KENYA

Service Provision Assessment Survey 2010



Key Findings

This report summarises the findings of the 2010 Kenya Service Provision Assessment Survey (KSPA), which was implemented by the National Coordinating Agency for Population and Development in collaboration with the Ministry of Medical Services, the Ministry of Public Health and Sanitation, and the Kenya National Bureau of Statistics. ICF Macro provided technical assistance. The 2010 KSPA is part of the worldwide MEASURE DHS project which assists countries in the collection of data to monitor and evaluate population, health, and nutrition programmes. The survey was funded by the United States Agency for International Development (USAID), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), the British Department for International Development (DfID) and the Danish International Development Agency (DA-NIDA).

Additional information about the 2010 KSPA may be obtained from the National Coordinating Agency for Population and Development, the Chancery, 4th floor, Valley Road, Nairobi, Kenya. Telephone: 020.2711-711/600; Fax: 020.271-6508.

Information about the MEASURE DHS project can be obtained from ICF Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705 USA; Telephone: 301.572.0200; Fax: 301.572.0999; e-mail: reports@macrointernational. com; Internet: http://www.measuredhs.com.

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Introduction

The 2010 Kenya Service Provision Assessment survey (KSPA) describes how the formal health sector in Kenya provides services for family planning, maternal health, child health, malaria, HIV/AIDS, and other communicable diseases. The 2010 KSPA is the third Service Provision Assessment survey carried out in Kenya.

The KSPA was implemented by the National Coordinating Agency for Population and Development (NCAPD) in collaboration with the Ministry of Medical Services (MOMS), the Ministry of Public Health and Sanitation (MOPHS), and the Kenya National Bureau of Statistics (KNBS). ICF Macro provided technical assistance through the USAID-funded MEASURE DHS project. The survey was funded by the United States Agency for International Development (USAID), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), the British Department for International Development (DfID), and the Danish International Development Agency (DANIDA).

The major objectives of the 2010 KSPA are to:

- assess the preparedness of health facilities in Kenya for providing quality services;
- provide a comprehensive body of information on the performance of different types of facilities that provide essential health care services;
- identify gaps in support services, resources, and processes that are used to provide health services and that may negatively affect the ability of facilities to provide quality services;
- describe the processes used to provide essential health care services and the extent to which accepted standards for quality service provision are followed;
- compare findings by province, facility type, and management authority;
- describe the extent to which clients understand what they must do to follow up on the service received so that the best health outcome is achieved;
- provide information on the capacity of health facility to provide for clients' basic preventive and diagnostic care, advanced care and support services, and record keeping systems for monitoring HIV/AIDS services.

The KSPA involved a nationally representative sample of 695 facilities, including hospitals, health centres, maternities, clinics, dispensaries, and stand-alone voluntary counselling and testing facilities (VCTs) throughout Kenya*. Facilities are also identified by managing authority, that is, facilities run by the Government of Kenya, NGOs, private for-profit groups, or faith-based organisations (FBOs). Facilities were selected from all eight provinces of Kenya. Trained interviewers collected the data between January and May of 2010.

This report summarises the major KSPA findings. To put the results of the 2010 KSPA into context, this report also includes data from the 2008-09 Kenya Demographic and Health Survey (2008-09 KDHS) based on data collected from over 11,000 Kenyans. Data from the 2008-09 KDHS are presented in tan boxes in each section.

*Data on family planning, maternal health, child health, malaria, STIs, and TB do not include the stand-alone VCT facilities, and are therefore based on a total of 690 facilities. HIV/AIDS-related services are assessed in all facilities, including the 5 stand-alone VCT facilities, resulting in a total of 695 facilities.

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Family Planning Services

Modern family planning services are available in 85% of all health care facilities. Almost all (96%) government facilities offer family planning compared to 89% of NGO, 84% of private, and only 44% of FBO facilities. Family planning services are widely available in all types of facilities, ranging from 80% of clinics to 89% of dispensaries. Most facilities (88%) providing temporary methods provide these services five or more days per week.

Availability of family planning services varies by region. Only about two-thirds of facilities in Nairobi and North Eastern provinces offer any modern methods, compared to more than 9 in 10 facilities in Rift Valley, Western, and Nyanza provinces.

Long-term methods are less widely available. Only 8% of facilities can actually provide male or female sterilisation. Sterilisation is most available at hospitals (46%).

About half of facilities provide counselling on natural methods such as standard days and periodic abstinence.

Availability of Family Planning Services by Facility Type and Managing Authority (Table 5.1)



Percentage among all facilities (N=690)



Availability of Modern Family



Putting the KSPA into Context: Family Planning in Kenya

According to the 2008-09 KDHS, Kenyan women have an average of 4.6 children. Fertility has decreased from 4.9 children per woman in 2003. Almost 4 in 10 married women in Kenya are using a modern method of family planning. This is an increase from 32% in 2003, due primarily to the increasing popularity of injectables.

Injectables, pills, and female sterilisation are the most commonly used modern methods. The KDHS reported that more than half (57%) of modern method users obtained their methods from a public source, such as a government hospital, health centre, or dispensary, while about onethird of users obtained their methods from a private hospital, clinic, or pharmacy.

One in four (26%) married women has an unmet need for family planning—that is, they do not want any more children or want to wait at least two years before having their next child but are not using any family planning. Eighty-eight percent of non-users of family planning have not recently discussed contraception with a health worker. Discontinuation of family planning use is a problem in Kenya—36% of users discontinue use of their method after one year.

Family Planning Percent of married women age 15–49 using family planning 46 Any method 39 Any modern method 39 Injectables 22 Pill 7 Female sterilisation 5 Traditional method 6

Method Availability

Family planning facilities that offer many different contraceptive methods are best able to meet the needs of their clients. Nationwide, 80% of facilities offering any family planning services reported that they offer at least four different temporary family planning methods. Fewer facilities actually had these methods available on the day of the survey (see chart at right).

According to the Kenya DHS, injectables and pills are the most widely used methods. Injectables and pills are also the most widely available methods in facilities, with more than 90% of facilities reporting that they provide each. However, only 9% of family planning facilities provide female sterilisation.

Availability of male condoms is especially important, as they provide dual protection against pregnancy and HIV/AIDS. About 9 in 10 facilities report that they provide male condoms; 82% of facilities actually had male condoms available on the day of the survey.

Long-term methods are less available than temporary methods. For example, only 32% of facilities had intrauterine contraceptive devices (IUCDs) in stock on the day of the survey.

Modern Methods Availability
(Tables A-5.2 and A-5.3)Method provided
and availableMethod provided,
not availableCombined oral
contraceptive85Progestin-
only oral pill743

6



Percentage among facilities providing family planning services (N=612)

Emergency contraception is not a family planning method but instead is used just after unprotected intercourse to prevent unplanned pregnancy. Eighty-three percent of facilities report that they provide, prescribe, or counsel about emergency contraception, 72% of facilities actually provide emergency contraception, and among those facilities, 85% had emergency contraception in stock on the day of the survey. The progestin-only pill, which can also be used as emergency contraception, and which is recommended during breastfeeding, is available in 96% of the facilities that report providing the method.

Components Supporting Quality Family Planning Services

High quality family planning services may reduce discontinuation and contraceptive failures and help attract new users. Findings from the KSPA present a mixed picture of family planning services in Kenya. On the plus side, 93% of facilities offering family planning have both visual and auditory privacy for client counselling. In addition, 8 out of 10 facilities have visual aids for counselling on family planning, and 64% have individual client health cards. However, fewer than 4 in 10 facilities have written family planning guidelines or written STI guidelines. In all, only one quarter of facilities have all of the four components for quality counselling.



Facilities in Coast, Nairobi, and Western

provinces are most likely to have all four items for quality counselling (38% or better), compared to only 1% of facilities in North Eastern Province. NGO-run facilities are most likely to have the necessary items (42%) while only 6% of faith-based organisations have all four items.

Equipment and Supplies for Specific Methods

Only 16% percent of all facilities that offer FP have all the equipment needed for a quality pelvic exam. This is because only about one-third of facilities have an examination light or speculum. Hospitals (43%) and maternities (51%) are most likely to have all items for a quality pelvic exam.

Some experts advocate that clients receiving oestrogencontaining methods should have their blood pressure checked; 89% of facilities offering these methods had blood pressure equipment available.

Quality IUCD insertion requires clean latex gloves, iodine antiseptic, a speculum forceps, tenaculum, and uterine sound. Only 67% of the facilities that provide IUCDs have all of these items. Furthermore, IUCD insertion should be carried out with all infection control items, and with visual privacy, an exam bed or couch, an exam light, and of course, the IUCD method itself. Only 27% of facilities providing IUCDs had all of these items available.

Items to Support Quality Counselling for Family Planning (Table A-5.5)





Items for Pelvic Exam (Table A-5.5)

Percentage among facilities offering family planning services (N=612)

Sexually Transmitted Infections (STI) Services in FP Facilities

Women in need of family planning are, by definition, sexually active, and therefore also at risk of contracting STIs. Routine treatment of STIs by FP providers is reported in 83% of facilities that provide FP services. Clinics and dispensaries are much more likely than the other facilities types to have FP providers routinely treat STIs. Of the facilities providing FP and where FP providers routinely treat STIs, 91% have at least one medication to treat syphilis, 85% have at least one medication to treat chlamydia, 64% can treat trichomoniasis, and 60% have at least one medication to treat gonorrhoea. Only 43% have at least one medication to treat all four STIs.

