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6.1 Background on Maternal Health Care in Kenya

This chapter provides an overview of the Kenyan maternal and newborn health services environment. Maternal health data are primarily derived from four modules of the KSPA: the facility inventory, the health worker interview, the antenatal care observation, and the antenatal care client exit interview. Additional information was also derived from the maternal health provider knowledge questionnaire, the normal delivery record review questionnaire, and the maternity statistics form. The chapter highlights the key aspects of maternal and newborn care, including the availability of staff and services for antenatal care, safe delivery, post-partum care, and obstetric complications.

Maternal Health Status and Health Care Utilisation

Complications related to pregnancy and childbirth are among the leading causes of morbidity and mortality among Kenyan women. Recent estimates suggest that there are 414 maternal deaths per 100,000 live births, representing a 1 in 25 lifetime risk of dying from a maternal-related cause (KDHS 2003). Hospital-based studies suggest that the majority of these deaths are due to obstetric complications, including haemorrhage, sepsis, eclampsia, obstructed labour, and unsafe abortion. Unsafe abortion practices alone are thought to cause at least a third of all maternal deaths.

Kenyan women's use of maternal health services is higher than in other African countries. The KDHS 2003 found that 88 percent of women make at least one antenatal care visit, 31 percent make two or three visits, and more than 52 percent make four or more visits. However, the majority of these women seek antenatal care relatively late in pregnancy; the median gestation at first visit is 5.9 months.

The 2003 KDHS also showed that 52 percent of mothers received two or more doses of tetanus toxoid vaccine during pregnancy, while 34 percent received one dose. The remaining 14 percent of mothers did not receive any tetanus immunisation.

Delivery within a health facility or with a skilled attendant is much less common than antenatal care. Only 42 percent of women have a skilled attendant present at delivery, while 28 percent of women deliver with a traditional birth attendant (TBA); slightly over one-fifth deliver with a relative, and nearly one-tenth of women deliver entirely alone. The majority of the deliveries with a skilled attendant occur in health facilities. Overall, 26 percent of all deliveries occur in public health facilities, and three out of five births occur at home.

These aggregate figures conceal wide provincial disparities, however. Delivery at home, for example, is more than twice as common in rural as in urban areas, and the proportion of births with a skilled attendant ranges from only 29 percent in Western province to 79 percent in Nairobi (KDHS 2003).

Maternal Health Policy Framework

Maternal health services in Kenya began as part of an integrated MCH programme in 1972, but it was not until the inauguration of the Safe Motherhood Initiative in Nairobi in 1987 that specific programmes to reduce maternal mortality and improve maternal health were established. Early efforts focused on training TBAs to screen high-risk pregnancies for complications; efforts are now directed towards providing women with access to skilled care during pregnancy and delivery.

The National Reproductive Health Strategy for 1997 (Ministry of Health, 1996) has two principal maternal health objectives: to reduce maternal mortality to 170 per 100,000 live births by the year 2010, and to increase professionally attended deliveries to 90 percent in the same time period. The objective is to help health facilities in various areas manage pregnancy-related complications, unsafe abortion, and newborn care, and to establish a functional referral system.

Organisation of Maternal Health Services

Maternal health services are provided by facilities at every level of the Kenyan healthcare system. Dispensaries, the lowest-level facilities in the public health sector, are staffed by enrolled nurses and public health technicians. They provide antenatal care, treat simple medical problems in pregnancy such as anaemia, and occasionally conduct normal deliveries. Health centres provide the next level of services. They are staffed by midwives/nurses and clinical officers, and provide a wider range of services, including deliveries. Health centres should be able to provide basic first aid for obstetric complications but are not equipped for surgery or for managing delivery complications such as obstructed labour. District hospitals (and some sub-district hospitals) are the lowest level of health facility equipped to carry out caesarean sections.

Clinics and maternities also provide a wide range of maternal health services. Although there are some public-sector clinics and maternities, most are private establishments, and the types of services they provide vary widely. Some clinics provide only antenatal care, while others, particularly the larger establishments or polyclinics, also provide delivery care and surgery. Most maternities provide normal delivery care, and some are equipped to carry out caesarean sections.

Doctors, clinical officers, and registered and enrolled midwives and nurses make up the professional labour force of skilled attendants. Although clinical officers have less obstetric training than doctors, some of them provide obstetric care on a regular basis. Registered nurses and midwives (KRN/M, KRCN) have three years of pre-service training and form the senior level of the nursing cadre. In general, they fill a teaching, administrative, or supervisory role. Enrolled nurses and midwives (KEN/M, KECN) have two years of pre-service training and comprise the majority of the labour force in all facilities.

Although providing women with access to a skilled attendant at birth is a key element in the National Reproductive Health Strategy, there are major problems with the availability and distribution of health sector manpower. There are recognized shortages of doctors, clinical officers and nurses across the country, particularly in rural areas and at facilities below the hospital level. More than half of all health personnel and four-fifths of doctors are based at urban facilities (Ministry of Health, 1996). The National Health Sector Strategic Plan (NHSSP) of 2005-2010 has specific action strategies that will be undertaken to address these persistent staff shortages. Efforts are currently being made to address the shortfall.

6.1.1 KSPA Approach to Collecting Maternal Health Information

Maternal health is not just a women's issue; the mother's health has a direct bearing on the health of her newborn. About 15 percent of all pregnant women experience life-threatening complications as a result of their pregnancy. Many complications and subsequent poor outcomes for women and infants can be prevented or minimized by early detection of problems and appropriate interventions.

With an international focus on decreasing maternal morbidity and mortality, some of the traditional maternal health interventions have been re-examined in recent years, with subsequent changes in programme emphasis.

Antenatal care (ANC): All pregnant women are at risk of developing complications, many of which are unpredictable. It is therefore important to ensure that all pregnant women have access to preventive inter-

ventions, early diagnosis and treatment, and emergency care when needed. It is now emphasized that ANC should focus on birth preparedness, early detection of complications, and skilled and timely interventions to avoid adverse maternal and neonatal outcomes.

Delivery care: Every delivery may have complications; therefore emphasis should be towards the use of skilled and trained delivery care providers and ensuring that all women have access to life-saving emergency interventions at the time of labour and delivery. In many countries, deliveries occur at home attended by traditional birth attendants (TBAs). Previously, there were extensive efforts and funds expended toward upgrading the skills of TBAs, but safe motherhood programme initiatives have shown that in almost all cases, the level of skill among ‘skilled traditional birth attendants’ is lower than is considered ‘safe’ for safe motherhood. In-service training for TBAs cannot improve their skills to the level of competency needed.

A skilled attendant, as defined by the World Health Organisation (WHO) and other international bodies, is a ‘health professional—such as a midwife, doctor, clinical officer, or nurse—who has been educated and trained to proficiency in the skills needed to manage normal pregnancies, childbirth, and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns’.

Postnatal care (PNC): There is an increasing emphasis on ensuring that women receive PNC within 48 hours of delivery for early diagnosis of postpartum complications. PNC also provides an opportunity to counsel the new mother on family planning and on caring for herself and her newborn, as well as to assess the newborn for any problems.

Newborn care: More attention has also been given recently to newborn care, with an increased awareness of the need to discourage some common practices that are detrimental to newborn health and to promote those practices that contribute to improved newborn health.

Internationally accepted guidelines define the maternal health services necessary for safe delivery and improved maternal and newborn outcomes as follows:

Basic essential obstetric care (BEOC) includes preventive services as well as medical interventions and procedures that can be provided to pregnant women by well-trained primary care physicians and non-physician providers. This includes ANC with early detection and treatment of common problems of pregnancy, as well as first aid for complications of pregnancy and labour.

Comprehensive essential obstetric care (CEOC) includes basic essential obstetric care services, together with blood transfusions and caesarean sections.

Emergency obstetric care involves a set of interventions called ‘signal functions’ that should be available in a facility that provides emergency care for women with pregnancy-related complications. These signal functions must be performed at a facility in order for that facility to be recognized as an emergency obstetric care (EmOC) facility. A facility can either be classified as a basic EmOC or a comprehensive EmOC facility.

The **basic EmOC signal functions** are administration of parenteral antibiotics, oxytocic drugs and anti-convulsants; manual removal of placenta; manual vacuum aspiration of retained products of conception; and assisted vaginal delivery.

Comprehensive emergency obstetric care (comprehensive EmOC) includes the six basic signal functions, plus performing caesarean section and blood transfusion. Comprehensive EmOC has been adopted by the Ministry of Health and forms part of the strategy of programmes to improve maternal health.

Maternal and newborn health services represent a wide range of interventions, depending on whether the mother and newborn are healthy or experiencing problems. The KSPA 2004 draws on the findings and recommendations of Safe Motherhood initiatives such as the Maternal and Neonatal Health Project, promoted by WHO and other international organisations to determine which aspects of maternal health to assess.

