent 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% in 1993 to a peak of 5.8% in 2001 (Federal Ministry of Health [FMOH] 2005; Figure 1.1). As of 2006, 2.9 million people from age 0-49 are living with HIV, and AIDS deaths have 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) which is a multi-sectoral agency including members from many government ministries and civil society. At the state level, State Action Committees on AIDS (SACA) have been established, while at the local level there are Local Action Committees on AIDS (LACA). 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%, 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. Currently, only selected 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 ARV distribution and the integration of TB, HIV, and reproductive health (RH) 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, and the World Bank. Nigeria received Global Fund money in rounds 1 and 5 totaling approximately US\$75 million ([theglobalfund.org](http://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](http://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 counseling & testing.

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 faith-based 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 which 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 Federal Ministry of Health (FMOH) and the National Agency for the Control of AIDS (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 faith-based health facilities in Nigeria. The FMOH provided a list of all public and faith-based health establishments in each state, which was used as the sampling frame. There were 773 public facilities and 496 faith-based facilities on this list. 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 faith-based (n=100) facilities. This allocation slightly overrepresented the proportion of public facilities in the population. 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 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 faith-based 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. The precision of estimates may be slightly higher than for a simple random sample because of the certain selection of some public facilities and the use of region and state as stratification variables.

### 2.3 DATA COLLECTION

The Health Systems 20/20 team adapted previous SPA data collection instruments developed by ORC Macro,<sup>1</sup> as well as the Côte d'Ivoire SPA protocol developed by Health Systems 20/20 (Kombe et al.

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<sup>1</sup> Please see the Demographic and Health Surveys (DHS) website for a full listing of previous SPA reports ([http://www.measuredhs.com/pubs/search/search\\_results.cfm?Type=21&srchTp=type&newSrch=1](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.

2007), in drafting the Nigeria SPA questionnaire. 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 AHP 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 95% (280/295).<sup>2</sup>

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 8 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 faith-based 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 (NGO or faith-based).

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<sup>2</sup> Facilities which 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**

<b>North Central</b>	<b>North East</b>	<b>North West</b>	<b>South East</b>	<b>South South</b>	<b>South West</b>
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) and an 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 faith-based 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**

<b>Variable</b>	<b>Unweighted N</b>	<b>Unweighted column %</b>	<b>Weighted column %</b>
<i>Level of facility</i>			
Tertiary	48	17.4	6.0
Secondary	128	46.4	47.7
Primary	97	35.1	45.0
Other	3	1.1	1.3
<i>Managing authority</i>			
Federal	40	14.3	4.1
State	96	34.4	34.9
LGA	57	20.4	28.0
Military	5	1.8	0.4
NGO	6	2.1	2.6
Faith-based private	75	26.9	30.0
<i>Region</i>			
North Central	77	27.5	28.3
North East	30	10.7	10.4
North West	44	15.7	16.5
South East	39	13.9	15.5
South South	47	16.8	15.1
South West	43	15.4	14.2
<i>Location</i>			
Urban	156	55.7	66.0
Rural	124	44.3	34.0
<b>TOTAL</b>	<b>280</b>	<b>100.0</b>	<b>100.0</b>

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, 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 which 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, PMTCT, or ART) 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.

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 & 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, 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)
<b>Type of facility</b>						
Tertiary	100	92	90	92	78	48
Secondary	92	51	20	69	28	128
Primary	59	22	2	23	5	97
Other	38	0	0	0	0	3
<b>Managing authority</b>						
Federal	100	86	84	86	80	40
State	88	55	20	63	24	96
LGA	63	23	2	31	4	57
Military	100	80	80	60	40	5
NGO	42	42	23	42	23	6
FBO	77	29	12	41	21	75
<b>Region</b>						
North Central	77	46	14	41	14	77
North East	64	45	29	64	15	30
North West	85	23	5	56	16	44
South East	71	36	23	47	32	39
South South	78	40	16	30	27	47
South West	84	45	14	61	18	43
<b>Urban/rural</b>						
Rural	73	30	7	41	10	156
Urban	85	59	33	61	39	124
<b>Total (%)</b>	<b>77</b>	<b>39</b>	<b>16</b>	<b>48</b>	<b>20</b>	<b>280</b>

**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.

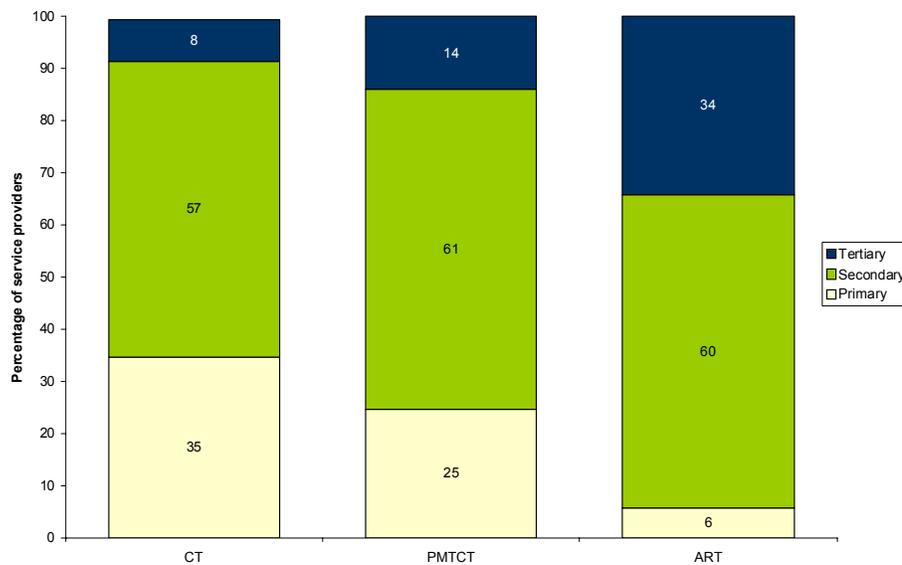
**TB:** Facility offered diagnosis and/or treatment services for tuberculosis.

**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. 77% of all facilities offer CT services. However, the availability of TB services (48% of facilities), PMTCT (39%), and PEP (20%) is much lower while ART availability is extremely low (16%). Almost all tertiary care facilities provide CT, PMTCT, ART, and TB services and most also provide PEP services. At the secondary level, almost all facilities provide CT services but the availability of the remaining services examined leaves room for improvement. Aside from CT, service availability at the primary level is much more limited. Less than one-quarter of primary-level facilities offer PMTCT and TB services. ART is generally not provided at the primary level (2%). PEP services are also especially lacking, with only 5% of primary-level facilities reporting the availability of PEP services.

Figure 3.1 displays the distribution of facilities offering CT, PMTCT, and ART services, according to the level of facility. Here it is noteworthy that the bulk of providers for all three key HIV/AIDS services is at the secondary level (between 57% and 61%). Just over one-third of all facilities providing CT services are at the primary level, and one-quarter of facilities providing PMTCT services are at the primary level. Very few ART providers are at the primary level (6%); as expected, a much larger proportion (34%) of ART providers is at the tertiary level.

**FIGURE 3.1: DISTRIBUTION OF HIV/AIDS SERVICE PROVIDERS, BY LEVEL OF FACILITY**

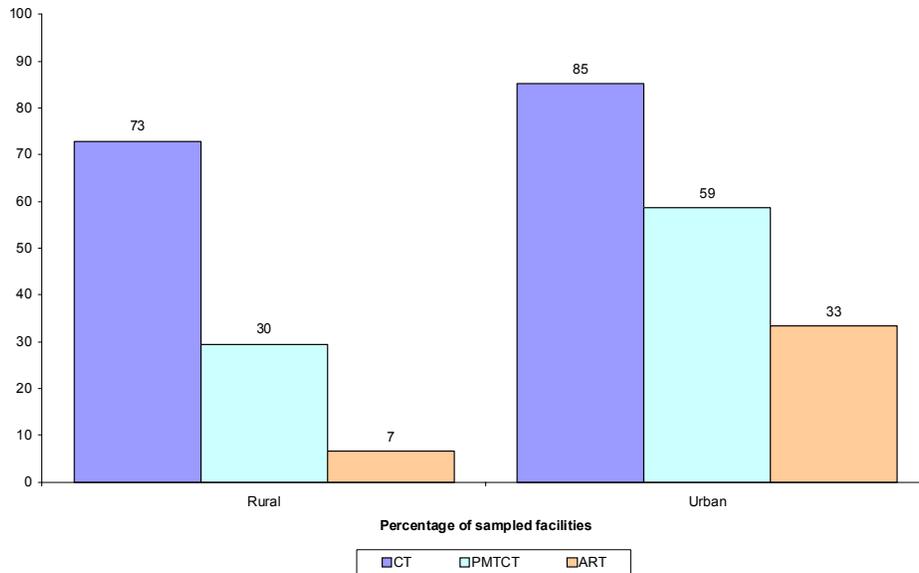


Looking at service provision by managing authority (Table 3.1) it is evident that the availability of HIV/AIDS services at federal government-managed facilities is high. 88% of state-run facilities offer CT services, but (in keeping with the overall pattern) there are much lower levels of availability 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- and NGO-managed facilities due to the small numbers of facilities assessed here (five and six, respectively). It appears that HIV/AIDS service availability in military-run facilities is relatively greater than the overall average, while service provision is relatively limited in the NGO facilities.