Observation of Client Visits

The KSPA observed family planning client visits to assess how closely providers adhere to internationally accepted standards for quality service provision. Trained interviewers observed more than 1,000 clients of family planning services; 16% of these clients were visiting the family planning facility for the first time, and 84% of the clients came for follow-up visits. Almost all of the clients left the facility with a family planning method, and 77% of clients received the progestin-only injectable.

Over 80% of the family planning consultations took place under appropriately private conditions. Four in five clients were asked by providers if they had any concerns about their methods. This is a fairly large percentage considering that many of the clients were repeat visitors to the facilities.



Return visit

Observed Conditions and Content for



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Return/follow-up visits were discussed with almost all clients (97%). Visual aids were used during only 25% of the consultations, even though these aids are available in 81% of family planning facilities.

Observations of consultations with first-visit family planning clients indicate that many recommended assessments are not routinely carried out. For example, less than half of first-visit clients were asked about their breastfeeding status or desired timing for their next child. Even fewer were asked about their medical history. This represents a missed opportunity to provide counselling on a variety of topics including smoking, HIV/STI prevention, and other general health issues.



Observed Elements of Client History for First-Visit Family Planning Clients (Table A-5.24)

Management Practices and Training

Eight in ten (79%) facilities offering family planning have up-to-date family planning client registers, essential tools for management information systems. Client registers are universal in NGO facilities, and are present in 91% of government facilities, while only 63% of private facilities and 57% of faith-based organisations have up-to-date registers.

According to national policy, government facilities should not charge for family planning services and all government-supplied methods should be free regardless of facility. According to the KSPA, 68% of government facilities and 76% of all facilities charge at least some fees. Facilities charge fees for client cards

(22%), consultation (24%), the family planning method (32%), tests (37%), and registration (22%). More than half of facilities offer some type of discount or exemption for some clients. Fees are only posted in public view in 21% of facilities. Seventy percent of interviewed FP clients reported paying any out-of-pocket fees at the end of their visit.

The KSPA interviewed 1,513 family planning providers. Only 23% of interviewed service providers received any training during the 12 months preceding the survey. Another 17% received their most recent training during the 13-35 months prior to the survey. Providers in maternities are most likely to have received recent training. The training provided covered a range of topics including family planning counselling, update on contraceptive methods, and FP for women infected with HIV.

Infection Control

Just over half (55%) of FP facilities have all items needed for infection control (soap and running water or hand disinfectant, disposable latex gloves, disinfecting solution, and sharps box) at the family planning service site. Hospitals are most likely to have all items (66%).





Percentage among interviewed family planning service providers (N=1,513)

Management Practices for Family Planning Services:

Child Health Services

The KSPA assessed the availability of three basic child health services: curative care for sick children; immunisations; and growth monitoring. The KSPA also evaluates health care providers' adherence to the MOH's Expanded Programme of Immunisations (EPI) and the World Health Organization's Integrated Management of Childhood Illness (IMCI) strategy, adopted by the Ministry of Health (MOH) in 2000.

Almost all facilities (97%) provide curative care for sick children; 68% provide childhood immunisations; and 74% provide growth monitoring. Nationally, about two-thirds of facilities provide all three services. Over 90% of hospitals and health centres provide all three services. Availability varies markedly by province, from only 45% of facilities offering all three child health services in Central Province to 93% in Nyanza. Curative care for sick children and growth monitoring are available in most facilities five or more days a week, while immunisations are often available only once or twice a week.



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Facility type	Curative care for sick children	Growth monitoring	Immunisation	All 3 basic child health services
Hospital	100	95	93	92
Health centre	100	95	95	93
Maternity	95	82	78	78
Clinic	94	43	29	29
Dispensary	97	84	81	80
Total	97	74	68	68

Availability of Child Health Services (Table 4.1) *Percentage of facilities providing the indicated services at the facility, by type of facility (N= 690)*

Immunisations

Immunisation services are available in two-thirds of all Kenyan facilities; private facilities are least likely to provide child immunisation services (only 34%). Only 3 in 10 clinics provide immunisation services compared to more than 9 in 10 hospitals and health centres. Availability of immunisation services ranges from only 45% of facilities in Central Province to 94% of facilities in Nyanza. Each of the basic EPI vaccines (BCG, polio, DPT or pentavalent, measles) are all available in more than 90% of facilities that provide childhood immunisation services and store vaccines. No vaccine is universally available.



According to the EPI, vitamin A should be stored with vaccines in order to increase provision of vitamin A. Most facilities (94%) that offer child immunisation in Kenya store vitamin A with vaccines.

Several supplies are needed to provide the best vaccine services. Among the facilities providing child immunisation services, almost all have blank immunisation cards, syringes and needles, and vaccine carriers with ice packs.

Just over half (56%) of facilities offering child immunisation have all items needed for infection control. Soap and running water, essential items for infection control, are available in only 69% of facilities offering child immunisation services.

Growth Monitoring

According to the KSPA, quality child immunisation includes:

1-Availability of all EPI vaccines (84%) and vitamin A (94%)

2-Equipment: immunisation cards, syringes and needles, and vaccine carriers with ice packs (90%)

3-All items for infection control (56%)

4-Client register or tally sheet, documentation of measles coverage or DPT/pentavalent dropout rate (70%)

Only 33% of facilities have all these components

Three in four facilities provide growth monitor-

ing for children; 78% of these facilities offer growth monitoring at least five days a week. Only 70% of facilities that offer curative outpatient care for sick children have a scale to weigh infants, and 69% have a scale to weigh older children (see page 9).

Putting the KSPA into Context: Child Health in Kenya

Child mortality is decreasing in Kenya. As of the 2008-09 KDHS, the infant mortality rate was 52 deaths per 1,000 live births, down from 77 deaths per 1,000 in 2003. The under-five mortality rate in 2008-09 was 74 deaths per 1,000 live births compared to 115 in 2003. Still, this means that one in every 13 children in Kenya dies before his or her fifth birth-day.

In 2008-09, three-quarters of Kenyan children had received all of the recommended EPI vaccines (BCG, three doses each of DPT/THB and polio, and one dose of measles). Immunisation coverage has improved in recent years, as only 57% of children were fully immunised in 2003.

Among children with acute respiratory infection (ARI) in the two weeks before the DHS, 56% were taken to a health facility for treatment. Only 39% of children with diarrhoea were treated with oral rehydration salts (ORS), although 8 in 10 mothers know about ORS packets. More than three-quarters of children with diarrhoea received ORT or increased fluids. About half were taken to a health provider. Fourteen percent were given antibiotics, which are usually unnecessary.

Malnutrition is a serious problem in Kenya. One-third of children under age five are stunted, or too short for their age. Stunting is a sign of chronic malnutrition. One in six children is underweight, or too thin for their age.



Care for the Sick Child

While almost all facilities provide curative care for sick children, only 32% of these facilities have all of the items needed to provide quality services including individual health cards, treatment guidelines, and visual aids. Many essential items needed for treating sick children are not available in all facilities. For example, only half of facilities have visual aids and fewer than 3 in 10 facilities have the items necessary to provide oral rehydration therapy (cup, spoon, and ORS).

The IMCI guidelines were designed both to improve quality of care for sick children as well as to improve preventive care. In Kenya, however, only 39% of facilities offer EPI (immunisation) services on every day that sick child services are available. This is a missed opportunity, as parents may not bring their children back to the facility later for immunisations.



Availability of Equipment and Supplies for Quality Assessment of Sick Child (Table A-4.5)



Percentage among facilities offering outpatient care for sick children (N= 666)

Essential Medicines for Treating Sick Children

Two-thirds of facilities that offer curative care for sick children have all three first-line medicines identified by the IMCI guidelines—ORS, first-line antimalarial, and at least one oral antibiotic. Hospitals are most likely to have these three items. Pre-referral medications—one first-line injectable antibiotic, one second-line injectable antibiotic, and IV solution with perfusion set and sterile syringes are available in 6 in 10 facilities. Faith-based facilities are most likely to have all types of medicines.



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Percentage among facilities offering outpatient care for sick children (N=666)

Observation of Sick Child Consultations

KSPA interviewers observed sick child consultations to check if providers followed IMCI guidelines. Only during 13% of consultations did providers check for all three major danger signs: ability to eat or drink anything (49%); vomiting (56%); and convulsions (19%). Various aspects of the physical examination were also missing—only 20% assessed dehydration, and only 25% counted respiratory rates.

IMCI guidelines recommend that sick child services should also be able to provide vaccines and growth monitoring. However, children's immunisation status was assessed in only 63% of sick child observations, weights were plotted in only 46% of observed consultations, and feeding practices were assessed in only 39% of observations. These are clear missed opportunities for prevention.

Providers should tell caretakers how to care for their sick children. Half (48%) of caretakers were told what illness their child had. Only one-quarter of caretakers were told to increase fluids, 39% were told to continue feeding the child, and one-third were told what symptoms required a return visit. In all, these three essential messages were given in only 14% of observed visits. In two-thirds of observed consultations, caretakers were fully instructed about giving medications.

Observed Assessments and Examinations (Tables A-4.15 and A- 4.18)

Percentage among observed consultations with sick children up to 24 months old (N=2,016)

ASSESSMENT OF GENERAL DANGER SIGNS



* Percentage among observed consultations with sick children up to 24 months old whose caretaker was interviewed (N=1,181)



Essential Advice Given to Caretakers (Table A-4.15)

Treatment by Diagnosis

The 2010 KSPA findings show that providers often do not follow IMCI guidelines for diagnosis and treatment of specific illnesses. Only about one-third of children with respiratory illness, for example, had their respiratory rate checked, as recommended. Almost all children with pneumonia or severe respiratory illnesses were given antibiotics, as were 84% of children with non-severe respiratory problems which is against IMCI guidelines.