This chapter uses information obtained in the KSPA 2004 to address the following central questions about maternal health services:

- What is the availability of ANC?
- To what extent do facilities have the capacity to support quality ANC services?
- To what extent is there evidence that health service providers adhere to standards for provision of quality ANC services?
- To what extent is PNC¹ available where ANC is offered, and to what extent do facilities have the capacity to support quality PNC services?
- What is the availability of delivery services, and to what extent do facilities have the capacity to support quality delivery services?
- What are the common newborn care practices in facilities providing delivery services?
- What is the maternal health provider knowledge on signs and basic interventions of common maternal complications?

6.1.2 Maternal Health and the Utilisation of Services in Kenya

The Ministry of Health (MOH) and the National Coordinating Agency for Population and Development (NCAPD) have identified maternal health as a priority health issue and have developed a strategy based on CEOC to reduce maternal morbidity and mortality. Through the Health Sector Strategic Plan, the MOH has developed interventions to reduce maternal morbidity and mortality from these causes. Essential obstetric care protocols have been developed, and there is a focus on competency-based training for physicians and nurses on the new essential obstetric care protocols and standards of care. The MOH has also been expanding midwifery training for nurses. The objective is to increase the skills of primary care physicians and nurses trained in midwifery so that they can become “skilled birth attendants” by acquiring proficiency in the skills necessary to manage normal deliveries and to diagnose and manage or refer complicated cases.

Some improvement in maternal health is being achieved. According to the 2003 KDHS, the national maternal mortality rate has declined from 590 maternal deaths per 100,000 live births in 1998 to 414 maternal deaths per 100,000 live births in 2003. However, Millennium Development Goal (MDG) No. 5 is to reduce maternal mortality rate to 175 maternal deaths per 100,000 live births or less. Much still needs to be done to achieve the MDG target.

6.2 Availability of Antenatal and Postnatal Care and Capacity to Provide Quality Services

ANC is designed to promote healthy behaviours and preparedness during pregnancy, childbirth, and after delivery, and also to provide early detection and treatment for complications.

¹ For the KSPA, any report of offering routine outpatient postnatal examination and services was accepted as PNC. Details on the content of PNC were not collected. Capacity was assessed by whether the facility could identify and manage postpartum infections and whether the newborn weight could be measured.

6.2.1 Availability of Antenatal and Postnatal Care Services

Information on the availability of ANC, PNC, and tetanus toxoid (TT) vaccine is provided in Table 6.1. Appendix Table A-6.1 provides information on whether facilities offer various family health services on the same day they offer ANC, and Appendix Table A-6.2 gives more details on the availability of ANC and TT vaccines.

Table 6.1 Availability of antenatal and postnatal care as well as other family health services					
Percentage of facilities offering antenatal care (ANC), postnatal care (PNC), tetanus toxoid vaccine (TT), and percentage offering all three services, by type of facility, managing authority and province, Kenya SPA 2004					
Background characteristics	Percentage of facilities offering the indicated services				Number of facilities (weighted)
	ANC	PNC	TT vaccine	ANC, PNC and TT	
Type of facility					
Hospital	84	53	96	50	28
Health centre	86	51	94	47	125
Maternity	76	44	82	41	20
Clinic	53	21	52	18	8
Dispensary	77	24	79	24	249
Managing authority					
Government	81	40	86	38	245
NGO	88	74	89	74	16
Private (for-profit)	59	23	66	22	61
Faith-based organisation	87	24	88	24	109
Province					
Nairobi	68	31	70	31	37
Central	79	46	84	46	50
Coast	78	19	84	18	49
Eastern	81	45	83	44	81
North Eastern	82	41	89	41	8
Nyanza	96	30	96	29	54
Rift Valley	75	28	81	26	124
Western	82	53	94	48	29
Total	79	35	84	33	430

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

Seventy-nine percent of facilities offer ANC services; one-third offer PNC, and eighty-four percent provide TT vaccine. One-third of facilities provide all three services (Table 6.1). There has been a decline in availability of ANC since 1999, when 86 percent of facilities offered the service. Approximately three-fourths of facilities offer ANC services five or more days per week, and 26 percent offer these services one or two days per week (Table A-6.2). Similarly, TT services are usually offered five or more days a week, and almost all facilities offer TT every day ANC is offered.

The provincial differentials show that nearly all the facilities in Nyanza province provide ANC services, followed by North Eastern and Western provinces (82 percent). Nairobi province has the lowest proportion of facilities providing ANC services. Seventy-four percent of NGO facilities provide all the three services, compared with 22 percent of private for-profit facilities (Table 6.1); private facilities most often lack ANC.

Key Findings

ANC is offered in four out of five facilities and in nearly all facilities in Nyanza province.

All the three services (ANC, PNC, tetanus toxoid vaccine) are available in only one-third of the facilities.

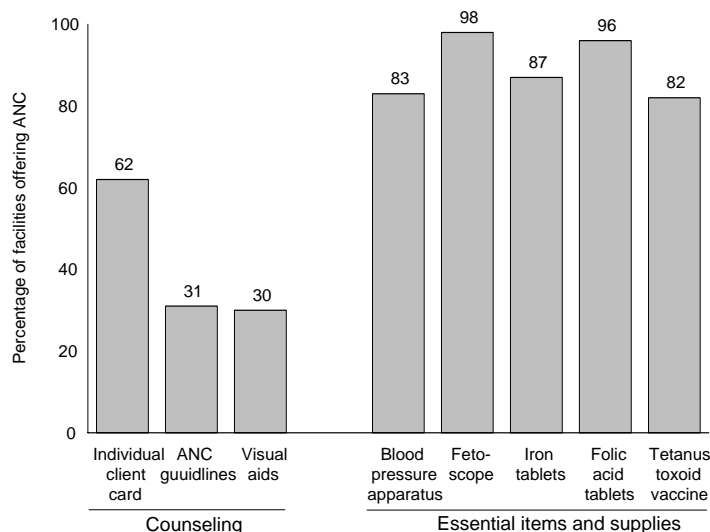
6.2.2 Infrastructure and Resources to Support Quality Assessment and Counselling of ANC Clients

To support quality assessment and counselling of ANC clients, facilities should have individual client cards, guidelines or protocols for ANC, and visual aids for client education. Table 6.2 and Figure 6.1 present information on the availability of these items. More details are available, including a breakdown by facility type, in Appendix Table A-6.3.

An individual ANC card is used for monitoring maternal and foetal condition during pregnancy and for keeping track of the type of care/treatment given. It is important for identifying risk factors for referral, assessing quality of care, ensuring standardisation of antenatal care, and helping in planning purposes (Population Council, 2002a). Individual client cards are available in 62 percent of facilities (Figure 6.1).

Written ANC guidelines or protocols which include details pertaining to the management of common problems during pregnancy are available in 31 percent of facilities; visual aids for ANC client counselling are available in just 30 percent.

Figure 6.1 Availability of items to support basic ANC services (N=347)



Kenya SPA 2004

Overall, only 1 in 10 facilities have all three items for supporting quality ANC (individual client cards, ANC guidelines, and visual aids), with facilities in Rift Valley, North Eastern and Central provinces least likely to have all the items (Table 6.2).

Table 6.2 Availability of antenatal care and resources to support quality counselling and examinations for ANC/PNC

Percentage of facilities with all elements to support quality ANC/PNC counselling, examinations and interventions for basic ANC/PNC, by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	Percentage of facilities offering ANC services with:				Number of facilities offering ANC (weighted)
	All items to support quality counselling ¹	All items for infection control ²	All items for physical examination ³	All essential equipment and supplies for basic ANC ⁴	
Type of facility					
Hospital	16	42	46	70	25
Health centre	19	30	14	50	111
Maternity	13	40	50	56	16
Clinic	7	36	41	43	4
Dispensary	4	41	18	59	191
Managing authority					
Government	10	40	5	52	202
NGO	3	5	60	18	14
Private (for-profit)	7	42	54	53	36
Faith-based organisation	13	33	32	74	95
Province					
Nairobi	8	39	38	63	25
Central	1	47	27	47	39
Coast	19	36	14	65	38
Eastern	20	65	15	49	66
North Eastern	1	8	1	92	7
Nyanza	16	36	25	55	51
Rift Valley	0	21	20	55	96
Western	17	17	10	75	25
Total	10	37	20	57	347

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

¹ Visual aids for health education, guidelines for ANC, and individual client card or record.

² Soap and water, clean latex gloves, disinfecting solution, and sharps box.

³ Visual and auditory privacy (private room), examination table, and examination light.

⁴ Iron and folic acid tablets, tetanus toxoid vaccine, blood pressure apparatus, and foetoscope (Pinard).

6.2.3 Infrastructure and Resources for Examinations

The KSPA 2004 assessed whether facilities had the necessary supplies, equipment, and conditions for infection control and for conducting client examinations in the ANC service area.