The availability of all HIV/AIDS services is lower in rural areas than in urban areas (Table 3.1 and Figure 3.2). CT services are relatively widely available in rural areas (73% of rural facilities offer CT), but the availability of the remaining services examined is far more limited. The extremely low availability of

PMTCT (30%) and ART services (7%) 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. Only one in 10 rural facilities provides access to PEP services. The urban/rural gap is smallest in the case of CT services, which once again, underlines the need to emphasize scale up of other HIV/ AIDS and TB services in rural areas.

**FIGURE 3.2: 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, 77% 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=174).

The availability of CT services is high in general. Almost all facilities that provide any CT services provide both pre- and post-test counseling (96%). Close to 90% of all facilities have visual and auditory privacy for counseling and 96% have a trained counselor. However, large disparities are evident by facility level – only about three-fourths of primary-level facilities report having privacy for counseling. 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	
<b>Type of facility</b>									
Tertiary	100	99	93	100	93	99	100	97	43
Secondary	100	99	97	96	93	88	81	90	90
Primary	100	88	76	95	76	76	75	77	38
Other	0	0	0	0	100	0	0	100	1
<b>Managing authority</b>									
Federal	100	98	91	100	89	98	100	96	34
State	100	100	97	99	93	92	82	94	66
LGA	100	80	65	95	60	63	68	68	21
Military	100	100	100	100	100	100	100	100	5
NGO	100	100	100	100	100	100	100	100	2
FBO	98	98	96	91	96	87	72	77	46
<b>Region</b>									
North Central	100	89	89	92	78	77	75	68	53
North East	100	100	89	100	99	100	73	100	18
North West	100	99	75	100	85	75	82	100	21
South East	100	94	94	95	92	83	71	62	21
South South	100	100	94	99	94	100	89	100	33
South West	95	100	98	95	93	87	83	100	28
<b>Urban/rural</b>									
Rural	100	92	86	94	86	80	76	84	76
Urban	98	100	96	98	90	91	83	90	98
<b>Total (%)</b>	<b>99</b>	<b>96</b>	<b>91</b>	<b>96</b>	<b>88</b>	<b>86</b>	<b>80</b>	<b>87</b>	<b>174</b>

Of the facilities that provide any CT services, only 88% provide HIV testing on-site. Once again, a much smaller proportion of primary-level facilities provide HIV testing on the premises (76% compared with approximately 93% of secondary and tertiary facilities). The disparities are even wider when we compare facilities by managing authority: only 60% of LGA-managed CT facilities provide HIV testing compared with 93% and 89% of state and federally managed facilities.

Military- and NGO-managed facilities show very high service availability. However, caution must be exercised in making inferences about these two groups given the very small number of facilities of these types that are reporting (see Table 3.1).

Record-keeping on CT is also relatively good with 86% of CT facilities reporting that they do keep records. Record-keeping at the primary level (76%) is lower than at secondary and tertiary facilities (88% and 99%, respectively). LGA-managed facilities exhibit much lower levels of record keeping than federal or state facilities. Only 63% of LGA-managed facilities report keeping records compared to 92%, 98%, and 87% of state, federally, and FBO-managed facilities respectively.

A positive finding is that safety standards for testing are relatively high. Eighty percent of facilities that draw blood in the CT unit report having sharps containers and 87% 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

174 – and this is because they either refer clients to draw blood elsewhere in the facility (such as in the laboratory), are testing with rapid kits that might not require that blood be drawn with a syringe, or do not offer testing services.

### 3.2.2 ANTIRETROVIRAL THERAPY SERVICES

In our survey, only 16% 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, military, and NGO facilities providing ART was very small (n=8). Table 3.3 examines the availability and quality of specific ART services for those facilities that completed the ART section of the questionnaire (N=79).

**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

<b>Background characteristic</b>	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	<b>Total number of ART facilities (n)</b>
<b>Type of facility</b>									
Tertiary	62	75	92	26	32	18	0	15	45
Secondary	54	44	90	19	31	12	0	7	31
Primary	91	45	100	0	45	45	0	0	3
<b>Managing authority</b>									
Federal	74	79	93	26	33	26	0	7	36
State	41	43	99	25	34	3	0	18	25
LGA	0	86	14	0	0	0	0	0	2
military	75	25	75	25	25	25	0	25	4
NGO	100	100	100	0	100	86	0	0	2
FBO	78	44	89	11	22	22	0	0	10
<b>Region</b>									
North Central	74	72	81	2	19	26	0	0	21
North East	47	7	100	3	20	3	0	3	12
North West	80	80	90	10	20	20	0	0	10
South East	73	52	89	27	39	14	0	0	13
South South	24	34	97	14	34	7	0	17	15
South West	50	100	100	75	63	29	0	50	8
<b>Urban/rural</b>									
Rural	81	51	85	4	30	28	0	2	18
Urban	51	56	93	26	33	12	0	12	61
<b>Total (%)</b>	<b>59</b>	<b>55</b>	<b>91</b>	<b>20</b>	<b>32</b>	<b>16</b>	<b>0</b>	<b>10</b>	<b>79</b>

OI: Opportunistic Infection

Facilities tend to use at least one of several medical criteria to determine eligibility for ART. Most ART providers (91%) use CD4 count to determine eligibility for ART. CD4 counts are used as a criterion by most tertiary (92%), secondary (90%), and primary (100%) level facilities. This criterion is frequently used across types of facility by management-type. Eighty-five 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<sup>3</sup> as well (81% vs. 51%).

Fewer than 10% 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 3.4: 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)
<b>Type of facility</b>									
Tertiary	95	95	50	81	60	77	45	54	45
Secondary	91	82	59	61	74	65	31	18	31
Primary	100	91	55	91	55	91	45	0	3
<b>Managing authority</b>									
Federal	95	93	51	88	60	81	40	62	36
State	88	81	72	53	82	54	54	24	25
LGA	100	86	14	86	14	86	0		2
military	75	100	50	75	75	25	25	50	4
NGO	100	100	0	100	0	100	0	100	2
FBO	100	89	44	78	67	89	11		10
<b>Region</b>									
North Central	96	94	74	80	53	77	32	13	21
North East	83	67	53	47	67	50	56	14	12
North West	70	70	33	50	10	30	40	40	10
South East	100	89	27	86	82	98	16	23	13
South South	93	93	55	38	69	34	10	41	15
South West	100	100	83	100	96	100	83	75	8
<b>Urban/rural</b>									
Rural	85	74	72	51	70	51	62	9	18
Urban	96	92	49	77	67	78	26	36	61
<b>Total (%)</b>	<b>93</b>	<b>87</b>	<b>56</b>	<b>70</b>	<b>68</b>	<b>71</b>	<b>36</b>	<b>29</b>	<b>79</b>

Table 3.4 examines the tests conducted prior to initiating ART. Close to 93% of facilities that offer ART routinely conduct hemoglobin or hematocrit testing before starting treatment. Differences by primary/secondary/tertiary type are small. Although 85% of rural facilities conduct hemoglobin tests before starting ART treatment, it is still lower than the corresponding proportion for urban facilities (96%).

<sup>3</sup> World Health Organization (2005), Interim WHO Clinical Staging of HIV/AIDS and HIV/AIDS Case Definitions for Surveillance, African Region, Geneva: WHO.

Eighty-seven percent of facilities that provide ART routinely conduct a full blood count prior to commencing ART. A smaller proportion of secondary (82%) and primary-level (91%) facilities routinely conduct a full blood count, but the absolute levels are relatively high. Fewer than three-fourths of rural ART facilities routinely conduct full blood count compared with 92% of urban facilities, indicating room for improvement.

Liver function tests are also essential before starting ART and for monitoring drug side effects. Fewer than three-quarters of all ART facilities (71%) 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 54%. Only a quarter 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 ARV treatment are very low (36% and 29%, 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 3.5 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 97% of ART facilities), AZT (93%), NVP (89%), and d4T (88%) 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 (58%).

However, drugs that are more commonly used for second-line therapy were rarely prescribed by these facilities. Less than one-third of facilities prescribed abacavir (ABC), didanosine (ddI), or tenofovir (TFV), while less than 14% 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 providers that routinely prescribe the following drugs:									Most commonly prescribed first-line regimens:			Total number of ART facilities (n)
	Abacavir (ABC)	Didanosine (ddl)	Efavirenz (EFZ)	Lamivudine (3TC)	Nevirapine (NVP)	Protease inhibitors*	Stavudine (d4T)	Tenofovir (TFV)	Zidovudine (AZT)	D4T + 3TC + NVP	AZT + 3TC + NVP	Other	
<b>Type of facility</b>													
Tertiary	41	38	65	95	97	18	85	40	88	65	31	5	45
Secondary	17	20	65	98	83	12	89	20	95	55	39	6	31
Primary	0	0	91	100	100	0	91	45	100	45	55	0	3
<b>Managing authority</b>													
Federal	39	37	74	93	98	24	79	38	81	74	19	7	36
State	25	29	66	97	91	10	92	18	96	59	32	9	25
LGA	0	0	0	100	14	0	86	0	100	86	14	0	2
military	50	50	50	100	75	25	50	25	50	50	50	0	4
NGO	14	14	100	100	100	14	100	100	100	0	100	0	2
FBO	11	11	67	100	89	11	89	33	100	44	56	0	10
<b>Region</b>													
North Central	13	23	64	98	85	17	91	21	91	66	30	4	21
North East	10	7	53	100	80	3	73	10	97	73	27	0	12
North West	20	30	70	80	100	0	80	20	80	60	40	0	10
South East	14	7	77	98	100	14	86	36	100	30	68	2	13
South South	28	48	45	97	76	10	93	28	83	83	14	3	15
South West	83	57	92	100	100	29	96	58	96	42	33	25	8
<b>Urban/rural</b>													
Rural	4	6	55	100	87	0	85	15	91	62	36	2	18
Urban	31	32	70	96	90	18	88	34	93	56	37	7	61
<b>Total (%)</b>	<b>24</b>	<b>25</b>	<b>66</b>	<b>97</b>	<b>89</b>	<b>14</b>	<b>88</b>	<b>29</b>	<b>93</b>	<b>58</b>	<b>37</b>	<b>5</b>	<b>79</b>

\*Includes Indinavir, Nelfinavir, Ritonavir, Saquinavir

### 3.2.3 PMTCT SERVICES

As described in Table 3.1, less than two-fifths (39%) 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=114).