According to the IMCI and MOH policies and national treatment protocol, children with fever or history of fever should receive an antimalarial and a fever-reducing medication such as paracetamol. Only 62% of children with fever received an antimalarial, while 73% received an antibiotic. Nine in ten of these children received medication for symptoms, such as aspirin or cough medicine. While 91% of children who were diagnosed with malaria received an antimalarial drug, only 70% received the first-line antimalarial drug, and 67% also received an antibiotic (not shown).

About one-third of children diagnosed with severe diarrhoea were referred or admitted. ORS was prescribed for 74% of those with severe diarrhoea and 57% of those with less severe cases.

For all diagnoses, providers failed to assess many of the IMCI main symptoms and danger signs, and did not consistently provide the basic physical exams. Antibiotics were prescribed for a wide range of diagnoses, signalling a possible overuse.

Treatment of Children with Respiratory Illnesses (Table 4.5)



*Diagnoses of children made by the providers

Treatment of Children with Fever or Malaria (Table 4.5)



*Diagnoses of children made by the providers



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Management Practices Supporting Sick Child Care

Most facilities (85%) offering curative care for sick children have an up-to-date patient register. Of the 1,989 child health service providers interviewed, 36% reported receiving training within the 12 months before the survey. Less than 15% of providers received recent training in most topics, including EPI/cold chain, ARI and diarrhoea treatment, nutrition/micronutrient deficiencies, breastfeeding, and IMCI in the year before the survey. Only 7% of providers received any training in paediatric AIDS management in the three years prior to the survey.

Three-quarters of child health providers interviewed for the KSPA reported that they had been supervised in the six months before the survey. During this supervision, supervisors usually checked records, observed work, and discussed problems.

By policy, child health services should be free to all children under age five. However, 77% of facilities that offer sick child services charge some fees for these services. This is most common in private (96%) facilities and faith-based facilities (95%). Only 33% of the facilities that charge fees post any fees.



Caretakers' opinions

Caretakers had some complaints about the health care services their children received. One in four caretakers complained about the

waiting time to see the provider, while 18% complained about the availability of medicines. Nine percent had problems with the hours the facility was open.

Maternal Health Services

Maternal health services are not consistently available throughout Kenya. Nationwide, 74% of health care facilities provide antenatal care (ANC) services, mostly health centres (99%), hospitals (94%), and maternities (93%). Only 41% of clinics provide ANC. Seven in ten facilities provide tetanus toxoid vaccines. Normal delivery services are available in only 30% of facilities, while 59% of facilities offer postnatal (or postpartum) care.

Emergency services are not widely available. Half of all facilities have a system in place to provide transport to a referral site for maternal emergencies. Only 5% of facilities nationwide can perform a Caesarean section.

Availability of Maternal Health Services (Tables 6.1 and 6.5)

Percentage of facilities offering specific services, by province (N=690)

Province	ANC	Tetanus toxoid vaccine	Normal delivery	C-section	Transportation support for mater- nity emergencies	Postnatal care
Nairobi	79	78	32	13	57	68
Central	56	52	13	4	30	46
Coast	70	68	27	4	53	57
Eastern	71	66	30	3	45	62
North Eastern	69	63	44	4	46	56
Nyanza	94	90	52	5	70	86
Rift Valley	74	70	27	4	50	51
Western	94	82	47	6	60	68
TOTAL	74	69	30	5	49	59



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Putting the KSPA into Context: Maternal Health in the KDHS

According to the 2008-09 KDHS, 92% of pregnant women make at least one antenatal care visit and 47% make four or more. However, most women seek care well after the first trimester of pregnancy. About three-quarters of births are protected against neonatal tetanus.

Far fewer women go to health care facilities to give birth. Nationwide, only 43% of women give birth in a health care facility. Women staying at home are more likely to be assisted by a traditional birth attendant or a friend or relative than by a trained provider. Overall, only 44% of recent births were delivered with the assistance of a health professional. Only 42% of women received any postnatal care from a skilled health provider within two days of delivery.

Antenatal Care and Postnatal Care

Nationwide, 74% of facilities offer antenatal care services, ranging from only 56% of facilities in Central Province to 94% in Nyanza and Western provinces. Among facilities offering ANC services, 73% offer them five days or more a week. Tetanus toxoid vaccines are available five days a week at almost all hospitals and health centres, but at less than 80% of maternities, clinics, or dispensaries offering ANC. In nine out of every ten facilities, tetanus toxoid vaccination is always offered on the same days that antenatal care is offered.

Postnatal care is available in 59% of facilities, most commonly hospitals, health centres, and maternities.

Items to Support Quality ANC Services



More than one-third of ANC facilities have all items to support quality counselling (visual aids for health education, guidelines for ANC, and individual client cards). All items necessary for infection control are available in 57% of ANC facilities.



Availability of Antenatal Care and Tetanus Toxoid Vaccine (Table 6.1)



Percentage among facilities offering ANC (N=509) with capacity for conducting the indicated diagnostic test, by province Anaemia Urine protein Urine glucose **Blood grouping Syphilis** Nairobi Central Coast Eastern North Eastern Nyanza **Rift Valley** Western TOTAL

Availability of Diagnostic Tests (Table 6.3)



Photo by Paul Ametepi, Macro International

About 40% of ANC facilities can test for anaemia, urine protein, and urine glucose. Only one-quarter can test for syphilis, and only 4% can do blood grouping. Hospitals are most likely to have these tests.

Availability of Medicines

ANC facilities also vary in their capacity to treat common problems of pregnancy. About 3 in 4 ANC facilities have an antibiotic, 86% have a first-line antimalarial drug, and 90% have an antibelminth (deworming medication). However, only 23% of these facilities have methyldopa (aldomet), used for treating high blood pressure, a common complication of pregnancy. Most facilities have at least one medication for treating syphilis (93%), but fewer are able to treat other STIs—trichomoniasis (64%), chlamydia (84%) or gonorrhea (62%). Overall, only 19% of all facilities providing ANC have medications on hand for treating all of these common complications and infections in pregnancy.

Availability of Basic Medications for ANC Complications (Tables A-6.4.1 and A-6.4.2)

Percentage among facilities offering ANC (N=509) with all medicines for ANC complications (antibiotic, an antihelminth, aldomet, 1st line antimalarial, and at least 1 med. for each STI)



Management Support for ANC and PNC

Four in five facilities have up-to-date client registers for ANC. Far fewer, only 22%, have registers for postnatal care (PNC). Of all ANC providers interviewed, less than 15% had received training in ANC counselling, screening, complications of pregnancy, or diagnosis or treatment of STIs in the year before the survey. Training related to family planning (20%), PMTCT (31%), and IPT (34%) was more common.

ANC should be free in all government facilities. Overall, 78% of facilities, including 69% of government facilities, charge user fees for ANC services. Facilities charge fees for a variety of items such as client cards, consultations, registration, medicines, and lab tests. Among facilities that charge fees, only 27% post all fees.

Adherence to Standards in ANC

KSPA interviewers observed the client-provider interactions of 1,409 ANC clients. About 40% of the clients observed were visiting for the first time in their pregnancy, while 61% were coming for a follow-up visit.

The KSPA findings suggest that health care providers do well with routine activities for monitoring pregnancies. For example, more than 95% of first-visit pregnant clients were weighed and had their blood pressure checked, and more than 80% had a urine test or a blood test. Six in ten clients were given iron tablets, and 79% received the tetanus toxoid vaccine.

ANC providers did not take client history or counsel clients consistently. Only 28% of first-visit clients were asked about any medications they were currently taking, and only 59% of first clients with previous births were asked about complications of previous pregnancies. Delivery plans were discussed with two-thirds of all clients, and less than one quarter of all ANC clients were counselled about postpartum family planning or exclusive breastfeeding.



Counselling and education on specific warning signs of pregnancy complications are not regularly carried out. Just under half of observed clients were told of any risk symptoms for seeking help. There is often a disconnect, however, between what interviewers observe occurring during consultations and what clients remember being told. For example, interviewers observed that fever was a risk mentioned in 17% of consultations, but only 9% of interviewed clients named fever as a warning sign discussed during the visit.

Health Education Received as Observed by Interviewer (Tables A-6.20.1)



Specific warning signs discussed, among all ANC clients (N=1,409)

Delivery Services

Only 30% of all facilities provide normal delivery services. Availability of these services ranges from only 13% of facilities in Central Province to 52% in Nyanza. The median monthly number of deliveries for the 12 months preceding the survey was 33 for hospitals, 10 for health centres, and 12 for maternities. Hospitals carried out a median of 11 C-sections per month in the 12 months preceding the survey.



emergency transportation to a referral site



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Domiciliary Care Practices

According to the 2008-09 KDHS, 56% of pregnant women deliver at home, most without assistance from a trained provider. However, the KSPA shows that only 3% of all facilities have services supporting home delivery, either for routine cases or emergencies. Fifteen percent of facilities have programmes with traditional birth assistants, and 44% have programmes with community health workers.

Elements and Practices to Support Normal Deliveries

Among the facilities offering delivery services, only 36% have the necessary furnishings (bed, exam light, and privacy). The exam light was least available, in less than half (47%) of facilities. While 63% of delivery facilities have a partograph, fewer than 25% have guidelines for normal or emergency delivery.

Almost half (46%) of facilities offering deliveries have a trained provider on site 24 hours a day, while another 6% have a provider on call 24 hours a day. The large majority of hospitals (86%) have a trained provider on site at all times.

Almost 6 in 10 (58%) delivery facilities have all items for infection control. Hospitals and health centres are most likely to have these items (almost 70%).