Aggregate information on these elements is provided in Table 6.2, and summary information on specific equipment and supplies is given in Figure 6.1. Appendix Table A-6.3 provides details on each of the items assessed.

Infection Control

All items necessary for infection control (soap and water for hand washing, clean latex gloves, disinfecting solution, and a sharps box) are available in the ANC service delivery area in 37 percent of facilities offering ANC (Table 6.2). Facilities in North Eastern, Western, and Rift Valley provinces are less likely to have all items for infection control than those in other provinces. Water and sharps boxes are available in the ANC service areas in about 9 in 10 facilities (90 and 93 percent, respectively) (Table A-6.3).

Client Examinations

The common physical examinations for ANC include palpating the abdomen, breast examination and, when indicated, a pelvic examination.² The basic components for examining ANC clients are visual and auditory privacy, a bed or examination table, and an examination light. Eighty-eight percent of facilities that offer ANC are able to ensure clients both visual and auditory privacy, and all facilities (99 percent) have either a bed or an examination table. However, only about 2 in 10 facilities have an examination light (Appendix Table A-6.3). All three items are available in 20 percent of facilities, mostly in NGO-managed facilities (60 percent) and in facilities in Nairobi province (38 percent) (Table 6.2). Facilities in North Eastern and Western provinces are the least likely to have all three items. Government-managed facilities are less likely than other facilities to have all three items for quality client examination (5 percent). The item most often missing in all facilities is an examination light.

6.2.4 Essential Equipment and Supplies for Basic ANC

A functioning blood pressure apparatus and a foetoscope are essential equipment that should be available in the ANC service delivery area; essential ANC supplies that should be available in the facility are iron tablets, folic acid tablets, and TT vaccine. All the essential equipment and supplies are available in only 6 in 10 facilities (Table 6.2); however, each individual item is available in over 80 percent of facilities (Figure 6.1). Provinces where facilities are most likely to have all the essential supplies and items are Western (75 percent), North Eastern (92 percent) and Coast (65 percent). Facilities in Central (47 percent) and Eastern (49 percent) province are the least likely to have them (Table 6.2).

Key Findings

Elements to support quality ANC are commonly lacking; only 1 out of 10 facilities has all the items needed for counselling, 37 percent have all items for infection control, and 57 percent have all the items essential for providing basic ANC.

ANC guidelines and visual aids are available in 31 percent and 30 percent of facilities respectively; 4 in 10 facilities did not have client ANC cards available

Four out of five facilities have a functioning blood pressure apparatus in the ANC service delivery area, and 4 percent and 13 percent of facilities lack folic acid and iron tablets, respectively.

6.2.5 Additional Equipment and Supplies for Quality ANC and PNC Services

Other elements that support quality ANC and PNC include diagnostic capacity and medicines to treat common infections. Figures 6.2 and 6.3 provide summary information on the medicines and laboratory tests available in facilities, with aggregate information available in Table 6.3. Appendix Tables A-6.4 through A-6.9 provide details on each item assessed, by type of facility.

² Pelvic examination is not a routine component of ANC in Kenya.

Table 6.3 Facility practices and resources for diagnosis and management of common problems and complications of pregnancy

Percentage of facilities where ANC/PNC service providers can diagnose and treat STIs for ANC/PNC clients, percentage with all medicines to manage common complications of pregnancy, percentage with the indicated diagnostic testing capacity, by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	Percentage where STI treatment is provided by ANC providers	Percentage with all medicines for treating pregnancy complications ¹	Percentage with capacity for conducting the indicated diagnostic test				Number of facilities offering ANC (weighted)
			Anaemia ²	Urine protein ³	Urine glucose ⁴	Syphilis ⁵	
Type of facility							
Hospital	46	8	86	86	83	88	25
Health centre	68	8	45	36	36	45	111
Maternity	80	9	80	76	72	78	16
Clinic	90	8	51	62	62	66	4
Dispensary	82	0	20	29	31	35	191
Managing authority							
Government	68	4	25	20	20	25	202
NGO	86	0	20	21	21	44	14
Private (for-profit)	85	8	88	88	86	88	36
Faith-based organisation	84	2	41	58	62	68	95
Province							
Nairobi	58	3	79	73	73	79	25
Central	79	0	24	38	38	52	39
Coast	65	2	50	26	25	33	38
Eastern	77	6	32	38	37	38	66
North Eastern	76	0	26	16	16	20	7
Nyanza	72	2	20	12	19	31	51
Rift Valley	78	5	34	46	46	50	96
Western	93	5	46	45	45	41	25
Total	75	4	36	38	39	44	347

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

¹ At least one broad-spectrum antibiotic (amoxicillin or cotrimoxazole); at least one medicine for treating trichomoniasis, gonorrhoea, chlamydia infection, and syphilis; mebendazole or albendazole (for deworming); aldomet for hypertension; nystatin suppository; and antimalarials all present.

² Includes any test (haemoglobinometer or calorimeter or centrifuge with capillary tubes, or filter paper methods).

³ Clinistix (Campus 3 or Campus 9 sticks) or flame, acetic acid, and test tube for testing urine albumin.

⁴ Clinistix (Campus 3 or Campus 9 sticks).

⁵ Venereal disease research lab (VDRL) test with functioning microscope or rapid plasma reagin (RPR)

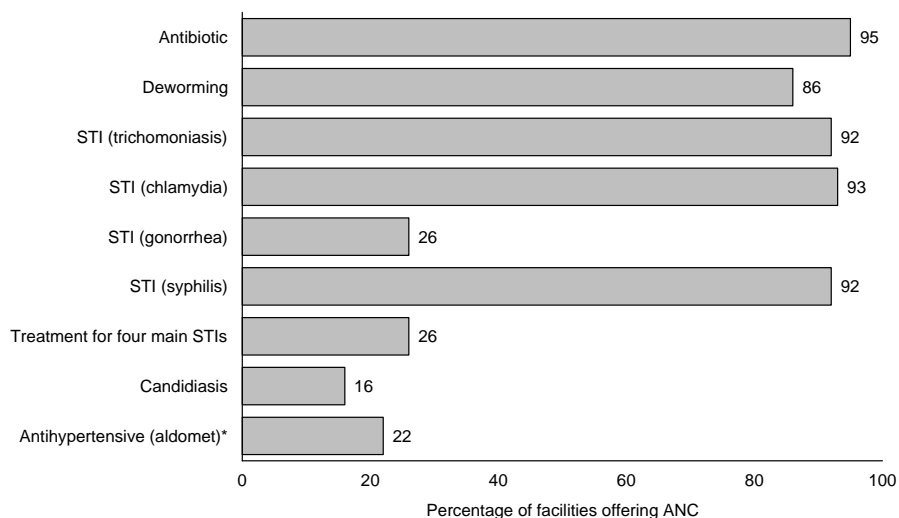
Pre-eclampsia (a hypertensive disorder of pregnancy), anaemia, sexually transmitted infections (STIs), and vaginal infections can directly affect both maternal and newborn health. Basic Essential Obstetric Care (BEOC) requires that a facility provide early treatment for complications of pregnancy to prevent progression to more serious conditions. The standard for treatment may vary depending on ANC guidelines and policies and the qualifications of the service provider.

In three-fourths of facilities offering ANC, STI treatment is offered to ANC clients (Table 6.3). Rather surprisingly, hospitals and government-managed facilities (46 and 68 percent, respectively) are the least likely to have ANC providers treat STIs, and similarly, ANC service providers in facilities in Nairobi are least likely to treat STIs. Only 26 percent of facilities have at least one medicine to treat each of the four major STIs (trichomoniasis, chlamydia, syphilis, and gonorrhoea), with medicine for gonorrhoea most often lacking (Figure 6.2 and Appendix Table A-6.4). Only one out of four facilities has at least one

medication for gonorrhoea. Nearly all facilities have at least one medication to treat chlamydia (93 percent) and syphilis (92 percent). However, only 16 percent of facilities have medicine for candidiasis, a common vaginal or sexually transmitted infection.

About 1 in 5 ANC facilities have methyldopa (Aldomet) for managing hypertension during pregnancy³ (Appendix Table A-6.4). A mere four percent of facilities have all medicines expected to be available for managing basic infections and health problems during pregnancy: at least one broad-spectrum antibiotic (amoxicillin or cotrimoxazole); at least one medicine for treating trichomoniasis, gonorrhoea, chlamydia infection, and syphilis; mebendazole or albendazole (for deworming); methyldopa (Aldomet) for hypertension; nystatin suppositories and antimalarials (Table 6.3).