**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
<b>Type of facility</b>								
Tertiary	95	100	100	100	100	100	98	44
Secondary	100	100	100	99	77	77	72	57
Primary	91	53	91	48	36	36	10	12
<b>Managing authority</b>								
Federal	93	100	100	98	100	100	95	37
State	100	97	97	96	78	78	68	44
LGA	86	44	100	35	30	30	16	8
military	100	100	100	100	100	100	100	4
NGO	100	100	100	100	100	100	100	2
FBO	100	100	100	100	67	67	65	19
<b>Region</b>								
North Central	95	86	100	89	62	62	54	36
North East	100	100	100	86	86	86	73	15
North West	93	100	100	96	96	96	96	13
South East	98	90	100	90	82	82	73	17
South South	100	89	89	89	78	78	67	20
South West	100	100	100	100	56	56	56	13
<b>Urban/rural</b>								
Rural	96	85	96	81	59	59	41	36
Urban	99	97	100	100	83	83	83	78
<b>Total (%)</b>	<b>98</b>	<b>92</b>	<b>98</b>	<b>91</b>	<b>73</b>	<b>73</b>	<b>65</b>	<b>114</b>

ANC: Antenatal Care

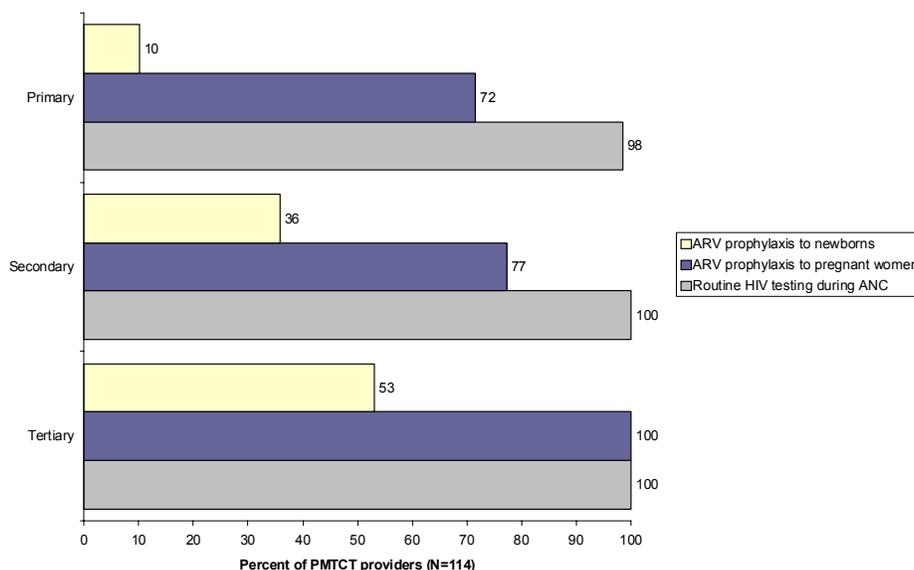
ARV: Antiretroviral

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 (98%) 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 (91%) and LGA-managed (86%) facilities have a trained counselor on staff (compared with secondary- and tertiary-level facilities or federal-, state-, and FBO-managed facilities).

About 90% 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 3.3). When facilities are compared by management authority, it is clear that a very small proportion (44%) 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 (97%, 100%, and 100%, respectively). There is a rural-urban gap as well, although it is not as severe.

**FIGURE 3.3: AVAILABILITY OF KEY SERVICES AMONG PMTCT-PROVIDING FACILITIES, BY LEVEL OF FACILITY**



At 98%, provision of any pre-test or post-test counseling is near universal. Primary-level facilities and facilities in the South show the lowest levels of provision (91% and 89%, respectively) among all facilities providing PMTCT services – although the absolute levels are high.

Over 90% 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 48% 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 (35%). A smaller proportion of rural facilities counsel HIV-positive mothers on infant feeding (81%) compared with urban facilities (100%).

The picture is less positive when we examine the proportion of PMTCT facilities that provide breast-milk substitutes for newborns of HIV-positive women. Fewer than three-quarters (73%) of all PMTCT facilities offer breast-milk substitutes. However, this average conceals large disparities by facility type and managing authority. Almost all tertiary facilities (100%) provide breast-milk substitutes for newborns of HIV-positive women. However, only 77% of secondary facilities and 36% of primary facilities provide breast-milk substitutes. A similar gradation is visible by managing authority with 100% of federally managed, 78% of state-managed, and only 30% of LGA-managed facilities providing breast-milk substitutes. Although a higher proportion of FBO-managed facilities offer breast-milk substitutes, this figure (67%) remains lower than the corresponding proportion of both state (78%) and tertiary-level (100%) facilities. Rural-urban disparities are also very sharp with only 59% of rural PMTCT facilities offering breast-milk substitutes compared with 83% of urban facilities.

Almost all tertiary-level PMTCT units offer ARV prophylaxis to pregnant women and newborns (Figure 3.3 above). Around three-quarters 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 (36%) and newborns (10%). 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% of deliveries occur in a health facility.<sup>4</sup> 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 (78% and 67%) offer ARV prophylaxis, while all federally managed facilities (100%) offer this service. These patterns are closely mirrored for ARV prophylaxis to newborns in PMTCT units.

### **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, specially trained counselors, or communications materials aimed at youths.

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<sup>4</sup> National Population Commission [Nigeria] and ORC Macro (2004), Nigeria Demographic and Health Survey 2003, Calverton, Maryland: National Population Commission and ORC Macro.

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

Background characteristic	Any YFS in CT unit	Total number of CT facilities	Any YFS in PMTCT unit	Total number of PMTCT facilities
<b>Type of facility</b>				
Tertiary	24	43	6	44
Secondary	18	90	10	57
Primary	11	38	0	12
Other	0	1	na*	0
<b>Managing authority</b>				
Federal	32	34	7	37
State	7	66	8	44
LGA	14	21	0	8
military	0	5	0	4
NGO	100	2	86	2
FBO	22	46	6	19
<b>Region</b>				
North Central	26	53	17	36
North East	2	18	0	15
North West	10	21	0	13
South East	25	21	11	17
South South	5	33	0	20
South West	13	28	0	13
<b>Urban/rural</b>				
Rural	13	76	8	36
Urban	20	98	7	78
<b>Total (%)</b>	<b>16</b>	<b>174</b>	<b>8</b>	<b>114</b>

\*na: Not Applicable

CT: Counseling and Testing

PMTCT: Prevention of Mother to Child Transmission

In general, the availability of youth-friendly services is low. Only 16% of facilities providing CT and 8% 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. However, availability of youth-friendly services is especially low in North East and South South region facilities (2% and 5%, respectively) among facilities offering CT and none of the surveyed PMTCT facilities in the North East, North West, South South, and South West region provide youth friendly services. A very high proportion of NGO facilities provide youth-friendly services but these proportions should be interpreted with caution since only two solely NGO facilities are included in this sample.

### 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, 48% 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=137).