Percentage among all facilities (N=690)

Items to Support Quality Delivery Services (Table A-6.30)



Supplies for Normal and Complicated Deliveries

Just over half (57%) of facilities have all the necessary supplies for normal deliveries in the delivery area: scissors or a blade; cord clamp; suction apparatus; antibiotic eye ointment for newborn; and skin disinfectant.

Half of facilities that offer delivery services (51%) have all the supplies needed to handle common complications (see figure at right). Interestingly, more facilities (63%) have the medicines needed to treat serious complications. In both cases, hospitals and maternities are most likely to have all the necessary items.

Percentage among facilities offering delivery services (N=207) Hospital Health centre Maternity Clinic Dispensary 80 72 72 72 66 61 57 52 48 50 43 40 35 All essential supplies Medicines and Medicines and for delivery supplies for common supplies for serious (scissors or blade, cord complications complications clamp, suction, antibiotic (needle and syringes, IV (injectable anticonvulsant eye ointment for newborn, solution with infusion set. and antibiotic) injectable oxytocic, suture material skin disinfectant) and needle holder, oral antibiotic)

Of most concern, however, is that equipment for life-threatening emergencies is in such short supply. Hospitals, health centres, and maternities are expected to provide comprehensive emergency obstetric care, including C-sections. Nationwide, only 6% of facilities have a vacuum extractor (used for assisted vaginal delivery), and only 15% have a dilation and curettage (D&C) kit (needed to remove retained placenta). Injectable oxytocin to prevent haemorrhage is available in the delivery area in 71% of facilities that offer delivery services. Only 20% of facilities have blood transfusion services (although 60% of hospitals and 50% of maternities can transfuse blood) and 72% have newborn respiratory support services.

Almost half (49%) of facilities can provide transportation for maternity emergencies. This is a marked increase from only 27% in 2004.

Signal Functions

Almost 9 in 10 hospitals, health centres, and maternities offering delivery services had used oxytocics in the three months preceding the survey, and 46% had carried out manual removal of placenta. Use of anticonvulsants (29%), blood transfusions (20%), assisted vaginal deliveries (5%), and C-sections (22%) were less common.



Availability of Signal Functions for Emergency Obstetric Care (Table 6.10) Percentage of facilities, among hospitals, maternities, and health centres

Availability of Medicines and Supplies for Delivery (Table 6.7)

Management Practices and Training

The KSPA interviewed 881 delivery service providers. Two in five delivery service providers reported receiving any training (pre- or in-service) during the year preceding the survey. Less than 20% had been trained in use of partograph, post-abortion care, essential obstetric care, or neonatal resuscitation in the year before the survey. More providers had received training on HIV-related topics, such as PMTCT (28%) and modified obstetric practices for mothers with HIV/AIDS (24%).

Only 38% of facilities offering delivery services document monitoring of delivery coverage in their catchment area. Monitoring of delivery coverage is highest in dispensaries (52%) and NGO facilities (60%). Facilities in Nairobi are least likely to monitor delivery coverage (10%), compared to more than 79% of facilities in Western Province.

Careful reviews of maternal or newborn deaths or near-misses help providers recognize problems and prevent future deaths. Nationwide, only 39% of facilities providing delivery services conduct



these reviews. Hospitals are most likely to conduct reviews of maternal and/or newborn deaths or near misses (64%).

Most facilities (80%) charge user fees for delivery, including 74% of government facilities. Only 19% of NGO facilities charge fees for delivery, while almost all private and faith-based facilities charge fees.



Newborn Care

Facilities are inconsistent in implementing essential newborn care practices. KSPA interviewers observed deliveries of 548 live births. Sixty percent of facilities dried and wrapped the newborn. Almost all (93%) tied or clamped, then cut the umbilical cord in a manner protecting the newborn from the scissors or blade. Three-quarters of facilities helped the mother start breastfeeding. Less than half (46%) performed all three elements of essential newborn care (see chart at left).

Several routine practises can increase newborn and infant survival. Vitamin A supplementation to breastfeeding mothers, for example, is beneficial to both mother and newborn. Three-fourths (74%) of facilities that offer delivery services report that they routinely provide vitamin A to new mothers. Other recommended practices, such as providing BCG (58%) and oral polio vaccines for newborns (69%), are slightly less common.

Malaria Services

Almost all facilities (99%) offer malaria diagnosis and/or treatment services. Only 81% of these facilities, however, had firstline antimalarials in the facility. One-quarter of facilities offering malaria diagnosis or treatment had stockouts of first-line antimalarials in the six months before the survey. Hospitals, health centres, and dispensaries are most likely to have antimalarials.

Treatment protocols are available in any relevant service sites in about half of facilities offering malaria treatment and/or diagnosis services.

Laboratory capacity for diagnosing malaria is available in only 45% of facilities. Most hospitals can test for malaria with a blood smear (92%), compared to only 46% of clinics. Only 6% of facilities offering malaria diagnosis and/or treatment, and 19% of hospitals have the rapid test for malaria.



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Treatment of Children

As discussed on page 11, only 62% of observed children with fever received an antimalarial. While 91% of children who were diagnosed with malaria received an antimalarial drug, only 70% received the first-line antimalarial drug. Four in five child health facilities had a first-line antimalarial available the day of the survey.

Training

Fourteen percent of facilities offering malaria diagnosis and/or treatment services have at least one clinician provider of malaria services trained within the 12 months preceding the survey, while 46% of facilities have at least one nurse-provider of malaria services trained in the year preceding the survey. An additional 9% and 11%, respectively, received this training two to three years prior to the survey.

Putting the KSPA into Context: Malaria in Kenya

Malaria is the number one cause of morbidity and mortality in Kenya. The Kenya National Malaria Strategy follows the recommendations of the international Roll Back Malaria Initiative, which aims to reduce cost of insecticides and mosquito nets, increase their use, and launch home-based treatment programmes. Due to growing antimalarial resistance, the recommended treatment for malaria has changed several times in the last five years. In 2006, the Government of Kenya introduced artemisinin-based combination therapy (ACT) as the recommended malaria treatment. The recommended treatment is a brand of artemether/lumefantrine called Coartem.

According to the 2008-09 KDHS, 56% of households had at least one insecticide-treated net (ITN). Young children and pregnant women are most vulnerable to malaria; just under half of children under five and pregnant women slept under an ITN the night before the survey.

Four in ten pregnant women took any antimalarial drug during pregnancy, but only 34% received any SP/Fansidar during an ANC visit and only 14% took the recommended IPT regimen-two doses of SP, at

Received any SP/ 34 Fansidar during ANC Received 2+ doses of 14 SP/Fansidar, at least one during ANC visit Percent of women 15-49 with a live birth in the 2 years before the survey

least one of which is taken during ANC. IPT is especially important in malaria endemic areas, but there is not a lot of variation in IPT by province, as it ranges from 10% of pregnant women in Nairobi and North Eastern provinces to 17% in Nyanza Province.

Fever is the primary symptom of malaria in children. Among children under five with a fever, 23% took an antimalarial drug, and only 12% took the drug the same or next day of the fever onset. ACT and amodiaquine were the most commonly taken antimalarials, each used by 8% of children the day after fever started.

Antenatal Care and Malaria

According to government policy, ITNs should be offered free to all women attending ANC clinics in malaria endemic areas. The KSPA found that only 48% of facilities offering malaria services provided a free ITN to antenatal care clients, and even fewer (44%) had ITNs available in the facility. Health centres and facilities in Nyanza are most likely to provide ITNs to ANC clients (73% and 92%, respectively).

Providers are not promoting ITN use. Only about half (46%) of observed first-visit ANC clients were told of the importance of using an ITN. More than half (56%) of first-visit ANC clients received an ITN free of charge.

The Kenya National Malaria Control Programme calls for intermittent preventive treatment (IPTp) of malaria by using SP/Fansidar twice during the pregnancy. IPTp should be available for free to all women in malaria endemic areas. Three in four first-visit ANC clients and six in ten follow-up clients were given IPTp or prescribed IPT. Two-thirds of first-visit clients were given information on how to take the IPTp medicine. Half of first-visit clients took their first dose in the facility under the supervision of a provider. The importance of the second dose was explained to only 36% of first-visit clients.







Sexually Transmitted Infections (STI) Services

STIs are fairly common in Kenya, but the full scope of treatment is not available in most facilities. Almost all facilities (94%) offer STI services as a primary service, usually in the general outpatient department, as well as in the family planning service area and the ANC service area. STI services are available five days per week in 95% of facilities that offer the service. About two-thirds of facilities offering STI services have STI services integrated into FP services or ANC services. More than half of facilities offer STI services in ANC, FP, and general outpatient areas.

Six in ten facilities use WHO's syndromic approach to diagnosing STIs. Half of facilities have guidelines for syndromic management of STIs.

Only 25% of facilities offering STI services have all the items needed to support quality counselling (privacy, guidelines, visual aids or educational materials, individual client chart, and condoms in services area). Even fewer facilities (22%) have all the conditions needed to provide a quality physical examination (all infection control items, visual privacy, exam bed and exam light). Three-quarters of STI facilities ask the client to notify his or her partner and refer him/her for treatment.

Although clients were seeking care due to symptoms of sexually transmitted infections, only about 30% underwent a physical examination of their genitals. Among the women who had a physical examination, providers washed their hands in only 22% of cases. In most cases, however, the provider did wear clean gloves.