Figure 6.2 Medicines for managing common problems and complications of pregnancy (N=347)



* Only specialist can prescribe Aldomet for ANC clients in Kenya

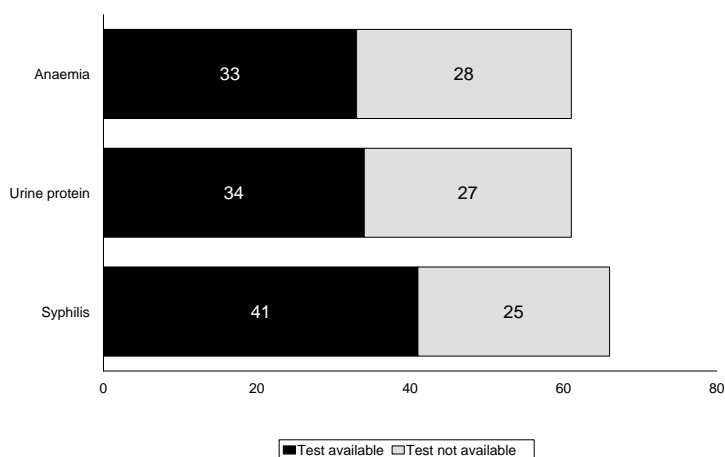
Kenya SPA 2004

The KSPA 2004 also assessed whether facilities have the capacity to test ANC/PNC clients for anaemia, urine protein, and urine glucose, and to diagnose and treat syphilis.

Among facilities providing ANC/PNC services, only thirty-six percent have the capacity to test for anaemia, 38 percent for urine protein and 39 percent for urine glucose (Tables 6.3, A-6.5-A-6.8). Hospitals and maternities (as expected), private-for-profit facilities, and facilities in Nairobi are more likely than others to have the capacity to conduct these tests. Figure 6.3 shows how many facilities routinely screening ANC clients for these conditions, and which ones actually have the capacity to conduct the necessary tests. About 4 in 10 facilities routinely screen ANC clients for syphilis and have the capacity to conduct a syphilis testing; these are mostly hospitals, private-for-profit facilities, and facilities in Nairobi (Table A-6.8). All facilities offering ANC had antimalarials available, and of those, 84 percent routinely provide preventive antimalarials as a component of ANC services (Table A-6.4).

³ In Kenya, methyldopa (Aldomet), for managing hypertension, is to be used for ANC clients only by specialists, and facilities without specialists are expected to refer these cases.

Figure 6.3 Availability of ANC tests in facilities where tests are reported to be routine components of ANC (N=347)



Kenya SPA 2004

Key Findings

The lack of all medicines for managing common pregnancy-related conditions is notable in all types of facilities. However, commonly recommended antibiotics are available in 95 percent of facilities.

Three out of four facilities diagnose and prescribe treatment for STIs in the ANC service area; however, only 26 percent of these facilities have medicines to treat each of the four main STIs (syphilis, gonorrhoea, chlamydia, and trichomoniasis). The recommended treatment for gonorrhoea is most often lacking.

Thirty-eight percent of facilities have the capacity to routinely check urine protein, and 2 out of 5 facilities have the capacity to measure urine glucose.

6.3 Management Practices Supportive of Quality ANC and PNC Services

Management practices for supporting quality ANC and PNC services include documentation and records, posting user fees, and staff supervision and development.

Table 6.4 provides information on management practices, and Figure 6.4 provides summary information on in-service training on ANC. Appendix Tables A-6.9 through A-6.11 provide details on utilisation, user fees, and out-of-pocket payments for ANC services, and Appendix Table A-6.12 provides information on supportive management for providers of ANC. Appendix Tables A-6.13 and A-6.14 provide detailed information on in-service training and supervision.

6.3.1 Facility Documentation and Records

Among facilities offering ANC, 82 percent have up-to-date registers that include an entry in the past seven days and indicate whether the client was visiting for the first time (Table 6.4). Only 5 percent of facilities offering ANC have an up-to-date register for PNC clients. This low percentage can be explained by the fact that PNC as a component of maternal and child care has received very little attention in Kenya, especially the maternal component, which affects both maternal and child morbidity and mortality (Population Council et al., 1999). Women do not always receive early postpartum care in Kenyan facilities; health care providers appear reluctant to provide this care, especially in busy units. Most men are not even aware that women need postpartum care and believe it is only for the baby (Warren and Liambila, 2004).

Table 6.4 Management practices supportive of quality maternal health services

Percentage of facilities with the indicated records, percentage that have any user fees for ANC, and percentage with the indicated management practices, by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	Percentage of facilities offering ANC that have:				Number of facilities offering ANC (weighted)	Percentage of facilities where at least half of the interviewed ANC service providers:		Number of facilities with interviewed ANC providers (weighted) ³
	Observed up-to-date patient register ¹		Documentation of monitoring of ANC coverage	User fees for ANC		Received in-service training during past 12 months ²	Were personally supervised during the past 6 months	
	ANC	PNC						
Type of facility								
Hospital	83	10	18	80	25	61	71	24
Health centre	93	9	14	67	111	47	82	111
Maternity	74	8	16	100	16	62	81	16
Clinic	52	5	5	100	4	53	65	4
Dispensary	78	3	12	61	191	52	91	184
Managing authority								
Government	89	8	9	53	202	52	87	194
NGO	98	3	58	43	14	19	100	14
Private (for-profit)	49	1	18	76	36	63	82	36
Faith-based organisation	78	2	13	95	95	51	83	95
Province								
Nairobi	76	11	2	87	25	34	71	25
Central	71	13	8	77	39	43	74	39
Coast	83	9	19	67	38	50	72	38
Eastern	86	6	20	69	66	72	98	66
North Eastern	83	1	32	20	7	33	80	7
Nyanza	85	3	3	84	51	49	95	51
Rift Valley	82	0	17	52	96	45	84	88
Western	90	5	1	57	25	63	95	25
Total	82	5	13	67	347	51	86	339

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

¹ Register has entry within past seven days and indicates, at minimum, whether this was the first or a follow-up visit for ANC and number of days postpartum for PNC register.

² This refers to structured in-service sessions and does not include individual instruction received during routine supervision.

³ Includes only providers of ANC in facilities offering ANC services.

Of the facilities offering ANC services, 13 percent have documentation indicating that they monitor their ANC coverage rate (the proportion of eligible women in their catchment area who receive ANC services). While about 6 in 10 NGO-managed facilities monitor ANC coverage, only 1 in 10 government-managed facilities do so, and barely any facilities in Nairobi, Nyanza, and Western provinces have documentation showing that they monitor coverage rates (2, 3 and 1 percent, respectively).

6.3.2 Practices Related to User Fees

User fees may have either a positive effect on utilisation of health facilities (by increasing the funds available to the facility) or a negative effect (by deterring poor clients from using services). Posting user fees is a good standard for quality of care, since clients are able to know exactly the cost of services. Approximately two-thirds of facilities charge some form of user fees for ANC. All maternities and clinics charge user fees, and facilities in Nairobi and Nyanza provinces are more likely than facilities in other provinces

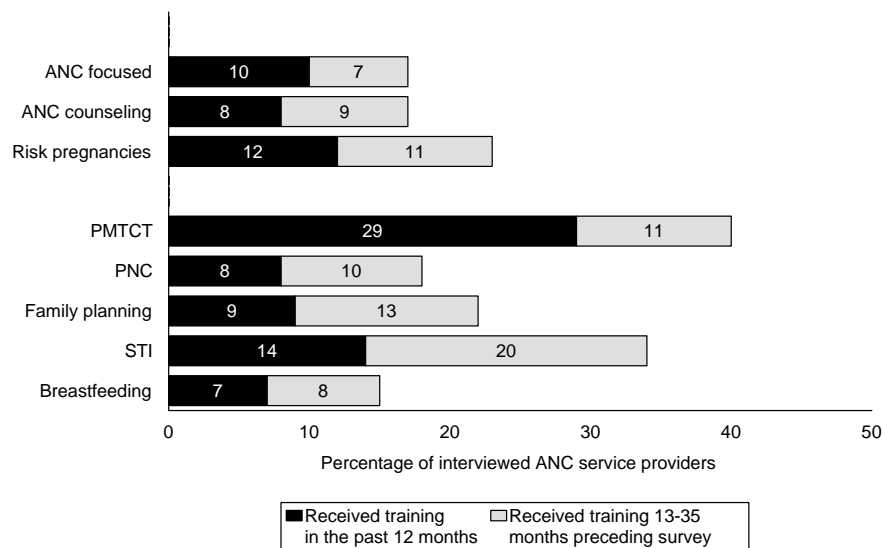
to charge fees for ANC services (87 and 84 percent, respectively). Only 20 percent of facilities in North Eastern province charge some user fees, despite the fact that fewer facilities in this province offer ANC services (Table 6.4). Approximately 2 in 10 facilities charge user fees specifically for client consultations by resident providers; these are mostly private for-profit facilities, FBO-managed facilities, and facilities in Nairobi province (Table A-6.11). A very small proportion of facilities (mostly private for-profit and FBO-managed) charge for client consultations by consultants, and about one-fourth charge user fees for laboratory tests and iron tablets. About 4 in 10 facilities have fixed fees for all ANC services.