**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:				
	Routinely use only sputum smear for diagnosis	Routinely use only X-ray or clinical symptoms 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	Number of DOTS Providers (n)
<b>Type of facility*</b>										
Tertiary	19	0	67	87	45	22	89	25	63	41
Secondary	40	6	43	76	79	22	100	19	19	61
Primary	57	0	17	66	13	0	100	na	na	8
<b>Managing authority</b>										
Federal	18	0	73	78	35	16	83	14	57	31
State	43	5	46	82	61	16	99	15	15	52
LGA	56	0	11	63	9	0	100	na	na	5
military	0	67	33	100	3	0	100	na	na	3
NGO	0	0	14	100	2	14	100	100	100	2
FBO	36	4	41	66	27	39	100	31	31	17
<b>Region</b>										
North Central	28	3	40	75	31	6	96	0	30	25
North East	35	9	57	67	20	33	97	0	14	16
North West	64	7	27	84	24	12	99	37	28	19
South East	27	0	42	83	16	67	94	0	0	14
South South	43	0	57	77	20	10	100	0	0	15
South West	38	5	44	72	26	10	100	46	46	21
<b>Urban/rural</b>										
Rural	53	4	30	71	56	18	100	33	25	40
Urban	22	4	58	82	81	21	96	15	23	70
<b>Total (%)</b>	<b>39</b>	<b>4</b>	<b>43</b>	<b>76</b>	<b>137</b>	<b>20</b>	<b>98</b>	<b>20</b>	<b>24</b>	<b>110</b>

\*No 'Other' facilities reporting

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

Close to 40% of all facilities that provide TB services diagnose TB using sputum smears only, whereas only 4% rely only on X-ray or clinical symptoms for diagnosis. Another 43% 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 (57%, 56%, and 53%, respectively), while tertiary-level and federally managed facilities use both sputum smear and X-ray for diagnosis (67% and 73%, 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 (76%) of all TB service-providing facilities provide Directly Observed Treatment, Short Course (DOTS). A relatively small proportion of primary-level TB facilities provide DOTS (66%) compared with secondary (76%) and tertiary (87%) 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 state and federal facilities. Although military- and NGO-managed facilities show virtually universal DOTS provision, this should be interpreted with caution due to the small sample size for military- and NGO-managed facilities. The proportion of FBO-managed TB facilities that provide DOTS is similar to LGA-managed facilities. Close to three-fourths of rural TB facilities (71%) provide DOTS, a slightly lower level of provision compared to urban facilities (82%).

The most widely implemented treatment strategy among DOTS providers is to have clients come to the facility themselves (98%), rather than to hospitalize clients (20%), use outreach workers (20%), or depend on family or community workers to observe compliance (24%). No primary-level or LGA-managed DOTS facilities and only a small proportion of tertiary (25%), secondary (19%), federally managed (14%), and state-managed (15%) facilities use outreach workers for direct patient observation. Nearly a third of FBO-managed facilities use outreach workers for direct observation (31%). The small numbers of primary-level, LGA-managed, NGO-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.

Approximately a fifth of facilities provide PEP services somewhere in the facility. Another 8% refer exposed staff to another facility for PEP. Conversely, almost three-quarters (72%) of facilities reported that they do not provide access to PEP on site or through referral. A relatively high proportion of tertiary-level and federally managed facilities provide PEP in the facility (78% and 80%, respectively). 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 a PEP unit, % 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=250)	PEP available in inpatient unit (n=195)	PEP available in laboratory (n=206)
<b>Type of facility</b>							
Tertiary	78	10	13	48	49	31	56
Secondary	28	11	61	128	16	11	28
Primary	5	6	89	97	3	1	11
Other	0	0	100	3	na	0	na
<b>Managing authority</b>							
Federal	80	2	18	40	60	34	54
State	25	19	57	96	17	10	30
LGA	4	4	93	57	1	2	25
military	40	40	20	5	25	40	0
NGO	23	0	77	6	28	3	100
FBO	21	2	78	75	12	6	21
<b>Region</b>							
North Central	14	4	82	77	15	6	26
North East	15	14	71	30	1	7	20
North West	16	12	72	44	7	4	19
South East	32	0	68	39	23	15	50
South South	27	19	55	47	10	2	44
South West	18	6	76	43	45	9	20
<b>Urban/rural</b>							
Rural	10	8	83	156	7	3	14
Urban	39	9	51	124	32	15	43
<b>Total (%)</b>	<b>20</b>	<b>8</b>	<b>72</b>	<b>280</b>	<b>16</b>	<b>7</b>	<b>30</b>

### 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 NGO- and military-managed facilities and “other” facilities should be made with caution since the sample sizes are small.

Almost all facilities (97%) report that they offer treatment for malaria. This is an important positive finding. The proportion of facilities that offer STI services is also high (88%). 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 three-quarters (71%) of facilities offering STI services.

**TABLE 3.10. AVAILABILITY OF SERVICES FOR MALARIA AND STIS**

% of facilities offering treatment for:

Background characteristic	Malaria		STI	
		<i>Total number of facilities (n)</i>		<i>Total number of facilities (n)</i>
<b>Type of facility</b>				
Tertiary	100	48	100	48
Secondary	98	118	97	115
Primary	96	72	72	61
Other	100	1	na	0
<b>Managing authority</b>				
Federal	100	40	100	39
State	100	85	97	82
LGA	95	43	77	36
military	100	5	100	5
NGO	100	6	42	6
FBO	95	62	89	55
<b>Region</b>				
North Central	94	65	89	58
North East	100	26	100	25
North West	94	40	89	36
South East	100	35	71	35
South South	100	40	87	34
South West	100	36	100	36
<b>Urban/rural</b>				
Rural	97	128	82	113
Urban	99	114	99	111
<b>Total (%)</b>	<b>97</b>	<b>242</b>	<b>88</b>	<b>224</b>

### 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 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 45% of facilities report having an HMIS unit. Almost all tertiary facilities have an HMIS unit and close to 60% of secondary facilities have an HMIS unit. However, fewer than a quarter 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 much smaller proportion of state- and LGA-managed facilities having an HMIS unit than federally managed facilities. Fewer than half of all FBO-managed facilities have an HMIS unit (43%), suggesting low HMIS capacity in the private faith-based sector as well. There are important regional differences, with South South facilities having the highest HMIS capacity (64% have an HMIS unit). Facilities in the North East and North West are a priority for HMIS capacity building – less than a quarter report having an HMIS unit. Rural facilities are also considerably less likely to have an HMIS unit (33%) compared with urban facilities (67%). 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)
<b>Type of facility</b>					
Tertiary	96	93	100	97	48
Secondary	60	62	88	88	128
Primary	24	8	41	47	97
Other	0	0	0	38	3
<b>Managing authority</b>					
Federal	92	98	98	96	40
State	59	60	80	81	96
LGA	22	2	36	47	57
military	60	100	100	100	5
NGO	42	40	42	39	6
FBO	43	37	74	73	75
<b>Region</b>					
North Central	49	31	74	73	77
North East	25	39	63	68	30
North West	22	33	64	85	44
South East	42	48	49	49	39
South South	64	50	56	61	47
South West	60	38	82	72	43
<b>Urban/rural</b>					
Rural	33	26	57	61	156
Urban	67	62	82	83	124
<b>Total (%)</b>	<b>45</b>	<b>39</b>	<b>66</b>	<b>69</b>	<b>280</b>

HMIS: Health Management Information System

Only 39% 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 8% and 2%, respectively, report having a functional ambulance. Few FBO-managed facilities have functional ambulances (38%). Rural facilities are far less likely to have a functional ambulance (27%) than urban facilities (62%).

The proportion of health facilities with pharmacies is considerably more reassuring. Sixty-nine percent of facilities surveyed reported having a pharmacy on the premises. A high proportion of tertiary- and secondary-level facilities have a pharmacy (97% and 88%, respectively). By contrast, fewer than 50% of primary facilities reported having a pharmacy (47%). Federally managed and state-managed facilities are better equipped (96% and 81% report having a pharmacy). Just under half of LGA-managed facilities have pharmacies (47%). Close to three-quarters of FBO-managed facilities have pharmacies. Rural facilities are less likely to report having a pharmacy (61% compared with 83% of urban facilities).

### 3.3.2 LABORATORY SERVICES

Laboratory capacity is a very critical support service for HIV/AIDS service provision. On average, 66% of surveyed facilities report having a laboratory (Table 3.11 above). All tertiary-level facilities (100%) and nearly all secondary-level facilities have a laboratory (88%). This is mirrored in the availability of

laboratory services in federally managed and state-managed facilities. However, only about 40% of primary-level and 36% 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 half of all rural facilities reporting a laboratory. In contrast, 81% 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	Refrigerator	Incubator	Hemo-cyto-meter	Centri-fuge	Spectro-scope	CD4 Count machine	X-ray	
<b>Type of facility*</b>									
Tertiary	92	93	78	76	89	61	74	50	48
Secondary	87	82	56	41	77	26	11	24	115
Primary	79	45	24	47	59	5	5	2	42
<b>Managing authority</b>									
Federal	90	92	84	76	86	57	75	55	39
State	83	78	46	41	72	19	14	22	82
LGA	75	40	30	40	55	0	5	0	21
military	100	100	60	20	100	40	40	80	5
NGO	100	100	100	100	100	54	54	100	3
FBO	91	76	52	50	80	30	8	15	56
<b>Region</b>									
North Central	86	60	43	52	70	10	6	17	61
North East	99	70	41	37	70	9	24	16	22
North West	86	72	48	32	73	23	5	16	32
South East	74	87	61	45	61	27	18	23	23
South South	86	86	52	52	86	34	32	27	32
South West	84	79	55	55	82	43	22	25	37
<b>Urban/rural</b>									
Rural	87	64	36	45	73	12	6	16	97
Urban	83	85	66	49	74	38	28	25	110
<b>Total (%)</b>	<b>85</b>	<b>73</b>	<b>49</b>	<b>47</b>	<b>74</b>	<b>23</b>	<b>15</b>	<b>20</b>	<b>207</b>

\*No 'Others' facilities had laboratories

Most operational laboratories had working microscopes (85%), refrigerators (73%), and centrifuges (74%). Although there were differences in these proportions by category of facility, the differences were relatively small. About half of all facilities with laboratories report having a working incubator (49%) and hemocytometer (47%). Less than one-quarter of facilities with laboratories report having a working spectroscope (23%) or CD4 count machine (15%). A fairly high proportion of tertiary-level (74%) and federally managed (75%) 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 20% of facilities that completed the laboratory questionnaire reported having a functional x-ray machine.