Observed STI consultations reveal some gaps in service provision. Three-quarters of clients were reassured about confidentiality. While almost all clients were asked about their symptoms, only two-thirds were asked about their recent sexual contacts. Fewer were asked about symptoms in their partner or their partner status, i.e. whether they had multiple partners or their partners had other partners. Over 60% of observed clients received any type of lab test.

STI-related counselling was inadequate during most

area). Visual and auditory 97

Items to support quality counselling (Table A-7.2)

Percentage among facilities offering STI services (N=646)



Components of Counselling (Table A-7.11)

Percentage among observed STI consultations (N=164)



observed consultations. Although 91% of observed clients received a prescription or medication, only 77% of consultations included any mention of the relationship between the infection and sexual activity. Only 36% of consultations included information about the risk of HIV/AIDS. Only 40% included discussion of use of condoms for prevention, and only 12% actually offered condoms to clients.

Putting the KSPA into Context: STI Prevalence and Treatment in Kenya

In the 2008-09 KDHS, 5% of women and 2% of men reported having either an STI, abnormal discharge or genital sore/ ulcer. These results, however, may underestimate the rate of STIs because many infections, especially in women, cause no symptoms.

STI testing and medication

Only 1% of facilities can test for each of the four major STIs (syphilis, gonorrhea, trichomoniaisis, and chlamydia) and HIV. More than 40% can test for HIV/AIDS, and almost half have capacity to do wet mount. Less than 25% can test for syphilis or gonorrhoea, and only 2% can test for chlamydia. Hospitals are most able to test for all of these infections.

Almost half (48%) of facilities have medicines to treat these four major STIs. Health centres and dispensaries are least likely to have the necessary medicines to treat these infections.

Management practices

STI-related record keeping is not consistently reliable. Only one-third of facilities had a client register with any entries within the past week. Facilities are said to have routine training if half of interviewed providers reported that they had received training related to their work during the year before the survey. Only about half of facilities provided this level of training to STI service providers.

Tuberculosis Services

Fewer than half (42%) of all facilities provide tuberculosis (TB) diagnosis, treatment, and/or follow-up services. TB services are available in most hospitals (93%) and health centers (85%) but only 19% of clinics. Facilities in Western and Nyanza provinces are most likely to offer TB services.

Three in ten facilities offer TB diagnostic services. Most hospitals (91%) can diagnose TB. Half of facilities diagnose TB using sputum microscopy and have all the items necessary to perform the exam. This recommended lab test is most available in hospitals (86%) and clinics (62%).

Almost 4 in 10 facilities in Kenya provide TB treatment and/or follow-up services. The large majority (88%) of these facilities provide treatment according to DOTS (Directly Observed Treatment-Short Course Strategy). DOTS treatment is least common in health centres (83%) and governmentrun facilities (86%). Most (91%) DOTS facilities had up-to-date client registers for DOTS, and 75% had an observed TB treatment protocol.



All first-line TB medicines were available on the day of the survey in 73%

of facilities providing any TB services. Hospitals, health centres, and dispensaries were all likely to have these first-line medicines compared to less than 45% of clinics and maternities. Among those facilities following DOTS, 85% had all first-line TB medicines available.

It is extremely important for TB patients to be screened for HIV, and vice versa, as these two infections often coexist. Among the facilities offering any TB services, 82% report referring all TB cases for HIV testing. Another 3% of facilities refer only those suspected to be HIV-positive. Upon review of records, 84% of facilities offering TB services had records of newly diagnosed TB clients referred for HIV testing; 75% had records of current TB clients who were co-infected with HIV.

HIV/AIDS Services

Approximately 1.4 million Kenyans were infected with HIV in 2009, and about 80,000 Kenyans die each year from conditions related to the disease (Stover, Policy Project, 2009 Kenya National HIV/AIDS spectrum modelling).

The availability of HIV/AIDS services varies widely throughout Kenya. Three-quarters of facilities report having an HIV testing system, while 64% offer care and support services (CSS) for HIV. While 58% of facilities provide at least one PMTCT-related service, only 19% of facilities offer all four items for the minimum package of prevention of mother-to-child transmission (PMTCT). Only 17% of facilities prescribe ART and/or provide medical follow-up services for clients on ART. In half of all facilities, staff have access to post-exposure prophylaxis (PEP), and youth-friendly services are available in only 10% of facilities reporting an HIV testing system.

Overall, HIV/AIDS services are more likely to be available in hospitals and health centres than in other facility types.

Availability of HIV/AIDS services has improved since 2004 when only 37% of facilities had an HIV testing system (compared to 74% in 2010), only 7% provided ART (compared to 17% in 2010), 24% could provide any PMTCT item (compared to 58% in 2010), and only 8% provided access to PEP (compared to 53% in 2010).



Overview of HIV-Related Health Care Services in Kenya (Tables 8.1, 8.2, 8.4, 8.5, A-8.20)

Percentage among all facilities (N=690)

	HIV Testing System*	Care and Support Services (CSS)	Anti- Retroviral Therapy (ART)**	Preventing Mother-to-Child- Transmission (PMTCT)***	Post- Exposure Prophylaxis (PEP)
Nairobi	80	67	34	52	83
Central	66	39	10	46	85
Coast	82	74	24	47	56
Eastern	87	76	12	56	27
North Eastern	42	62	9	24	17
Nyanza	85	95	31	83	78
Rift Valley	61	53	11	61	32
Western	90	69	17	87	50
TOTAL	74	64	17	58	53

* N= 695 including stand-alone VCTs;

** Prescribe ART and/or provide medical follow-up services

***One or more PMTCT services: pre- and-post test counselling and HIV testing services, ARV prophylaxis, infant feeding counselling, or family planning counselling or services

HIV Prevalence by Province

Percent HIV-positive

North

Eastern

Eastern

3.5%

Valley

Putting the KSPA into context: HIV/AIDS in Kenya

According to the 2008-09 KDHS, 6.3% of adults age 15-49 are HIV-positive. HIV prevalence is higher among women (8.0%) than men (4.3%).

HIV prevalence in Kenya varies widely by province, from a low of less than 1% in North Eastern to a high of 14% in Nyanza. HIV prevalence is especially high among women from the wealthiest families (10.2%) among men who are not circumcised (12.9%).



HIV Testing

Generally accepted definitions for HIV testing services, which can include voluntary counselling and testing (VCT), include pre- and post-test counselling, informed consent, and the testing itself. A facility is considered to have an HIV testing system if it conducts the test in the facility or in an affiliated external laboratory, or has a system for receiving results of tests conducted in a non-affiliated testing site in order to provide post-test services.

Testing services vary significantly by region, type of facility, and managing authority. Three in four (74%) facilities in Kenya report having an HIV testing system. Almost all hospitals (99%) and health centres (95%) have an HIV testing system. The availability of a testing system ranges from 42% in North Eastern Province to 90% in Western Province. NGO and faith-based facilities are more likely to have HIV testing systems than government or private for-profit facilities.

Among facilities reporting an HIV testing system, only 57% had the HIV test available in the facility or in an affiliated lab; 43% reported HIV rapid testing. Less than half (47%) of facilities reporting HIV testing had an informed consent policy in all relevant service sites. Almost all, however (95%), did have a register with HIV test results; the same proportion had a record for clients receiving test results.



Care and Support Services

Care and support services (CSS) include any health services that support and improve the life of an HIV-infected person. CSS may include the treatment of opportunistic infections (OIs), palliative care, and social and psychological support services. Since HIV-infected persons are at higher risk of developing opportunistic infections like TB as a result of their suppressed immune system, immediate treatment of OIs and other infections is essential. Basic CSS (any curative or preventive care services, referrals for counselling, and/or social support services for help living with HIV/AIDS) are available at about two-thirds (64%) of facilities in Kenya. Almost all hospitals (96%) and most health centres (86%) offer CSS compared to only 49% of clinics.

Good record keeping systems are not universal in CSS facilities. Six in ten (61%) facilities providing CSS have a register with HIV/AIDS related client diagnosis observed in any service site. Record systems for individual appointments were observed in any relevant sites in only 35% of facilities.

Tuberculosis in HIV Service Sites

Tuberculosis (TB) is a leading cause of death among people infected with HIV. The World Health Organization recommends directly observed treatment short-course (DOTS) to treat TB. DOTS ensures that patients take their drugs regularly and complete their treatment. This regime cures patients and helps prevent drug resistance.

Overall, 57% of facilities offering any CSS provide TB diagnosis or treatment (including treatment follow-up) services. The availability of TB treatment varies by province, ranging from a low of 34% in North Eastern to a high of 80% in Western. Among facilities offering any CSS, only 45% report that they are part of the national DOTS programme and 45% of facilities say they follow the DOTS strategy. All first-line TB medicines (any combination of isoniazid, rifampicin, ethumbutol, and Pyrazinamide) are available in 84% of facilities offering CSS and following the DOTS strategy. Of these facilities, 88% have observed client registers for DOTS and 75% have treatment protocols.

Only 10% of facilities offering any CSS routinely provide preventive treatment for tuberculosis with isoniazid (INH). Hospitals (32%) and health centres (23%) are most likely to have INH.

	Any TB diagnostic or treatment services	Report they are part of national DOTS programme	Follow DOTS strategy*
Nairobi	65	59	48
Central	72	36	47
Coast	56	53	54
Eastern	54	43	50
North Eastern	34	34	34
Nyanza	62	56	54
Rift Valley	40	23	19
Western	80	75	74
TOTAL	57	45	45

TB Treatment and/or Follow-up Using DOTS (Table A-8.2)

Percentage among facilities offering CSS (N=442)

* Treatment strategy followed is either direct observed for two months with five months of follow-up treatment, or direct observed for six months.