6.3.3 Staff Development and Supervision

The KSPA defines a facility as providing routine staff development activities if at least half of the interviewed ANC providers said they had received structured in-service training relevant to ANC during the past 12 months (excluding on-the-job training that may be received during discussions with supervisors). Half (51 percent) of all facilities meet these criteria for providing routine staff development activities (Table 6.4). The facilities most likely to have routine staff development activities are hospitals and maternities (61 and 62 percent, respectively). NGO-managed facilities and facilities in Nairobi and North Eastern provinces are least likely to provide routine staff development.

The most frequently reported in-service training topics are STIs and prevention of mother-to-child HIV transmission (PMTCT) (29 and 14 percent, respectively) (Figure 6.4).

Figure 6.4 In-service training received by interviewed ANC service providers, by topic and timing of most recent training (N=1,041)



Kenya SPA 2004

Supervising individual staff members helps promote adherence to standards and also helps identify problems that contribute to poor quality services. As found with other services, supervision of ANC providers is common; 86 percent of facilities met the KSPA criteria for routine staff supervision (at least half of the interviewed ANC providers had been personally supervised during the past six months) (Table 6.4).⁴ Rou-

⁴ The assessment is not able to determine how complete or supportive the supervision is, and whether it is only for administrative matters or includes any coaching/learning component.

tine supervision for ANC providers is less frequent in hospitals and clinics (71 percent and 65 percent, respectively) and in facilities in Nairobi, Coast and Central provinces (71, 72 and 74 percent, respectively).

Key Findings

While 82 percent of facilities have up-to-date ANC registers, only 5 percent have PNC registers; 13 percent have documentation indicating they monitor ANC coverage rates.

Half of the facilities assessed have routine staff development activities, and about nine out of ten facilities have routine staff supervision, including nearly all facilities in Eastern province.

6.4 Adherence to Standards for Quality ANC Service Provision

To assess whether providers adhere to standards for providing quality service, KSPA personnel observed ANC client-provider consultations. The observation checklists used are based on elements of focused ANC. The observers noted whether providers shared information on a topic and whether an examination was conducted. They did not assess whether the information was correct or whether findings were appropriately interpreted.

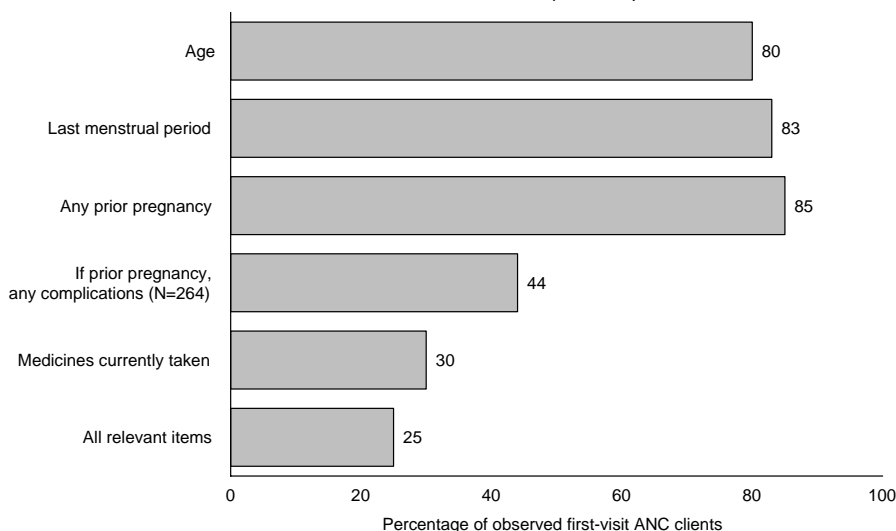
6.4.1 Appropriate Assessment and Examination for ANC clients

Summary information on components of ANC is provided in Figures 6.5, 6.6 and 6.7. Appendix Tables A-6.17 to A-6.21 provide details on assessments and examinations conducted for ANC clients.

Client History

At a first ANC visit, the provider should elicit a basic medical history to assess pre-existing risk factors. The information most often elicited by providers was age, date of last menstrual period, and information about any prior pregnancies. These questions were asked of 80 percent, 83 percent, and 85 percent, respectively, of first-visit ANC clients (Figure 6.5). These findings are similar to those from the 1999 KSPA. All the relevant client history items were assessed in only 1 out of 4 of first-visit consultations.

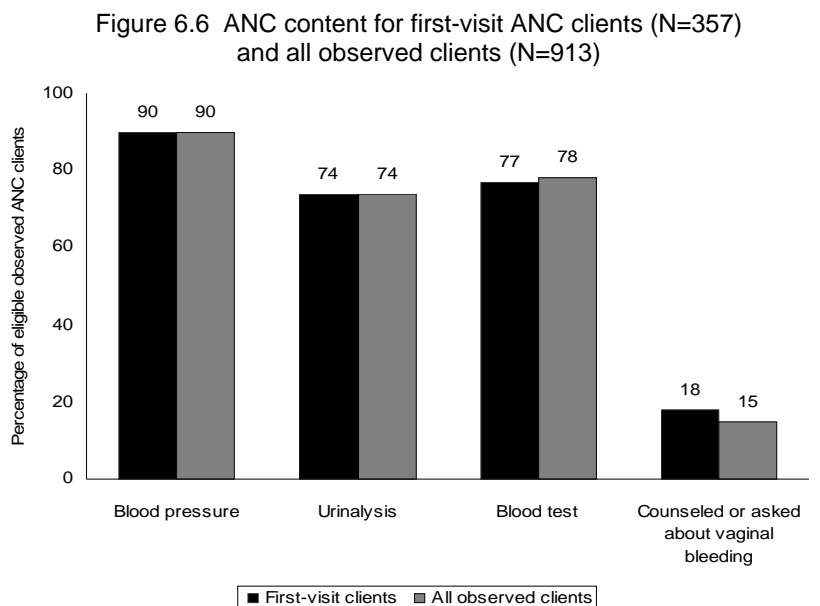
Figure 6.5 Content of client history assessed for first-visit ANC clients (N=357)



Kenya SPA 2004

Monitoring Progress of Pregnancy

All ANC clients should receive periodic assessments to monitor the progress of their pregnancy and to identify risk factors. These include assessments of vaginal bleeding, blood pressure, and foetal condition. Figure 6.6 provides information on the percentage of observed ANC clients (whether first or follow-up visits) who received these elements as part of their visit. Appendix Tables A-6.17 and A-6.18 provide this information by facility type.



Kenya SPA 2004

Laboratory Testing and Provision of Iron Tablets

Laboratory facilities and cold chain maintenance capability are required for facilities to be able to provide certain screening and preventive interventions. If a facility does not have the capacity to provide the service itself, it should have a referral site that will provide the service to the ANC client.

To meet defined minimum standards for ANC, each ANC visit should include the following components: counselling on vaginal bleeding as a risk factor for which help should be sought, measuring blood pressure, and urinalysis to check for urine protein and glucose. First-visit clients should also have their blood checked for anaemia.

Counselling on vaginal bleeding (defined as either being counselled about vaginal bleeding as a risk or asked about vaginal bleeding during the examination) was provided to 18 percent of all first-visit clients (compared to 15 percent of all clients) (Figure 6.6). This is an improvement over the findings from 1999, when only 1 out of 10 clients was counselled about vaginal bleeding; however, these rates are still highly insufficient, given the life-threatening potential of the complication. Blood pressure was measured during 90 percent of consultations, for both first-visit and follow-up clients. Three-fourths of first-visit clients receive a blood test for anaemia. Providers were more likely to measure blood pressure, conduct urinalysis, and provide blood tests than they were to counsel clients about vaginal bleeding (Figure 6.6).

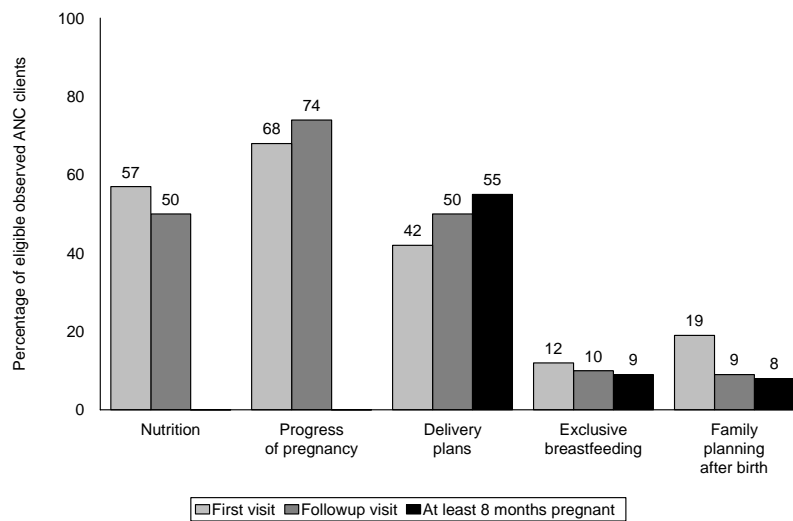
Key Findings

Only one-fourth of first-visit ANC clients were assessed for all of the relevant medical history items (age, last menstrual period, any prior pregnancy, complications in prior pregnancy, and medications currently taken).