### ***Equipment and Supplies to Conduct Specific Laboratory Tests***

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 (89%). 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 (80%). 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 (90% or more). Primary-level (56%), LGA-managed (55%), and FBO-managed (74%) facilities 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 (59%) and in rural areas (71%) 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 (2.1%).

One-fifth of all laboratories (20%) have the necessary supplies and equipment to measure CD4 counts. Tertiary-level laboratories (82%) and federally managed laboratories (84%) 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 (94%, 90%, and 92%, 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, 61%, 43%, and 19% 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 – 28%. It also suggests that many facilities offer TB services (55% of all facilities, Table 3.1) but relatively few of these have adequate 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 one-third of all facilities with laboratories surveyed (28%) 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 (79%) and federally managed facility labs (80%) had the equipment and supplies to conduct liver function tests. The remaining categories of facilities with laboratories are less able to conduct liver function tests. The problem is especially acute in primary (5%), LGA-managed (5%), rural facilities (11%), and facilities in the North West (13%).

**TABLE 3.13. EQUIPMENT AND SUPPLIES FOR SPECIFIC TESTS**

Background characteristic	Percent of labs that provide HIV testing	Percent 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	Gonorrhoea tests	Chlamydia tests	TB sputum smear	Anemia test	Full blood count	Liver function tests		Pregnancy tests
<b>Type of facility</b>														
Tertiary	100	97	21	82	86	87	83	40	54	94	96	79	87	48
Secondary	98	89	0	19	99	74	50	23	36	94	81	31	97	115
Primary	69	56	0	5	84	24	17	2	2	78	32	5	82	42
<b>Managing authority</b>														
Federal	100	96	29	84	92	96	90	33	43	92	94	80	82	39
State	98	92	1	22	95	68	49	13	27	94	77	29	94	82
LGA	65	55	0	5	80	26	10	0	5	70	25	5	85	21
military	100	100	0	60	100	100	100	0	40	100	100	60	100	5
NGO	54	54	8	54	100	54	54	8	54	100	100	54	100	3
FBO	89	74	0	11	98	60	41	33	35	93	72	26	93	56
<b>Region</b>														
North Central	79	76	1	19	100	57	43	13	24	98	65	20	85	61
North East	100	100	1	24	100	63	49	13	29	91	65	25	100	22
North West	95	86	2	8	86	63	48	19	20	71	41	13	95	32
South East	80	59	1	30	90	86	49	34	60	81	85	39	90	23
South South	100	84	2	30	94	64	33	19	22	99	93	44	99	32
South West	96	80	6	18	87	44	40	23	25	91	76	40	91	37
<b>Urban/rural</b>														
Rural	84	71	0	8	92	47	32	13	23	87	54	11	91	97
Urban	96	92	5	38	96	79	59	27	35	93	89	51	93	110
<b>Total (%)</b>	<b>89</b>	<b>80</b>	<b>2</b>	<b>20</b>	<b>94</b>	<b>61</b>	<b>43</b>	<b>19</b>	<b>28</b>	<b>90</b>	<b>69</b>	<b>28</b>	<b>92</b>	<b>207</b>

## Quality Assurance in Laboratories

Table 3.14 details two measures of the quality of services provided by laboratories in our sample. First, 44% 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 70% of facilities indicate conducting some screening of blood for infectious diseases. Less than one-third 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	
<b>Type of facility*</b>			
Tertiary	72	82	48
Secondary	41	85	115
Primary	36	31	42
<b>Managing authority</b>			
Federal	65	86	39
State	41	77	82
LGA	38	31	21
military	20	100	5
NGO	14	100	3
FBO	46	73	56
<b>Region</b>			
North Central	46	66	61
North East	37	76	22
North West	35	72	32
South East	69	86	23
South South	33	71	32
South West	45	60	37
<b>Urban/rural</b>			
Rural	37	63	97
Urban	52	79	110
<b>Total (%)</b>	<b>44</b>	<b>70</b>	<b>207</b>

### 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.

The availability of ARV drug stocks in pharmacies is extremely low. Overall, well under a third of all facilities with pharmacies had any given ARV drug in stock on the day of the survey. A greater proportion of tertiary and federally managed facilities had stocks of first-line drugs such as AZT (79% and 67%, respectively), EFV (81% and 83%, respectively), 3TC (91% and 88%,

**TABLE 3.15. STOCKS OF ARV DRUGS**

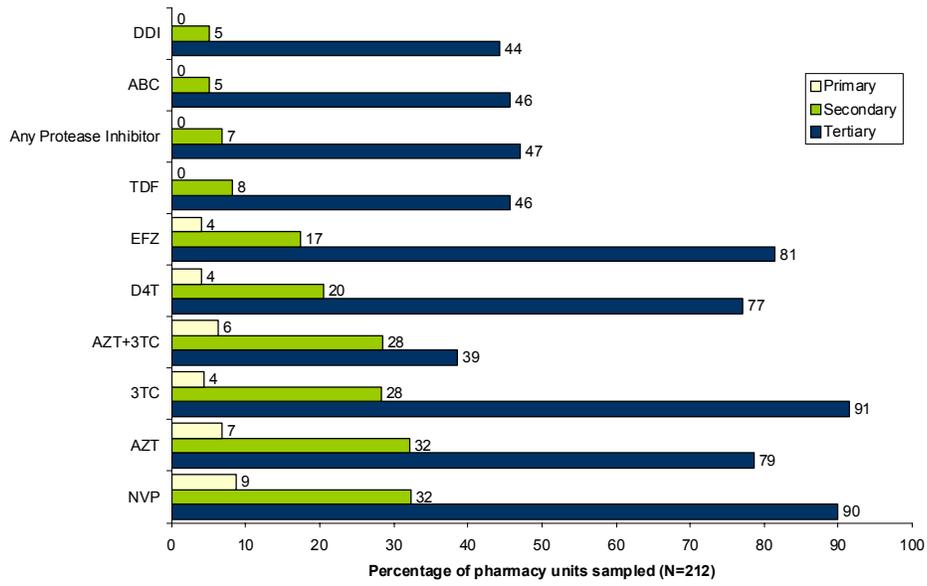
Background characteristic	% of facilities with pharmacies that have Antiretroviral drug stocks*										Total number of facilities with pharmacy
	AZT+3TC	AZT	ABC	DDI	EFZ	3TC	NVP	TDF	Protease Inhibitors	D4T	
<b>Type of facility</b>											
Tertiary	39	79	46	44	81	91	90	46	47	77	46
Secondary	28	32	5	5	17	28	32	8	7	20	114
Primary	6	7	0	0	4	4	9	0	0	4	50
Other	0	0	0	0	0	0	0	0	0	0	1
<b>Managing authority</b>											
Federal	35	67	50	50	83	88	83	52	54	81	37
State	27	37	7	8	17	28	36	4	4	19	82
LGA	4	4	0	0	4	4	4	4	0	4	29
military	60	80	0	0	60	80	80	20	20	20	5
NGO	50	50	0	0	50	50	50	50	50	50	3
FBO	23	21	4	2	15	23	25	8	8	19	55
<b>Region</b>											
North Central	20	28	2	2	12	25	29	6	6	16	63
North East	30	44	5	6	36	44	36	3	3	28	22
North West	21	8	2	2	5	8	12	3	1	5	40
South East	38	53	19	20	42	47	60	25	27	46	22
South South	6	29	11	9	20	29	31	5	5	24	33
South West	25	23	11	11	19	19	25	16	12	19	32
<b>Urban/rural</b>											
Rural	22	16	2	1	8	16	17	2	2	9	103
Urban	23	45	14	14	34	40	48	18	16	36	109
<b>Total (%)</b>	<b>22</b>	<b>28</b>	<b>7</b>	<b>7</b>	<b>18</b>	<b>26</b>	<b>30</b>	<b>9</b>	<b>8</b>	<b>20</b>	<b>212</b>

\*Availability on the day of the survey

respectively), NVP (90% and 83%, respectively), and D4T (77% and 81%, respectively). This relatively high availability is not mirrored in 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. Although drug stocks at NGO-managed facilities appear high for some drugs, this should be interpreted with extreme caution due to the very limited sample size. However, it is understood that most NGO sites procure their ARV drugs from donor-supported sources that ensure continued availability. As for second line drugs, the proportions of facility pharmacies with ABC, ddi, TDF, and protease inhibitors were especially small – less than 10% on average.

Figure 3.4 displays the availability of key ARV drugs in pharmacies, by level of facility. Despite providing the bulk of ART services, most 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 3.4: 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 third of surveyed facilities with pharmacies had ethambutol, isoniazid, pyrazinamide, and rifampin on the day of the survey (31%, 25%, 32%, and 29%, respectively). Less than half (43%) had streptomycin on the day of the survey.