Sexually Transmitted Infections Services in HIV Service Sites

Sexually transmitted infections (STIs) are a known risk factor for contracting HIV. Thus, facilities where HIV/ AIDS services are offered are prime locations for the counselling, diagnosis, treatment, and prevention of STIs and vice versa. In Kenya, 97% of all facilities and 99% of facilities offering CSS for HIV/AIDS also treat STIs. However, only 67% of facilities offering HIV/AIDS CSS and STI treatment have STI treatment protocols in any relevant site.

Medications for treating four common STIs (syphilis, chlamydia, trichomoniaisis, and gonorrhoea) are available in about half (48%) of facilities offering CSS for HIV/AIDS services. Medicines are more likely to be available in maternities (85%) and hospitals (71%) than in health centres (41%), clinics (56%), or dispensaries (40%).

Male condoms are available in 8 out of 10 facilities offering CSS for HIV/AIDS and STI treatment in Kenya. They are least available in clinics (62%). NGOs and government-run facilities are most likely to provide condoms; only 38% of faith-based facilities and 68% of private for-profit facilities provide male condoms.

The quality of STI services is uneven, however. Only 23% of facilities offering CSS and STI services have all three elements for quality STI services: treatment protocols at all sites; medicines for treating common STIs; and condoms.



Treatment of Opportunistic Infections

Appropriate treatment of opportunistic infections (OIs) improves the quality and extends the life span of people living with HIV and AIDS. In addition to TB, common OIs include topical fungal infections, chronic diarrhoea, and bacterial pneumonia.

Most facilities (94%) offering clinical CSS for HIV/AIDS have at least one medicine for managing bacterial pneumonia, and 96% can manage chronic diarrhoea. More than 8 in 10 (85%) have intravenous fluid with infusion sets for rehydration; 89% have oral rehydration salts. About 9 in 10 facilities offering CSS have at least one antihelminth and 8 in 10 have at least one medication for topical fungal inflections. Only 22% can provide vitamin supplementation.

The quality of OI treatment is not clear, however. Only about half of facilities (46%) have providers trained to treat OIs and only 31% of facilities have a provider trained to treat AIDS in children. Not surprisingly, lower level health facilities are the least likely to have a trained provider. The lack of training is all the more serious as not all sites have written guidelines or protocols for treating OIs. Guidelines or protocols for treating OIs are available in any relevant sites in 20% of facilities that offer CSS.



© 2007 David Snyder, Courtesy of Photoshare An HIV-positive patient undergoes a monthly physical exam at a community-based health care center in Mombasa, Kenya.

Co-trimoxazole Prophylaxis

Co-trimoxazole prophylaxis treatment (CPT) for the prevention of opportunistic infections in people living with HIV/AIDS is an integral component of the HIV/AIDS CSS package in Kenya. About three-quarters (70%) of facilities providing CSS routinely provide HIV/AIDS clients with CPT. Among facilities providing CSS, hospitals and health centres are highly likely to routinely offer CPT (over 90%). Private for-profit facilities are least likely to routinely offer CPT (46%) compared to more than 75% of other facility types. CPT is least available in North Eastern (36%) and most available in Nyanza Province (83%).

Although three-quarters of CSS facilities offer CPT, only 75% of these facilities had co-trimoxazole actually available in the facility on the day of the survey. Almost all hospitals had co-trimoxazole available, compared to between 84% and 88% of health centres, maternities, and clinics. Only 60% of dispensaries had CPT available on the day of the survey. One-quarter (23%) of facilities had a provider of CPT trained in the three years before the survey, and only 21% of facilities offering CPT had a protocol available in all so

only 21% of facilities offering CPT had a protocol available in all service sites.

Advanced Clinical Care and Support Services

Kenyans have been dealing with the HIV/AIDS for quite sometime; however, advanced health services for HIV/AIDS are in the early stages of development and are not yet widely available.

Laboratory capacity to monitor HIV/AIDS patients is available in only a small percentage of facilities that offer clinical CSS. For example, only 10% of facilities can do a white cell count and only 38% can check haemoglobin or hematocrit, important indicators for anaemia. These services are much more common in hospitals than other types of facilities.

While medicines to treat bacterial infections, parasitic infections, and AIDS dementia complex are common, less than 20% of CSS facilities have at least two medicines to treat cryptococcus fungal infection or herpes opthalmic infections. Only 18% of CSS facilities have one medication for treating herpes. Very few facilities can provide fortified protein supplements. Only 10% of facilities offering any CSS can treat Kaposi's sarcoma.

Only one-quarter (24%) of CSS facilities offer home care, either in the facility or through outreach.





Percentage among facilities offering CSS (N=442)

Availability of CPT (Table A-8.9) Percentage of facilities routinely offering CPT



Antiretroviral Therapy

Antiretroviral drugs can significantly prolong and improve the quality of life for people living with HIV and AIDS. Not all HIV/AIDS clients, however, are eligible for these medicines. According to national guidelines, initiating antiretroviral therapy (ART) should be based on the level of HIV immune suppression as assessed by WHO HIV stage (presence or absence of certain HIV-related symptoms) or a CD4+ cell count. Approximately 380,000 adults in Kenya are currently on ART (NASCOP 2009). This is about half of the number of HIV-positive clients who are eligible for ART according to the WHO guidelines.

Quality ART services include: trained staff; protocols and guidelines for care and support services; consistent supply of antiretroviral (ARV) medicines; a system for client appointments and follow-up services; individual client records for continuity of care; and record-keeping systems to ensure ARV compliance.

Nationwide, only 17% of all health facilities prescribe ART and/ or provide medical follow-up for clients on ART. ART services are mostly available at hospitals (80%) and health centres (52%). ART is most available in Nyanza (31%) and Nairobi (34%), the provinces with the highest HIV prevalence.

The quality of ART services varies among health care facilities. Almost all facilities (95%) prescribing ART had the adult first- line ART regimen available on the day of the survey and 90% of facilities prescribing ART had had no stock-outs of first-line ARVs in the six months before the survey. National guidelines for managing ART are available in 58% facilities that prescribe ART; 64% of ART-prescribing facilities have lab capacity for monitoring ART. **Availability of ART (Table 8.4)** Percentage of facilities that prescribe ART and/or





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Minimum

PMTCT

package

Preventing Mother to Child Transmission of HIV

Mother-to-child transmission (MTCT) of HIV occurs when the virus is passed from an HIV-infected mother to her baby during pregnancy, delivery, or breastfeeding. The prevention of mother-to-child transmission (PMTCT) programme aims to reduce the risk of HIV transmission. PMTCT services are most often offered in conjunction with antenatal and delivery services. The minimum package of PMTCT includes:

- counselling and testing (CT) pregnant women for HIV infection;
- providing HIV-positive women with information on infant feeding practices;
- providing family planning counselling or referral; and
- providing prophylactic ARV to HIV-positive women and their newborns within 72 hours of birth.

The Government of Kenya introduced PMTCT services in 2000. The package of services varies greatly from facility to facility. As of 2010, 58% of all facilities nationwide offer *any* component of PMTCT services, and 33% of these facilities offer *all four* components for the minimum PMTCT package (HIV testing with pre- and post-test counselling, ARV prophylaxis for mother and newborn, counselling on infant feeding, and FP counselling or referral). The minimum PMTCT package is most likely to be found in hospitals (72%). Availability of the minimum package varies across provinces from 16% in Nairobi to 45% in Nyanza.

PMTCT+, an enhanced programme that includes ART for HIV-positive pregnant women, her newborn, and other family members, is far less available. Only half of facilities providing the minimum package have all the items needed for PMTCT+ package. This translates to 9% of *all* health care facilities that can provide PMTCT+ services. As expected, hospitals are most likely to have all items for the PMTCT+ package.



Availability of Specific PMTCT Services Among All Facilities (Table 8.5)

ercentage among facilities offering any PMTCT services (N=401)

Putting the KSPA into Context: Knowledge of Mother-to-Child Transmission

According to the 2008-09 KDHS, 87% of women and men know that HIV can be transmitted during breastfeeding. Two-thirds of women and men know *both* that HIV can be transmitted through breastfeeding and ARVs taken during pregnancy can reduce the risk of HIV transmission. This knowledge has increased dramatically since 2003 when about 30% of women and men knew about PMTCT.

According to the 2008-09 KDHS, only 56% of women who gave birth in the two years before the survey were counselled, tested for HIV, and received their test results.

Youth-Friendly Counselling and Testing Services

Youth-friendly services (YFS) help young adults overcome barriers to accessing HIV/AIDS services. Ideally, YFS involve young people in all aspects of the programme's planning, operations, and evaluation. The services should include staff who are sensitive to youth culture and ethnic cultures as well as to issues of gender, sexual orientation, and HIV status. YFS usually have flexible hours, convenient locations, and walk-in appointments.

According to the 2010 KSPA, only 10% of facilities with an HIV testing system offer youth-friendly HIV testing services. Half of stand-alone VCTs have youth friendly testing services compared to only 21% of hospitals and 4% of clinics. Youth-friendly services are most common in Western (27%) and Nairobi (21%), two of the provinces with highest HIV prevalence. Of the facilities with any YFS, 77% have at least one provider trained to provide youth-friendly services and 52% have appropriate guidelines on site.



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Putting the KSPA into Context: HIV Knowledge and Behavior among Youth in Kenya

The 2008-09 KDHS asked young men and women ages 15-24 about their knowledge of HIV. Comprehensive knowledge is defined as: knowing that using condoms and having just one uninfected, faithful partner can reduce the chance of getting HIV; knowing that a healthy-looking person can have HIV; and rejecting the two most common myths about HIV transmission: "People get HIV from mosquito bites" and "People can be infected with HIV by sharing food with someone sick with AIDS." Overall, only 48% of young women and 55% of young men ages 15-24 had comprehensive knowledge of AIDS. Most young men (84%) and 65% of young women know of at least one source for male condoms.