6.4.2 Counselling to Promote a Healthy Outcome

Observed and reported components of client counselling are presented in Figures 6.7 and 6.8. Details on counselling and client knowledge about risk signs are available in Appendix Tables A-6.21 and A-6.22. Details on client plans for delivery are provided in Appendix Table A-6.23.

Figure 6.7 Counselling topics discussed during first visit (N=357) and follow-up visit (N=556) and with ANC clients at least 8 months pregnant (N=432), when relevant



Kenya SPA 2004

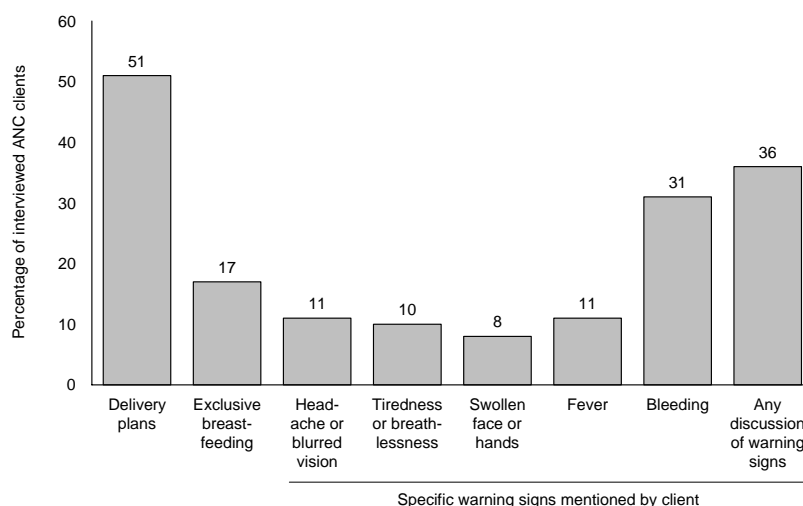
ANC providers are expected to routinely counsel their clients about special nutritional needs during pregnancy and about signs and symptoms that may indicate a problem. It is not unreasonable, however, to assume that all components of counselling may not be discussed during each visit, when a woman makes multiple ANC visits. Thus, the content of counselling for first and follow-up visits is assessed separately.

Nutritional issues were discussed during the observed consultation in 57 percent of first visits and in 50 percent of follow-up visits. Discussions on the progress of the pregnancy were held with 68 percent of first-visit clients and with 74 percent of follow-up clients (Figure 6.7). This is an improvement from 1999, when nutritional issues during pregnancy were discussed with only 34 percent of first-visit clients and with 42 percent of follow-up clients.

The Client Perspective

All interviewed ANC clients were asked about topics that the provider discussed with them, either during the current visit to the facility, or during a previous visit. Half of the interviewed clients said they had discussed plans for delivery with their provider (Figure 6.8). However, only 17 percent said they had discussed exclusive breastfeeding.

Figure 6.8 Topics reported by interviewed clients as having been discussed during either this or a previous ANC visit (N=900)



Kenya SPA 2004

Interviewed clients were also asked to mention specific warning signs that the provider had discussed with them during the current visit or any prior visit. While 36 percent said they had been told about warning/danger signs or symptoms, when asked to name any of these danger signs, few could mention the most important ones (Figure 6.8): just 3 in 10 mentioned vaginal bleeding, 8 percent mentioned swollen face or hands, and 11 percent mentioned headache or blurred vision.

Key Findings

Counselling on nutrition during pregnancy and progress of the pregnancy was observed during 57 percent of first visits and half of follow-up visits.

Thirty-six percent of interviewed ANC clients reported that they had been counselled on warning signs during pregnancy. Few clients could spontaneously mention these signs.

There is a general lack of counselling on exclusive breastfeeding and family planning, except for women near delivery.

6.4.3 Supporting Continuity of Care

For quality ANC, it is important to provide continuity of care, including monitoring changes between visits. One of the more reliable ways to achieving this is to maintain a record of relevant history and findings, as well as interventions or treatments provided. Frequently, health services are organised in such a way that a client's blood pressure and weight are measured and the information is recorded on the client's record before the ANC provider sees the client. Approximately 7 in 10 first-visit ANC clients were weighed and 9 in 10 had their blood pressure measured before or during the consultation (Table A-6.16). For such information to be available to the provider for use, an individual client card must be used. Details on the use of individual client cards are provided in Appendix Table A-6.24.

During 94 percent of first visits and 97 percent of follow-up consultations, the provider was observed to look at the individual client card during the consultation. By the end of all first-visit consultations, providers had written on the client's card. This was also the case in 98 percent of follow-up visits (Appendix

Table A-6.24). It is, of course, not possible to know through these observations whether the notes taken were relevant or accurate.

About 8 in 10 observed ANC clients went home after their consultation, and 14 percent were referred elsewhere in the same facility. None were admitted to the facility; 3 percent were referred to another facility.

6.5 Client Opinion of Service Provision

Before leaving the facility, observed ANC clients were asked their opinion of the services they received and about any problems they encountered on the day of the visit. The most common concern was the long waiting time, but only 2 in 10 clients considered this a big problem (Appendix Table 6.26). Another area of concern was lack of privacy, both visual and auditory.

Interviewed clients who reported that the facility was not the closest to their home were asked if specific factors were important in determining why they did not visit the facility closest to their home. Some reasons cited were that the closest facility was more expensive (17 percent) and that the closest facility had a bad reputation (12 percent). Six percent of interviewed clients had been referred and therefore had had to bypass the closest facility (Appendix Table A-6.27).

6.6 Availability of Delivery Services and Capacity to Provide Quality Delivery Care

The KSPA assessed the availability of emergency obstetric care and the presence of standards, equipment and supplies, and health system components to support quality delivery services. Specific items that were assessed include the following:

- Availability of delivery services;
- Home delivery care practices;
- Infrastructure and resources to support quality delivery services;
- Practices related to signal functions; and
- Documentation of delivery procedures and outcomes.

6.6.1 Availability of Delivery Services

Table 6.5 provides information on the availability of maternal health services, as well as details on the availability of emergency transport and services supporting safe home delivery (domiciliary care). Information on median travel time using the most common transport system is provided in Appendix Table A-6.29.

Although about 8 in 10 facilities offer ANC, only about 38 percent of facilities offer normal delivery services; one-third offer both ANC and normal delivery services (Table 6.5). Hospitals are, as expected, most likely to offer delivery services; NGO-managed facilities are more likely than others to offer delivery services. FBO- and government-managed facilities, and facilities in Central province, are least likely to offer these services. The percentage of facilities offering normal delivery services remains relatively similar to that observed in 1999.

Caesarean sections are offered by only 7 percent of eligible facilities, logically provided mostly by hospitals (76 percent). Rather surprisingly, only 3 percent of government-managed facilities offer caesarean sections (a decline from 15 percent in 1999), compared with 23 percent of private for-profit facilities. Among eligible hospitals, 67 percent of those providing caesarean sections are government-managed, 78 percent are NGO-managed, and 86 percent are private for-profit facilities (data not shown).

Table 6.5 Availability of maternal health services

Percentage of facilities that offer the indicated services and percentage with documentation of activities with traditional birth attendants (TBAs), by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	Percentage of facilities providing indicated services								
	Facility-based maternity services						Services supporting safe home delivery		
	Ante-natal care	Normal delivery services	Caesarean section	ANC and normal delivery services	ANC, normal delivery, and caesarean section	Emergency transportation support for maternity emergencies ¹	Any home delivery services ²	Documented official programme supportive of TBAs ³	Number of facilities (weighted) ⁴
Type of facility									
Hospital	84	95	76	81	65	91	10	8	28
Health centre	86	64	3	56	3	42	5	4	125
Maternity	76	87	23	68	18	59	3	0	20
Dispensary	77	15	0	14	0	9	4	5	249
Managing authority									
Government	81	35	3	30	3	16	4	7	245
NGO	88	87	5	86	5	87	50	12	16
Private (for-profit)	59	48	23	36	20	37	3	0	61
Faith-based organisation	87	33	6	31	5	37	2	1	109
Province									
Nairobi	68	30	7	28	7	34	1	5	37
Central	79	18	7	18	7	33	0	0	50
Coast	78	27	7	20	5	26	7	7	49
Eastern	81	32	9	30	7	22	1	11	81
North Eastern	82	35	6	29	6	29	9	17	8
Nyanza	96	49	6	47	6	26	1	6	54
Rift Valley	75	45	6	38	5	21	10	1	124
Western	82	69	6	54	6	46	8	0	29
Total⁴	79	38	7	33	6	27	5	5	430

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

¹ Any system where the facility provides some support for emergency transportation to referral site, or the facility is the referral site.