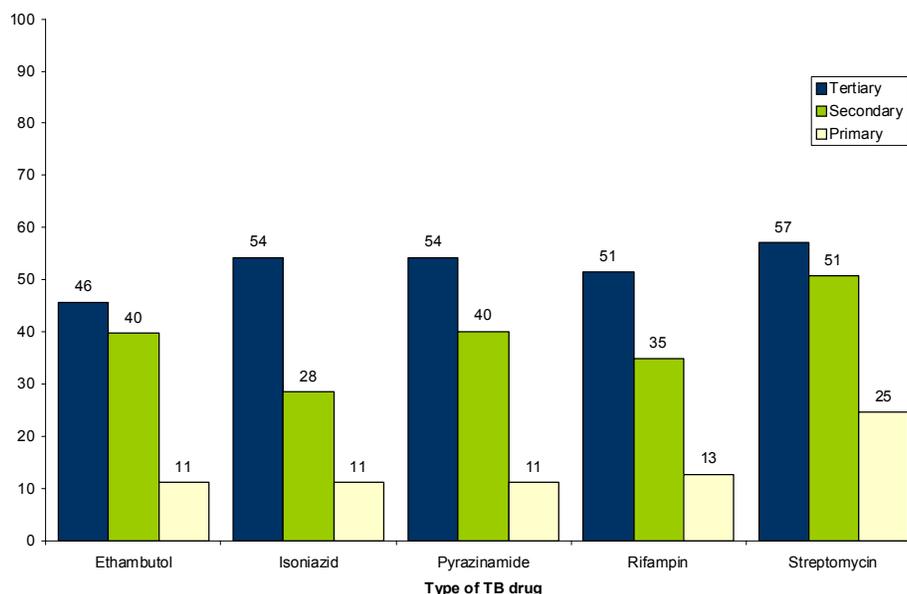
**TABLE 3.16. STOCKS OF TB DRUGS**

Background characteristic	% of facilities with pharmacies that have TB drug stocks*					Total number of facilities with pharmacy
	Ethambutol	Isoniazid	Pyrazinamide	Rifampin	Streptomycin	
<b>Type of facility</b>						
Tertiary	46	54	54	51	57	46
Secondary	40	28	40	35	51	114
Primary	11	11	11	13	25	50
Other						1
<b>Managing authority</b>						
Federal	50	50	58	56	71	37
State	38	24	35	30	43	82
LGA	11	8	11	8	27	29
military	40	20	80	60	60	5
NGO	100	100	100	100	50	3
FBO	27	29	31	32	46	55
<b>Region</b>						
North Central	29	24	29	22	59	63
North East	47	33	41	41	13	22
North West	23	20	28	20	30	40
South East	52	44	63	58	69	22
South South	5	6	9	13	34	33
South West	44	31	35	40	35	32
<b>Urban/rural</b>						
Rural	29	20	27	24	39	103
Urban	34	32	39	37	48	109
<b>Total (%)</b>	<b>31</b>	<b>25</b>	<b>32</b>	<b>29</b>	<b>43</b>	<b>212</b>

\*Availability on the day of the survey

Figure 3.5 helps illustrate the disparities in TB drug availability by level of facility. Even at the tertiary level, stocks of TB drugs were absent at almost half of the facilities.

**FIGURE 3.5: 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 – 56% and 60%, respectively. The likelihood of having running water in exam rooms is higher at higher-level facilities. To illustrate, only 39% 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 60% report having running water) but there is considerable room for improvement.

On a more positive note, 92% of outpatient and inpatient units (of facilities with an infection control unit) have soap in the exam room. The proportions of exam rooms with soap are fairly high (close to or more

**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		
<b>Type of facility</b>												
Tertiary	97	97	86	85	48	98	97	78	84	45	56	38
Secondary	66	94	71	90	118	66	94	68	90	102	23	33
Primary	39	89	60	89	80	32	89	58	79	38	23	15
Other	0	100	0	0	1							
<b>Managing authority</b>												
Federal	96	96	80	88	40	97	94	81	89	36	63	28
State	62	94	74	90	87	66	92	72	91	74	35	27
LGA	38	91	57	83	49	26	93	60	67	18	22	11
military	100	100	80	100	5	100	100	75	100	4	50	2
NGO	61	100	23	100	6	28	100	4	76	5	14	2
FBO	58	89	67	91	62	61	93	65	89	47	12	18
<b>Region</b>												
North Central	44	89	67	92	71	52	94	74	94	49	19	37
North East	76	94	63	93	26	85	100	81	100	20	40	12
North West	57	84	73	79	41	65	86	62	72	28	55	13
South East	36	97	61	88	34	31	96	56	78	34	5	12
South South	59	99	67	83	42	82	94	68	94	32	11	6
South West	93	93	63	99	36	82	82	56	82	22	61	8
<b>Urban/rural</b>												
Rural	41	90	60	85	136	44	91	63	84	95	23	35
Urban	86	96	78	95	114	89	96	73	93	90	35	53
<b>Total (%)</b>	<b>56</b>	<b>92</b>	<b>66</b>	<b>89</b>	<b>250</b>	<b>60</b>	<b>93</b>	<b>66</b>	<b>87</b>	<b>185</b>	<b>28</b>	<b>88</b>

than 90% in both inpatient and outpatient units). This suggests that even facilities without running water seek to maintain cleanliness standards by using soap with water stored in containers.

Safe disposal of sharps and other waste is an important concern, especially in contexts with high HIV prevalence. Only about two-thirds 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 (86% for outpatient units and 78% for inpatient units) and primary facility exam rooms least likely to report having a sharps container (60% for outpatient units and 58% 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 (67%) and inpatient (65%) 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, less than a third have an on-site incinerator. Even among tertiary facilities, only a little over half report having an on-site incinerator (56%). About a fifth of secondary (23%) and primary (23%) facilities report an incinerator on the premises, indicating that the problem is much more acute in these types of facilities. When we compare facilities by type of management authority, publicly managed facilities (federal-, state-, and LGA-managed) are more likely to have an incinerator (63%, 35%, and 22%, respectively) than FBO-managed facilities (12%). From a regional perspective, facilities in the South East and South South have an especially severe lack of incinerators, with only 5% and 11%, 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 (84% of all facilities), it is noteworthy that only 58% of facilities routinely provide training on HIV/AIDS confidentiality for new staff. Routine provision of confidentiality training is higher at higher-level facilities (tertiary 87%; secondary 78%). A major gap is presented at primary facilities where 70% offer CT services but only 33% 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 facilities but are less likely to train new staff compared with state- or federal-managed facilities. Unsurprisingly, urban facilities are more likely to train new staff on confidentiality (81%) than rural facilities (47%).

Close to three-quarters of all facilities (73%) 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 (97%) and secondary facilities (83%) provide training on counseling. Fewer than two-thirds of primary-level facilities (60%) 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%). A higher proportion of FBO-managed facilities provide counseling training (73%). A clear rural-urban gap is also evident, with about 67% of rural facilities and 85% of urban facilities providing in-service HIV counseling training.

**TABLE 3.18: TRAINING PROVIDED TO STAFF**

Percent of facilities that have provided training on the following topics

Background characteristic	HIV/AIDS confidentiality	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 surveil-lance	M&E in HMIS unit (n=148)	Total number of facilities
<b>Type of facility</b>											
Tertiary	87	97	97	89	96	86	78	76	64	87	48
Secondary	78	83	79	69	78	51	49	56	32	56	128
Primary	33	60	44	34	59	21	34	23	11	16	97
Other	31	0	0	0	0	0	0	0	0	na	3
<b>Managing authority</b>											
Federal	82	94	94	80	94	76	70	68	66	70	40
State	74	82	73	58	73	45	41	51	21	53	96
LGA	28	55	43	39	56	23	33	25	15	8	57
military	60	100	100	100	100	80	40	60	20	67	5
NGO	40	81	23	42	81	23	23	23	23	54	6
FBO	65	73	70	59	71	42	52	44	31	62	75
<b>Region</b>											
North Central	47	67	55	43	55	33	44	36	23	34	77
North East	57	74	74	69	78	48	38	50	14	81	30
North West	52	73	69	56	70	37	37	42	9	27	44
South East	53	71	58	48	77	39	46	46	27	76	39
South South	79	75	65	42	66	30	37	19	26	53	47
South West	73	83	75	82	86	55	53	64	48	59	43
<b>Urban/rural</b>											
Rural	47	67	54	43	61	27	36	34	15	33	156
Urban	81	85	83	76	86	62	57	58	44	68	124
<b>Total (%)</b>	<b>58</b>	<b>73</b>	<b>64</b>	<b>54</b>	<b>69</b>	<b>39</b>	<b>43</b>	<b>42</b>	<b>24</b>	<b>51</b>	<b>280</b>

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 64%. 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.

A little over half of all facilities (54%) 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 about a third of facilities (33% and 39%, respectively) provide safer sex and HIV prevention training. Rural facilities (43%) also lag considerably behind urban facilities (76%) in the provision of this training.

In general, a relatively high proportion of facilities offer training on injection safety (69%). However, although almost all tertiary facilities offer injection safety training (96%), only about three-quarters of secondary facilities (78%) and primary facilities (59%) 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 61% of rural facilities provide injection safety training compared with 86% of urban facilities.

The proportion of facilities that offer training on PEP is extremely low – 39%. Nevertheless, the need is especially acute in primary facilities, LGA-managed facilities, facilities in the South South region, and rural facilities. The proportion of facilities reporting the *provision* of PEP services (20%) is considerably lower than those that report *training* for PEP (39%).