HIV testing is becoming more common among youth–28% of young women 15-24 and 19% of young men 15-24 had been tested for HIV in the year before the survey and received the results.

Post-Exposure Prophylaxis

Post-exposure prophylaxis (PEP) is the preventive treatment with antiretrovirals for persons who may have been exposed to HIV. Given the relatively high prevalence of HIV in Kenya (6.3%), the risk of contracting HIV infection on the job is a real threat to everyone working in health care facilities. PEP should also be available for patients at high risk due to inadvertent exposure to HIV, for example, rape victims.

Only about half (53%) of all health care facilities in Kenya offer PEP services to their staff. This is a large increase since 2004 when PEP services were available in only 8% of facilities. Still, in 2010, among facilities reporting PEP services, only 29% have ARVs for PEP. Thus, protection for health care providers exposed to HIV on the job is very limited. It is possible that providers needing PEP are referred. However, KSPA findings show that only 10% of facilities reporting that they offer PEP have any records/registers of staff receiving PEP, and only 3% have records monitoring full compliance with PEP regimen.

As expected, most PEP services are located in hospitals (89%); PEP is also available in most stand-alone VCTs (73%) and health centres (67%). PEP services are available in more than 75% of facilities in Nairobi, Central, and Nyanza provinces.

Qualitative Research: Community Health Workers

The 2010 KSPA included a qualitative component examining the role of Community Health Workers (CHWs). Seventy-four interviews with CHWs were completed in 68 districts throughout Kenya.

Training. Training of CHWs varies widely, from those who have received only a few days of training to those with several months of training. Almost 40 agencies throughout Kenya are involved in CHW training. Training fell into three categories: disease prevention (malaria, HIV, TB, or STIs); specific services (home-based-care, first aid, de-worming); and health education (promotion of ANC, VCT, immunisations, teaching about hygiene). The Ministry of Health is seeking to standardize CHW training through a standard two-week curriculum.

Service provision. CHWs have traditionally focused on reproductive health and the health of mothers and children. They frequently accompany a sick person to health facilities and help to arrange transport. More recently, services related to HIV/AIDS have been added to the CHW's role. Services provided fall into four categories: health education and preventive services (health talks on hygiene, HIV-related counseling, malaria prevention); promotion of specific health services (ANC services, VCT services, immunisation services, PMTCT services, distribution of ORS); direct services (giving first aid, home-based care, family planning methods); and referrals to health facilities. The services provided by CHWs vary with the training they have received. Those trained in HIV/AIDS are more likely to focus on VCT and counselling, while those with a background in MCH focus more on antenatal care and services for sick children.

Supervision, record-keeping, and reporting. Only about one-third of CHWs reported that they are supervised. Most frequent supervisors are Community Health Extension Workers (CHEWs), public health officers, or another designed officer from a programme or facility they are working for. Most unsupervised CHWs are from regions where projects are not well established. CHWs keep monthly records of their activities. Some CHWs meet monthly with staff at the health facilities while some CHWs meet less frequently, and others not at all.

Remuneration. Most CHWs are volunteers and receive no payments. A minority of those interviewed are paid by the health programme that trained them or the facility they serve, or receive a percentage from fees charged for health services. Many CHWs do receive other rewards, including lunch, transportation allowances, material goods such as boots, uniforms, and bikes, and additional training. Eleven of the 74 interviewed were paid salaries, ranging from 2,000 to 9,000 shillings per month.

Challenges. All CHWs indicated that transportation to their service areas and for their patients to reach health facilities is a problem. The long distances required to reach households results in long days away from CHWs home responsibilities. Bicycles have proven helpful in some cases. The two other most common challenges cited by CHWs were not receiving any payment for their services and the lack of recognition of their important role by health care staff and the local population. CHWs would like a salary, especially to help make funds available for clients who need assistance. Lastly, CHWs would like additional recognition through a closer affiliation to the formal health system or uniforms/badges to increase their visibility in the community.

Conclusions/Suggestions for improvement. CHWs listed four major areas for improvement: improved ease of transportation, increased supervision from their local facility, improved material support like first aid kits and referral forms; and increased recognition and/or payment to boost motivation.

Qualitative Research: Feedback from Mothers

The 2010 KSPA also included qualitative group discussions with mothers of children under the age of two. Fifty discussions with 8-12 women each were analyzed to assess mother's perspective on health care services available to them and their children. Discussions took place in each of Kenya's eight provinces.

General impressions. The three biggest complaints from the mothers' perspective were: lack of medicines available (64% of groups), rude treatment by doctors (36%), and the long wait time to see doctors (64%). Patients reported that they would like to be able to receive medicines directly from the health facility without going to a chemist.

Most women had positive feelings about services for child health services and family planning services but much less favourable views of pregnancy-related care. Mothers had major concerns about the waiting time to see providers, and some reported going to private, more expensive facilities just to avoid the waiting time.

Child health services. Most women reported that health care services for children were relatively good; most reported that immunisations are free and that children were weighed. Others mentioned receiving vitamin A, free mosquito nets, and health education. Mothers reported that while treatment of sick children is free in government facilities, the drugs are not available and they therefore have to go elsewhere to purchase medications. They expect to wait hours for services.

Maternal health services. Antenatal care was the most commonly discussed health service for women. Groups mentioned availability of most standard ANC tests and practices. Few groups mentioned HIV testing as part of antenatal care. Respondents indicated that some women do not use ANC services due to fees, transport problems, or fear of having to take an HIV test.

Women also discussed the decision about where to give birth. Most interviewed women preferred a health facility delivery due to fear of complications and a lack of faith in the ability of the TBAs. But due to transport problems, some give birth at home.



Other women preferred home births, primarily to avoid certain aspects of hospital delivery, such as an HIV test (30%), abuse by doctors and nurses (26%), and women not wanting to be examined by male doctors (16%). TBAs, on the other hand, were lauded for massage skills and pampering treatment. Costs were also a deterrent to many women going to health facilities for delivery.

Family planning services. Family planning services were familiar to women interviewed. Injectables were named the method of choice due to convenience and secrecy. Women suggested improvements in family planning counseling and activities to involve male partners in FP decisions to limit the need for secrecy.

Conclusions

Kenya has experienced some significant health improvements in recent years. According to the 2008-09 KDHS, use of family planning has increased, childhood mortality has decreased, childhood immunisation has increased, and many more women and children are using insecticidetreated nets. Still, Kenya faces significant challenges. Only 44% of women deliver with the assistance of a skilled provider, and this has not improved substantially in recent years. Many children still suffer from malnutrition. While HIV-related knowledge and HIV testing have improved dramatically, HIV continues to affect many Kenyans; 6% of the adult population is HIV-positive.

What role do health facilities, policies, and personnel play in the health situation in Kenya? The KSPA findings provide information to help answer this question. The results are very mixed. Key conclusions and recommendations are noted below.

General Patterns Across Service Areas



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- The majority of facilities across all areas charge user fees. This is true even for government facilities. User fees may be serving as a deterrent to getting even the most basic health care, including antenatal care, child immunisations, or family planning methods. Posting of fees is rare even though facilities that do charge fees are expected to post all fees.
- Infection control is inadequate in most service areas. All items needed for infection control are available in less than 60% of facilities. Soap and running water or else hand disinfectant are the most commonly missing items. Without these, facilities will never be able to fully prevent infection or provide top quality care.
- Service guidelines are not widely available at service sites. For example, only 36% of family planning facilities have relevant guidelines and only 25% of delivery facilities have guidelines for emergency obstetric care. Guidelines are also lacking in many STI and HIV service sites. This is a concern, especially in facilities where providers have not received recent training.
- Laboratory testing capacity is not frequently available, whether for maternal health, HIV, or STI services. While some conditions are appropriately diagnosed through a syndromic approach, others require lab testing for correct diagnosis and appropriate treatment.

Family Planning

- Eighty-five percent of facilities offer modern family planning methods nationwide, but services vary by region. Only two-thirds of facilities in Nairobi and North Eastern provide modern methods. Long-lasting methods are much less available. Only 8% of facilities can actually provide male or female sterilisation.
- One-quarter of family planning facilities have all the items necessary for quality counselling, and only 16% have all items for a pelvic exam. Only about one-third of family planning facilities have an exam light or speculum.
- Family planning clients are not consistently being assessed completely during visits. Few FP clients are asked about symptoms of STIs or any chronic illnesses. This is a missed opportunity for prevention and education.

Child Health

- While almost all facilities provide care for sick children, only two-thirds provide child immunisations and three-quarters provide growth monitoring services. Only 39% of facilities offer immunisation services on every day that sick child services are available. Ideally, caretakers should not have to bring their children to multiple facilities or return for multiple visits for such a basic prevention procedure.
- First-line medications and pre-referral medications for treating sick children are available in more than 60% of child health facilities. Facilities are less likely to have other medications, such as aspirin, vitamin A, and iron tablets.
- Sick children are not being assessed for danger signs or examined routinely as part of sick child consultations. This may lead to incorrect diagnoses and could potentially endanger the lives of sick children.
- Many caretakers of sick children are still not being given essential advice on caring for their children. Caregivers need to be informed how to best take care of their sick children in order to avoid further complications.
- As in other countries, overprescription of antibiotics for sick children is common in Kenya.