² This may be either a routine service or service only for emergency cases.

³ Any official activity with TBAs for which the facility has any documentation.

⁴ Totals include one clinic (weighted)

One way of increasing access to emergency obstetric care is to offer rapid transport to a facility where the needed service is available. Without a facility-supported emergency transportation system, the expectant mother and family are forced to use their own means of transport during an emergency. Even when a facility does not offer delivery services, but does offer ANC, it is desirable to have emergency transport available. For many home deliveries, the facility where a woman receives ANC may be the nearest formal health sector site from which emergency help can be sought.

Among all facilities, only 27 percent have a system of emergency transportation⁵ to another facility for obstetric emergencies (Table 6.5). Hospitals are more likely (91 percent) than other facility types to have

⁵ Facilities that are referral facilities are counted as having an emergency transportation system, since they can provide all relevant services.

an emergency transportation support for maternity emergencies, as are NGO-managed facilities (87 percent). Approximately 4 in 10 maternities do not have emergency transport services available. Among those facilities supporting emergency obstetric transport, 62 percent have an ambulance or other facility-based vehicle, 19 percent have other arrangements to support cost, and 5 percent are themselves referral sites (Table A-6.29)

Among facilities offering delivery services, however, 52 percent have an emergency transportation system in place for obstetric emergencies (data not shown). This is a modest improvement since 1999, when 47 percent of facilities providing delivery services had a driver and vehicle.

6.6.2 Domiciliary Care Practices

In countries where a large proportion of deliveries take place at home, frequently with the assistance of traditional birth attendants (TBAs), a support system from a health facility may increase a woman's chances of having a safe delivery. Research has also shown that every pregnancy is risky, and therefore every pregnant woman should receive skilled care during delivery. The concept of domiciliary care operates on the understanding that skilled care can be provided at the community level. The common support systems are for facility staff to attend home births, either routinely or for emergencies only. Retired midwives in the community can also be used to provide skilled care to women during delivery and have formal systems for working with the health system and other community resource persons including TBAs.

The KSPA 2004 findings indicate that only 5 percent of facilities have services supporting safe home delivery; these are mostly NGO-managed facilities (Table 6.5). No maternity offers this outreach service. Finally, a very small proportion of facilities have documentation of official support for traditional birth attendants (5 percent).

Key Findings

Although ANC is offered in four out of five facilities, only half of them offer normal delivery services, and about 1 in 10 (including 76 percent of hospitals) offer caesarean sections.

All three maternal health services (ANC, normal delivery, and caesarean section) are offered in only 6 percent of facilities, although they are offered in two-thirds of hospitals.

Normal delivery services are most widely available in Western province facilities (69 percent) and least available in the Central province (18 percent).

About one-fourth of all facilities and 52 percent of facilities offering delivery services provide support for emergency transportation of maternity emergencies to referral facilities.

Only 5 percent of all facilities assessed provide any home delivery service, but half of NGO facilities do provide it.

6.6.3 Infrastructure and Resources to Support Quality Delivery Services

In addition to a basic infrastructure that provides privacy and supports infection control, several types of equipment and medicines are needed to support safe deliveries.

Tables 6.6 and 6.7 provide aggregate information on infrastructure, equipment, and supplies for basic delivery services, including emergency medicines. Figures 6.10 through 6.12 summarize the individual items available, and Appendix Tables A-6.34 through A-6.41 provide details on elements assessed for delivery services, with Tables A-6.35 through A-6.38 providing details on sterilisation/high-level disin-

fecting (HLD) procedures for delivery equipment. Figure 6.12 provides information on equipment for emergency obstetric care, with further details in Appendix Tables A-6.42 and A-6.43.

Table 6.6 Availability of elements for quality delivery services					
Percentage of facilities that have all indicated items to support quality delivery services, by type of facility, managing authority and province, Kenya SPA 2004					
Background characteristics	Percentage of facilities offering delivery services with:				Number of facilities offering delivery services (weighted) ⁵
	All items for infection control ¹	Capacity for sterilisation/HLD processing ²	All delivery room infrastructure and furnishings ³	All other elements to support quality ⁴	
Type of facility					
Hospital	54	56	62	21	27
Health centre	35	30	22	7	80
Maternity	45	21	50	1	18
Dispensary	37	32	11	0	38
Managing authority					
Government	46	27	20	8	86
NGO	16	72	17	1	14
Private (for-profit)	48	37	60	5	29
Faith-based organisation	27	31	30	9	35
Province					
Nairobi	47	47	59	20	11
Central	78	23	46	10	9
Coast	40	87	45	24	13
Eastern	56	8	43	5	26
North Eastern	50	10	38	3	3
Nyanza	41	12	45	1	26
Rift Valley	29	33	11	2	55
Western	22	62	6	11	20
Total⁵	40	34	29	7	164
Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.					
¹ Soap, water, sharps box, disinfecting solution, and clean latex gloves.					
² In location where delivery services equipment is processed, equipment and knowledge of minimum processing time for sterilising or HLD processing, and an automatic timing device were available					
³ Bed, examination light, and visual and auditory privacy.					
⁴ Guidelines, partographs, and 24-hour delivery provider on site or on call, with duty schedule observed.					
⁵ Totals include one clinic (weighted)					

Infection Control

Infection is one of the most common causes of maternal and neonatal morbidity and mortality. Infection control practices are therefore essential for quality delivery care. Among facilities offering delivery services, 4 in 10 had all the items assessed for infection control available in the delivery service area (hand-washing supplies, clean or sterile latex gloves, disinfecting solution, and a sharps box) (Table 6.6). Hospitals are more likely than other facilities to have all infection control items, although this proportion is still low at only 54 percent. NGO-managed facilities are least likely to have infection control items (16 percent). Central province facilities are more likely than facilities in other provinces to have these infection control items (78 percent). The items most often lacking in all these facilities were disinfecting solution (missing in 33 percent of facilities) and hand-washing soap (missing in 41 percent of facilities) (Appendix Table A-6.30). Over 90 percent of facilities, however, have clean latex gloves.

Among facilities offering delivery services, only one-third have the capacity for sterilisation/HLD processing (Table 6.6); the remainder either lack equipment or knowledge, or the facility simply does not sterilise/disinfect delivery equipment (Table A-6.32). As expected, it is mostly hospitals (56 percent) and NGO-managed facilities (72 percent) that have the capacity for sterilisation/HLD processing (Table 6.6).

The procedure used for sterilising/HLD processing equipment used for deliveries was also assessed.⁶ Among the 34 percent of facilities with the capacity for sterilisation/HLD processing, 31 percent use dry heat or autoclave, and 3 percent either boil/steam or use chemical HLD (Appendix Table A-6.32). Only 12 percent of facilities process delivery equipment specifically in the delivery service area, and the remaining 86 percent send equipment to the main processing area in the facility (Appendix Table A-6.31).

Only 1 in 4 facilities have written guidelines for sterilisation or HLD processing available in the area where delivery equipment is processed (Appendix Table A-6.32). Guidelines are most often found in Coast province facilities (84 percent), compared with just 2 percent of facilities in Rift Valley province.

Infrastructure for Delivery

Items to support quality delivery services were also assessed (Table 6.6 and Figure 6.9). A bed, an examination light, and privacy (both visual and auditory) are considered the basic delivery room infrastructure and equipment. Overall, only 29 percent of facilities have all these basic items (Table 6.6). The best equipped facilities are hospitals and maternities (62 percent and 50 percent, respectively) and private for-profit facilities (60 percent). Similarly, facilities in Nairobi are more likely to have all the basic infrastructure and equipment. The delivery area in most facilities (91 percent) provides both visual and auditory privacy (Figure 6.9). Almost all facilities (98 percent) have a delivery bed; however, only 31 percent have an examination light.