On average, only about half of the 148 facilities with an HMIS unit (51%) support training on M&E. A larger proportion of higher-level facilities offer M&E training in their HMIS units, with close to 90% of tertiary-level facilities offering training (87%), while 57% of secondary-level and only 16% 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 less than a tenth of LGA-managed facilities (8%) offering M&E training. FBO-managed facilities offer M&E training to a greater extent (62%) than state (56%) or LGA-managed (8%) facilities. From a geographic perspective, facilities in the North Central (34%), North West (27%) and rural facilities in general (33%) are less likely to offer training than other regional groupings (53% to 80%) or urban facilities (68%). 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 surveillance are lower. The average proportion of facilities that offer training for HIV surveillance is especially low at 24%.

### 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 – more than 80% of facilities provide those services. 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 same pattern of higher likelihood at higher-level facilities. A smaller proportion of LGA-managed facilities routinely compile reports on CT (45%) and PMTCT (35%) 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 (87%) and PMTCT (81%) 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
<b>Type of facility*</b>						
Tertiary	70	95	93	88	98	88
Secondary	62	78	89	83	83	87
Primary	65	61	65	91	59	89
<b>Managing authority</b>						
Federal	74	91	75	98	98	86
State	55	78	93	81	88	80
LGA	61	50	45	86	35	75
military	80	100	100	100	100	100
NGO	54	100	100	100	100	100
FBO	75	72	87	78	81	100
<b>Region</b>						
North Central	72	75	72	96	74	100
North East	57	68	92	67	100	80
North West	56	56	68	100	75	83
South East	45	81	82	75	89	83
South South	73	78	99	100	74	94
South West	65	90	84	74	90	83
<b>Urban/rural</b>						
Rural	59	68	77	71	80	87
Urban	69	87	86	90	84	87
<b>Total (%)</b>	<b>63</b>	<b>75</b>	<b>81</b>	<b>85</b>	<b>82</b>	<b>87</b>
<b>Total (n)**</b>	<i>187</i>	<i>179</i>	<i>180</i>	<i>75</i>	<i>111</i>	<i>207</i>

\*No 'Others' facilities reported on these indicators

\*\*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**

% of relevant units where the following guidelines or protocols were observed:

Background characteristic	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 in the facility	Guidelines on universal precautions available in lab	Guidelines on blood safety available in lab
<b>Type of facility</b>										
Tertiary	46	53	29	31	37	39	45	53	49	47
Secondary	28	53	30	39	31	30	53	22	41	46
Primary	5	9	31	35	0	28	57	4	23	42
<b>Managing authority</b>										
Federal	50	51	25	24	57	38	53	55	54	54
State	31	53	18	27	18	19	48	19	34	42
LGA	0	100	50	43	0	43	100	5	50	50
military	0	25			33	33	75	20	75	50
NGO	8	14	100	100	14	100	14	8	100	100
FBO	20	40	36	45	32	36	45	23	38	46
<b>Region</b>										
North Central	9	47	30	33	14	30	47	16	34	38
North East	35	30	6	40	11	11	42	13	26	26
North West	20	57	10	47	33	27	85	16	16	39
South East	32	21	31	32	21	30	32	25	58	58
South South	29	71	16	14	14	13	38	15	36	45
South West	36	91	63	57	55	63	65	34	56	55
<b>Urban/rural</b>										
Rural	12	25	30	46	21	36	51	13	29	38
Urban	36	56	29	29	27	28	50	29	48	52
<b>Total (%)</b>	<b>24</b>	<b>50</b>	<b>29</b>	<b>36</b>	<b>24</b>	<b>31</b>	<b>50</b>	<b>20</b>	<b>39</b>	<b>45</b>
<b>Total (n)**</b>	<i>146</i>	<i>65</i>	<i>104</i>	<i>106</i>	<i>106</i>	<i>106</i>	<i>79</i>	<i>208</i>	<i>116</i>	<i>116</i>

\*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 (50%) and policy guidelines for PMTCT (50%). Less than one-quarter 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 that were able to show PEP guidelines to survey teams is a pointer for the need to ensure appropriate and adequate dissemination and distribution of guideline documents. Even at the tertiary level, 53% or fewer of respondent facilities for a given protocol were able to produce the document during the interview. Although all LGA-managed, military-managed, and FBO-managed facilities with ART units had national ART guidelines, sample size restrictions suggest that these figures should be cautiously interpreted since only 10 LGA-managed facilities reported having an ART unit. Inferences about the availability of policies and guidelines in military- and NGO-managed facilities must also be made with for the same reason.

## 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 (75%) charge some routine “user fees” for adults. These include fees for client health cards, consultation fees, medications, tests, and registration. Close to two-thirds of tertiary facilities (64%) and more than two-thirds of primary care facilities (72%) charge routine user fees. Eighty-two 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. Eighty-seven percent of FBO-managed facilities charge routine user fees compared with 78% of federal-, 70% of state-, and 69% of LGA-managed facilities. Rural facilities are more likely to charge fees than urban facilities (80% vs. 69%). A higher proportion of facilities in the South East region (93%) charge routine user fees compared with other regions.

It is also important to note that most facilities that routinely charge fees have exemption systems in place – 60% of facilities that charge fees have fee exemptions for some client groups. Primary facilities that charge fees are less likely to have fee exemptions (55%) than secondary (62%) or tertiary (71%) facilities that charge fees. Fee exemptions are most common at FBO-managed facilities that charge fees (84%). There is little difference in the rate of fee exemptions between rural and urban facilities. Overall, facilities are most likely to charge fees for medications (73%) and lab tests (66%).

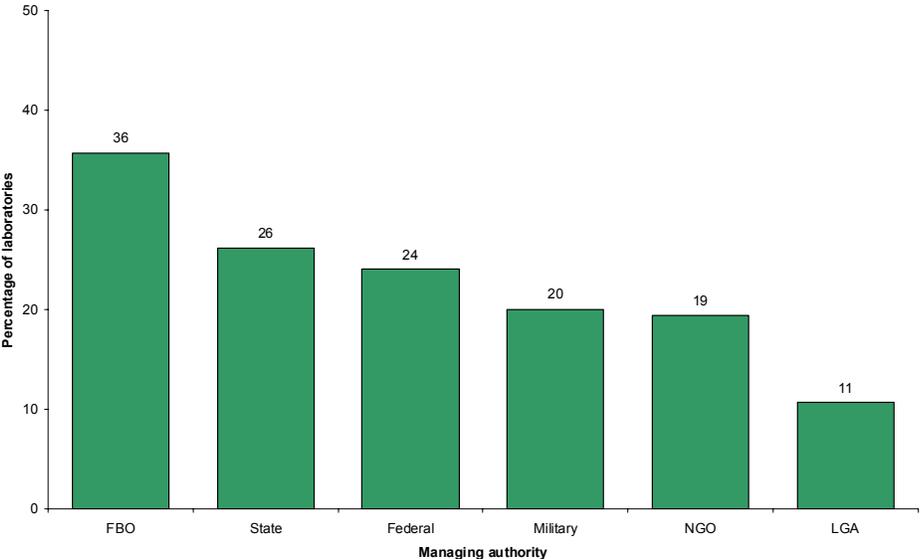
According to national policy, ART, PMTCT, and CT services should be provided free of charge in public facilities. However, of the providers that offer ART services, this survey found that 23% charge some fees for ART-related services. Fees ranged from 50-2,500 Naira for HIV tests, from 1,500-200 Naira for ARV prophylaxis, and from 250-3,500 Naira for CD4 count. Almost 40% of federally-managed and FBO facilities charge fees for some ART services. 18% of PMTCT providers charge some fees for PMTCT, and 24% 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	Percent of facilities with:				Percent of ARV providers that charge fees for ARVs	Percent of providers that charge fees for		Percent of labs that have cytoflowmeter and charge fees for CD4 counts
			Fees for health card or registration	Fees for consultations	Fees for medications	Fees for lab tests		PMTCT	Percent of labs that charge fees for HIV tests	
<b>Type of facility</b>										
Tertiary	64	71	46	27	66	59	27	10	11	59
Secondary	82	62	58	31	81	82	22	20	38	3
Primary	72	55	42	28	67	50	0	19	13	100
Other	31	100	31	0	31	31	--	--	--	--
<b>Managing authority</b>										
Federal	78	60	62	44	64	78	39	12	24	63
State	70	51	42	11	69	69	3	11	26	4
LGA	69	46	42	19	64	41	86	16	11	0
Military	60	67	40	20	40	40	0	25	20	--
NGO	100	20	100	80	100	100	14	0	19	--
FBO	87	84	58	53	86	84	38	37	36	33
<b>Region</b>										
North Central	89	55	45	35	84	74	21	25	25	0
North East	67	29	16	6	66	67	3	0	39	86
North West	64	66	34	13	57	57	10	7	25	25
South East	93	56	69	51	94	80	52	12	22	14
South South	63	77	57	26	58	48	18	11	6	50
South West	65	78	61	25	65	65	17	37	34	75
<b>Urban/rural</b>										
Rural	80	59	48	29	77	66	17	16	26	53
Urban	69	62	51	28	66	67	26	19	22	20
<b>Total</b>	<b>75</b>	<b>60</b>	<b>49</b>	<b>29</b>	<b>73</b>	<b>66</b>	<b>23</b>	<b>18</b>	<b>24</b>	<b>29</b>
<b>Total (n)</b>	<b>266</b>	<b>201</b>	<b>259</b>	<b>263</b>	<b>265</b>	<b>262</b>	<b>75</b>	<b>109</b>	<b>207</b>	<b>29</b>

Figure 3.6 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 faith-based sector – about 36% of FBO laboratories charge fees for HIV tests. Approximately one-quarter of federal- and state-run laboratories charge fees for these tests, and about one in five military or NGO facilities charges fees for HIV tests. LGA-managed facilities are least likely to charge fees for tests (11%).