Maternal Health

- Only 30% of facilities provide normal delivery services. Among these facilities, only 57% have all of the supplies needed for normal delivery. Less than half of facilities have an exam light at the delivery site.
- Few facilities are equipped to handle emergencies. Only 5% of facilities can perform a Caesarean section. Blood transfusions and assisted vaginal delivery are also rarely performed. About half of facilities have an ambulance or a system to transfer maternal emergencies to an appropriate facility. Clearly many women are not receiving the emergency services they and their newborns need.
- Currently more than half of births in Kenya occur at home (2008-09 KDHS). Yet only 3% of facilities have services supporting home delivery.
- Only 25% of ANC facilities have the basic supplies needed for ANC. One in five facilities offering ANC has all of the basic medications needed to treat ANC complications.
- ANC counselling is not consistent. Patients are not regularly counselled about exclusive breastfeeding or family planning after birth, and the majority are not counselled about warning signs of pregnancy complications.

Malaria

- First-line antimalarial medications are available in about 80% of facilities, and stock-outs had recently occurred in 24% of these facilities. However, only 62% of children with fever were given an antimalarial and even among those diagnosed with malaria, only 70% received a first-line antimalarial.
- Although treatment is crucial, malaria prevention activities are essential, especially in malaria endemic areas. Only half of facilities providing malaria services say they give free ITNs to ANC clients. Furthermore, only 46% of first-visit ANC clients were told about the importance of sleeping under an ITN during pregnancy.
- All pregnant women in malaria endemic areas should receive IPT (intermittent preventive treatment) at no charge. Only three-quarters of first-visit ANC clients were given or prescribed IPT, and only 36% of them were told the important of the second dose of IPT. Without this counselling, it is unlikely that women will complete the recommended IPT regimen.

Sexually Transmitted Infections

- While almost all facilities provide STI services, the quality of services is very uneven. Many essential items are missing for provision of quality counselling and physical examination. Especially alarming is the lack of condoms—only 54% of facilities had male condoms at the STI service delivery site.
- Observation of STI consultations revealed that many important topics are not being discussed. Risk of HIV/AIDS was mentioned in only one-third of observed consultations and condoms were mentioned only 40% of the time.
- Although availability of STI-treating medications has improved, still only half of STI facilities have medicines to treat all four STIs. Clients will not be motivated to seek treatment if medications are not available.

Tuberculosis

- Although only 37% of facilities are providing any TB treatment or follow-up services, most of these facilities are following DOTS. Most DOTS facilities are well stocked with first-line TB medicines, registers, and protocols.
- Tuberculosis diagnostic services are available in only 31% of facilities. Only half of facilities providing TB services have the capacity to conduct a sputum exam, which is the recommended diagnostic exam for TB.
- Tuberculosis and HIV/AIDS services are well integrated. Most facilities providing TB services routinely refer TB clients for HIV testing. Tuberculosis services are more available in HIV service sites than in all facilities.

HIV/AIDS

- Availability of HIV-related services in Kenya has improved substantially since 2004. HIV testing, antiretroviral therapy, prevention of maternal-to-child transmission services, and post-exposure prophylaxis are all available in more facilities in 2010 than in 2004.
- HIV-related services are generally more available in high-HIV prevalence provinces such as Nairobi and Nyanza.
- Record keeping needs improvement in HIV-related areas. While HIV-testing records are generally well kept, records for CSS and PEP are lacking. This makes it difficult to monitor the disease burden of HIV and to properly plan allocation of funds, medicines, and other supplies.
- Health care staff are not being adequately protected from accidental HIV infection. While about half of facilities report that they have a system in place for post-exposure prophylaxis, only 29% actually had ARVs on site to prophylactically treat staff.
- HIV transmission from mother to child can only be prevented if ARVs are present to treat the mother and the infant. Only one-third of facilities can provide the minimum package of PMTCT services, including ARV prophylaxis.
- Many facilities are missing national guidelines on treating opportunistic infections or anti-retroviral therapy. This is especially crucial, as so few staff are recently trained on these topics.



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Key Indicators

	I to see the L	11	Тур
	Hospital	Health centre	Maternity
Child Health Services			
Facilities offering curative outpatient care for sick children (%)	100	100	95
Facilities offering growth monitoring (%)	95	95	82
Facilities offering childhood immunisation (%)	93	95	78
Immunisation facilities with all basic child vaccines (BCG, DPT-HB, polio, measles) (%)	90	79	94
Facilities with all first line ¹ /pre-referral medicines ² (%)	86/83	76/74	63/90
Facilities with user fees for sick child services (%)	64	70	91
Family Planning Services			
Family planning services available 5 days a week (% of facilities)	91	91	80
Availability of any modern method (% of facilities)	85	83	88
All items for quality counselling ³ (% of facilities)	40	34	27
Conditions for quality pelvic exam ⁴ (% of facilities)	43	24	51
User fees for FP services (% of facilities)	70	79	95
Maternal Health Services			
Facilities offering antenatal care (%)	94	99	93
Facilities offering postnatal care (%)	92	83	82
Facilities offering tetanus toxoid vaccine (%)	92	99	83
ANC facilities with all items for quality counselling ⁵ (%)	52	38	32
ANC facilities with all essential supplies for basic ANC ⁶ (%)	42	31	48
ANC facilities where STI treatment is provided by ANC providers (%)	42	81	48 81
ANC facilities where s it treatment is provided by ANC providers (%) ANC facilities with all medicines for treating pregnancy complications ⁷ (%)	50	18	52
		83	85
Facilities offering normal delivery services (%)	95		
Facilities offering Caesarean section (%)	52	1	30 78
Facilities offering emergency transportation support for maternity emergencies (%)	88	77	78
Delivery facilities with all items for infection control ⁸ (%)	69	68	54
Facilities offering delivery services with all essential supplies for delivery ⁹ (%)	72	61	80
Facilities offering delivery services with user fees for delivery (%)	94	90	95
Malaria Services			
Facilities providing free ITNs to ANC clients (%)	64	73	31
Facilities offering malaria treatment with 1st line antimalarial in the facility (Coartem) (%)	88	85	68
Facilities with lab diagnostic capacity for malaria (blood smear) (%)	92	71	74
HIV/AIDS, STI, and TB Services			
Facilities reporting an HIV testing system (%)	99	95	89
Facilities offering HIV/AIDS care and support services (CSS) (%)	96	86	73
Facilities with TB treatment and/or follow-up (among those facilities offering CSS) (%)	95	92	44
Facilities treating STIs (among those facilities offering CSS) (%)	99	100	100
Facilities that prescribe ART and/or provide medical follow-up services (%)	80	52	11
Facilities reporting PMTCT services (any) (%)	88	92	70
Facilities reporting minimum package of PMTCT (among those with any PMTCT) ¹⁰ (%)	72	57	32
Facilities where staff have access to post-exposure prophylaxis (PEP) (%)	89	67	56
Facilities providing youth- friendly testing services (%)	21	13	6
Facilities providing any TB diagnostic, treatment and/or follow up services (%)	93	85	41
Facilities providing STI services as a primary service (%)	98	100	94
Facilities with medicines to treat 4 major STIs (among those offering STI services)	71	45	85

1-ORS, Coartem, one oral antibiotic; 2-One 1st line injectable antibiotic, one 2nd line injectable antibiotic, and IV solution with perfusion set and sterile syringes; 3- Visual privacy, client cards, written guidelines, visual aids; 4-Visual and auditory privacy, examination bed or couch, examination light, and vaginal speculum; 5-Visual aids for health education, guidelines, client card/record; 6-Iron and folic acid, tetanus toxoid vaccine, blood pressure apparatus, foetoscope; 7-One broad-spectrum antibiotic,

Facility			Managing Authority				
Clinic	Dispensary	S.A. VCT	Govern- ment	NGO	Private (for-profit)	FBO	Total
94	97		97	96	95	99	97
43	84		89	80	48	74	74
29	81		88	80	34	79	68
88	82		83	68	87	87	84
46/50	73/62		73/61	58/49	47/53	92/91	66/62
94	71		61	58	96	95	77
87	87		89	80	89	79	88
80	89		96	89	84	44	85
19	25		31	42	20	6	25
21	6		10	8	29	10	16
93	66		68	65	94	58	76
41	84		89	85	46	88	74
25	68		75	61	30	72	59
37	77		84	80	40	84	69
37	33		40	36	27	34	36
39	15		12	10	38	60	25
89	91		83	92	90	87	85
22	11		6	15	26	61	19
4	21		36	38	16	43	30
0	0		3	4	5	9	5
31	47		55	64	36	60	49
28	47		64	17	53	53	58
43	40		50	5	74	73	57
64	61		74	19	97	99	80
13	61		67	69	12	64	48
58	93		93	85	58	92	81
46	31		35	35	47	87	46
55	75	100	79	96	58	91	74
49	63		71	79	49	75	64
32	49		66	62	29	70	57
97	99		99	93	98	100	99
6	5		23	43	3	20	17
24	66		74	71	27	78	58
26	19		34	31	22	40	33
54	43	73	50	73	54	53	53
4	9	53	10	14	5	17	10
19	38		55	49	17	57	42
85	97		97	90	87	100	94
69	33		27	26	70	83	48

antimalarial, 4 STIs, and anti hypertensive; 8-soap and running water or hand disinfectant, disposable latex gloves, disinfecting solution, sharps box; 9-Scissors/blade, cord clamp, suction apparatus, antibiotic eye ointment skin disinfectant; 10 - an HIV testing system in the facility plus ARV prophylaxis for mother and infant, plus counselling on maternal nutrition and infant feeding for HIV positive mothers, plus counselling on family planning or family planning services for mother.