**FIGURE 3.6: PERCENTAGE OF LABORATORIES THAT CHARGE FEES FOR HIV TESTS, BY MANAGING AUTHORITY**



### 3.5.2 MANAGEMENT

Table 3.22 is concerned with 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	
<b>Type of facility</b>					
Tertiary	100	87	82	82	48
Secondary	95	51	73	73	128
Primary	62	17	48	44	97
Other	63	31	63	63	3
<b>Managing authority</b>					
Federal	98	82	100	100	40
State	94	47	65	62	96
LGA	54	17	40	40	57
military	100	80	80	80	5
NGO	100	40	40	40	6
FBO	83	39	77	73	75
<b>Region</b>					
North Central	75	38	51	52	77
North East	88	48	59	59	30
North West	69	32	70	56	44
South East	72	35	41	45	39
South South	90	24	66	63	47
South West	97	55	100	97	43
<b>Urban/rural</b>					
Rural	71	25	53	49	156
Urban	97	61	80	82	124
<b>Total (%)</b>	<b>80</b>	<b>38</b>	<b>62</b>	<b>60</b>	<b>280</b>

On average, 80% of all facilities reported routine meetings to review managerial or administrative matters. The majority of all facilities (in all facility background characteristics) carry out regular management meetings. However, a smaller proportion of primary facilities and LGA-managed facilities report routine meetings (62% and 54%, respectively). A smaller proportion of rural facilities report 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 only about two-fifths of facilities report routine quality assurance activities. Only tertiary care, federally managed and military-managed facilities report relatively high quality assurance activities (more than 80% of facilities). Primary care, LGA-managed, rural facilities, and facilities located in the South South region of the country indicate especially low levels of routine quality assurance activities.

About 60% 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 report routine maintenance programs. At the primary level, less than half of all facilities have programs for infrastructure maintenance (48%) and equipment maintenance (44%). 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 facilities in the South West region reporting routine management meetings, quality assurance activities, and maintenance programs. A far lower proportion of facilities in the South South region have routine maintenance programs (41% for infrastructure maintenance and 45% 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 (53% for infrastructure and 49% for equipment) compared with about 80% of urban facilities reporting corresponding programs (80% for infrastructure and 82% 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
<b>Type of facility</b>									
Tertiary	100	80	97	46	99	81	81	51	95
Secondary	95	66	82	44	99	69	92	44	85
Primary	75	40	65	49	97	62	68	22	86
Other	63	63	63	38	100	0	0	0	0
<b>Managing authority</b>									
Federal	100	98	96	38	100	86	86	47	97
State	92	55	82	43	98	57	87	43	81
LGA	76	38	57	59	95	61	57	19	89
military	100	80	100	20	100	80	100	100	100
NGO	100	100	100	20	100	100	100	20	100
FBO	82	61	78	43	100	74	89	37	89
<b>Region</b>									
North Central	82	38	73	52	96	60	88	30	81
North East	100	46	88	61	93	39	94	60	90
North West	72	54	72	49	100	49	55	26	85
South East	87	84	60	49	100	91	73	42	97
South South	80	34	74	42	100	66	87	41	84
South West	100	87	96	24	100	91	88	64	95
<b>Urban/rural</b>									
Rural	78	46	68	52	97	55	77	33	84
Urban	99	72	89	36	100	86	88	49	92
<b>Total (%)</b>	85	55	75	46	98	66	81	41	88
<b>Total (n)</b>	270	272	269	267	241	242	237	180	180

\*Phone or radio communications within 5 minutes of the facility

Close to 85% of facilities have electricity at least some of the time, and most have pipe-borne water or a protected well for water (75%). A little over half of all facilities have phone or radio communications facilities within five minutes of the facility (55%), 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 fewer basic amenities than average.

Almost all outpatient units report having a protected waiting area for patients and caregivers. Most outpatient units also report having private examination rooms (80%). Primary-level, LGA-managed, and rural facilities are less likely to have a private exam room (68%, 57%, and 76%, respectively) than all facilities on average.

Only two-thirds of outpatient units (66%) report having a functioning toilet for clients. Inpatient units, however, are much more likely to have a functioning client toilet (88%) with fewer differences by facility background characteristics.

At less than half of all inpatient facilities (41%) were any bednets observed to be in use on the day of the interview. Bednet use at primary-level, LGA-managed, North Central, North Western, and rural facilities is particularly low (less than a third report any bednets in use).



## 4. CONCLUSIONS AND RECOMMENDATIONS

Nigeria has made strides in improving the availability of HIV/AIDS services to its population. However, the need to focus on strengthening specific services and scaling up their delivery remains. This section of the SPA will summarize the main conclusions and present key recommendations.

### 4.1 CONCLUSIONS

An important positive conclusion is that CT services are widely available across Nigeria; 77% 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 39%, 16%, and 48% 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 75% less likely to provide ART and half as likely to provide PMTCT as urban facilities— this is a concern since most of the Nigerian population lives in rural areas.

Third, HIV/AIDS-related service availability at Faith-Based Organization (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 in only 20% of all facilities, with especially low availability in primary-level, LGA-managed, and rural facilities. Staff training on PEP is provided in almost two-fifths 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 widespread availability of first line ARV drugs: lamivudine, nevirapine, zidovudine, efavirenz and stavudine. However, fewer than half of all tertiary facilities had second line drugs in stock.

Seventh, less than one-third 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, although 4% of facilities that provide TB services rely only on X-rays or clinical symptoms for diagnosis.

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 (36%) and newborns (10%) 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 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 three-quarters 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 CT, ART, and PMTCT services should be provided free of charge, 18 to 24% 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.



# REFERENCES

- Chankova S, Nguyen H, Chipanta D, Kombe G, Onoja A, and Ogungbemi K. September 2006. *A Situation Assessment of Human Resources in the Public Health Sector in Nigeria*. Bethesda, MD: Partners for Health Reformplus project, Abt Associates Inc.
- Civil Society Consultative Group on HIV/AIDS in Nigeria. 2002. Creating awareness on HIV/AIDS prevention among youths through football matches in Lagos state. Paper presented at International Conference on AIDS, July 7-12, 2002, Barcelona. Abstract no. MoPeF3957. Available at <http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102252693.html>
- Federal Ministry of Health (FMOH). 2005. *National Seroprevalence Sentinel Survey 2005: Process and Findings National AIDS/STD Control Program NASCP*. Abuja. Available at <http://www.nigeria-aids.org/pdf/2005SentinelSurvey.pdf>
- Globalfund.org. The Global Fund to Fight AIDS, Tuberculosis, and Malaria. *Nigeria and the Global Fund, Portfolio of Grants*. Accessed July 2008 at: <http://www.theglobalfund.org/Programs/Portfolio.aspx?countryid=NGA&lang=en>
- Kombe G, Steffen M, Holdaway A, Hatt L, Srinath KP, Butera D, Diarra S, Kadjo D, Landry M, Seka F, Kraffa B, Ebah-Aka L, Tuho M, Oulai S, Atte B. August 2007. *Cote d'Ivoire: Service Provision Assessment*. Bethesda, MD: Health Systems 20/20 Project, Abt Associates Inc.
- Kombe, G, Galaty D, and Nwagbara, C. February 2004. *Scaling Up Antiretroviral Treatment in the public Sector in Nigeria: A Comprehensive Analysis of Resource Requirements*. Bethesda, MD: Partners for Health Reformplus project, Abt Associates Inc.
- National Action Committee on AIDS (NACA). 2004. *HIV/AIDS national strategic framework for action 2005-2009*. Available at <http://siteresources.worldbank.org/INTHIVAIDS/Resources/375798-1151090631807/2693180-1151090665111/2693181-1155742859198/NigerianNationalStrategicFrameworkonHIVAIDS.pdf>
- National Planning Commission (NPC). 2004. *Nigeria Millennium Development Goals 2004 Report*. Abuja: NPC.
- National Population Commission [Nigeria] and ORC Macro. 2004. *Nigeria Demographic and Health Survey 2003*. Calverton, Maryland: National Population Commission and ORC Macro.
- PEPFAR.gov. The President's Emergency Plan for AIDS Relief. *2008 Country Profile: Nigeria*. Accessed July 2008 at: <http://www.pepfar.gov/press/81548.htm>
- Upama Khatri, Oyediran, Kolawole, and Williams, Timothy. 2006. "Results of a pilot evaluation and scale-up plan for a national routine information system for HIV/AIDS activities in Nigeria." Paper presented at 134th annual meeting and exposition of the American Public Health Association, November 4-8, 2006, Boston, MA. Available at [http://apha.confex.com/apha/134am/techprogram/paper\\_141717.htm](http://apha.confex.com/apha/134am/techprogram/paper_141717.htm)

U.S. Bureau of the Census. *Census and Survey Processing System*. Software publicly available at <http://www.census.gov/ipc/www/cspro/index.html>.