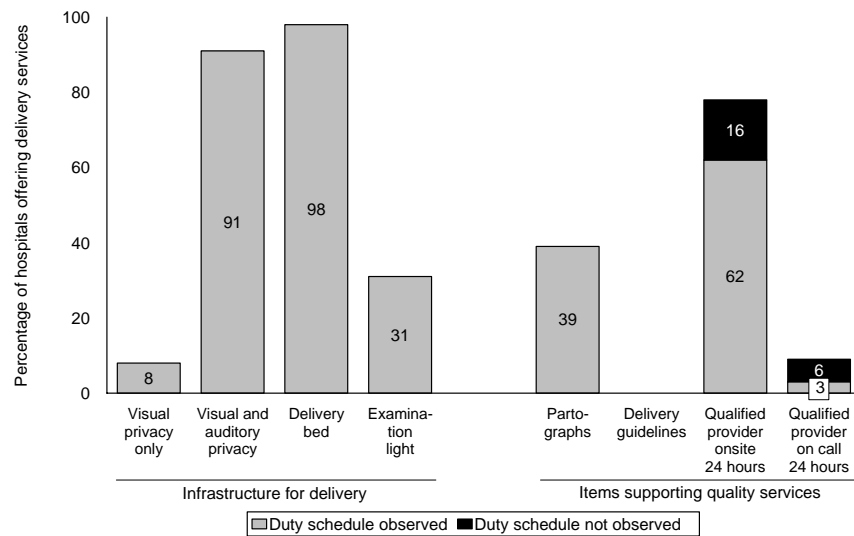
Elements to Support Quality Delivery Services

The partograph—a document used to monitor an individual woman’s labour—is promoted internationally as a means for improving quality of care by helping providers take appropriate and timely decisions, based on the progress of labour at every stage. It provides guidelines for the early identification of complications. Only 4 in 10 eligible facilities have blank partographs available (Figure 6.9); this finding is similar to data from 1999. Regarding actual use of the partograph, only 38 percent of interviewed providers offering delivery services had used a partograph within the month preceding the interview. Eleven percent had never used a partograph to monitor labour (data not shown).

Delivery guidelines, necessary for managing delivery complications, are also not commonly available; only 7 percent of facilities offering delivery services had guidelines available in the delivery service area (Figure 6.9). In Kenya, general practitioners, obstetricians, and nurses/midwives are the principal facility-based delivery service providers. Although about 8 in 10 facilities report that there is a delivery service provider on site 24 hours a day, 16 percent did not have a duty schedule to document that claim. A much smaller percentage of facilities (9 percent) report a qualified provider on call 24 hours a day, and 3 percent have a duty schedule to document that a provider is on call (Figure 6.9).

⁶ Chapter 3, sections 3.4.1 and 3.4.2 provide details on the definitions for adequate sterilisation or HLD procedures and storage practices.

Figure 6.9 Items to support quality delivery services (N=164)



Kenya SPA 2004

Key Findings

Infection control measures for delivery services are weak, with only 4 out of 10 facilities having all the five internationally recommended items.

About 3 in 10 facilities have all the elements needed to support quality sterilisation of delivery equipment.

Partographs and protocols to support quality delivery standards are available in only 39 percent and 7 percent of facilities, respectively.

Two out of three facilities have a qualified trained provider available 24 hours a day (on site or on call), with an observed duty schedule.

Monitoring of Normal Deliveries

It is very important to monitor all deliveries in order to ensure the well-being of both the foetus and the mother. Table 6.7 provides information on critical practices for monitoring normal facility-based deliveries. The recommended standard practice is to monitor foetal heart rate, maternal pulse rate, and uterine contractions every 30 minutes, and to check maternal blood pressure every 4 hours.

Information gathered from clients' delivery records or charts showed that foetal heart rate and uterine contractions were monitored or checked every 30 minutes for only 1 in 5 normal deliveries, while blood pressure measurement was recorded every 4 hours in only 14 percent of cases. Pulse rate measurements every 30 minutes were least likely to be recorded (8 percent). Overall, all four critical practices were documented for only 5 percent of all reviewed normal delivery records. Only 17 percent of hospitals and 10 percent of maternities had documentation of all four critical practices (Table 6.7). Interestingly, no other facilities (health centres, clinics or dispensaries) had any records indicating that all four critical practices were carried out.

Table 6.7 Documentation of critical practices for monitoring normal deliveries

Percentage of recent normal deliveries where the client records document certain monitoring practices. Kenya SPA 2004

Background characteristics	Percentage of reviewed records with the indicated items documented					Number of normal delivery records reviewed (weighted)
	Foetal heart rate measured every 30 minutes	Assessment of contractions every 30 minutes	Blood pressure measured every 4 hours	Pulse measured every 30 minutes	All critical practices carried out	
Type of facility						
Hospital	45	45	39	22	17	129
Health centre	15	13	6	3	0	330
Maternity	31	28	29	18	10	74
Clinic	10	22	4	0	0	4
Dispensary	2	2	2	0	0	132
Managing authority						
Government	13	15	10	4	2	350
NGO	26	32	9	19	8	29
Private for-profit	41	29	26	17	12	134
FBO	15	17	13	5	4	157
Province						
Nairobi	46	42	25	22	9	55
Central	16	22	31	9	4	43
Coast	33	20	17	6	5	65
Eastern	21	22	15	4	3	84
North Eastern	13	8	5	4	1	14
Nyanza	31	32	22	19	13	93
Rift Valley	7	6	5	3	2	222
Western	17	19	9	5	2	93
Total	20	19	14	8	5	670

Essential Supplies for Delivery Services

All basic supplies for conducting a normal delivery (scissor or blade, cord clamps or ties, a suction apparatus, antibiotic eye ointment for the newborn, and a disinfectant for cleaning the perineum) are available in the delivery area in only 36 percent of facilities (Table 6.8). Hospitals and maternities (63 percent and 56 percent, respectively), and also private for-profit facilities (59 percent) and facilities in Nairobi province (56 percent) are more likely to have all the supplies compared to others. These findings indicate that cord ties/clamps are less widely available; availability has decreased from 72 percent in 1999 to 64 percent in 2004. Availability of different individual items in the delivery area varies from 77 percent for skin disinfectant to 56 percent for antibiotic eye ointment to (Figure 6.10).

Table 6.8 Availability of medicines and supplies for normal and complicated delivery services

Percentage of facilities that have all indicated supplies, by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	All essential supplies for delivery ¹	Among facilities offering delivery services, percentage with additional medicines and supplies for:		Number of facilities offering delivery services (weighted) ⁴
		Common complications ²	Serious complications ³	
Type of facility				
Hospital	63	59	25	27
Health centre	36	22	7	80
Maternity	56	36	10	18
Dispensary	6	6	20	38
Managing authority				
Government	22	20	2	86
NGO	42	16	2	14
Private (for-profit)	59	48	14	29
Faith-based organisation	47	25	43	35
Province				
Nairobi	56	48	16	11
Central	40	81	8	9
Coast	43	21	9	13
Eastern	31	43	3	26
North Eastern	35	23	13	3
Nyanza	44	23	14	26
Rift Valley	23	9	18	55
Western	49	23	15	20
Total ⁴	36	26	13	164

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

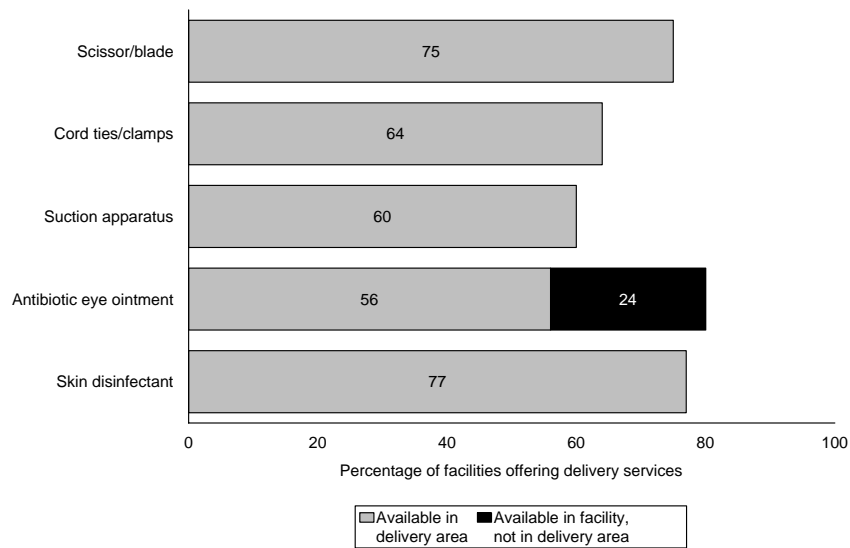
¹ Scissor or blade, cord clamp, suction apparatus, antibiotic eye ointment for newborn, skin disinfectant.

² Needle and syringes, intravenous solution with infusion set, injectable oxytocic, and suture material and needle holder all located in delivery room area; oral antibiotic (cotrimoxazole or amoxicillin) located in pharmacy or delivery room area.

³ Injectable: Anticonvulsant (valium or magnesium sulfate) in delivery room area; antibiotic (penicillin and ampicillin, or gentamicin) in delivery room area or pharmacy.

⁴ Totals include one clinic (weighted)

Figure 6.10 Essential supplies for delivery (N=164)



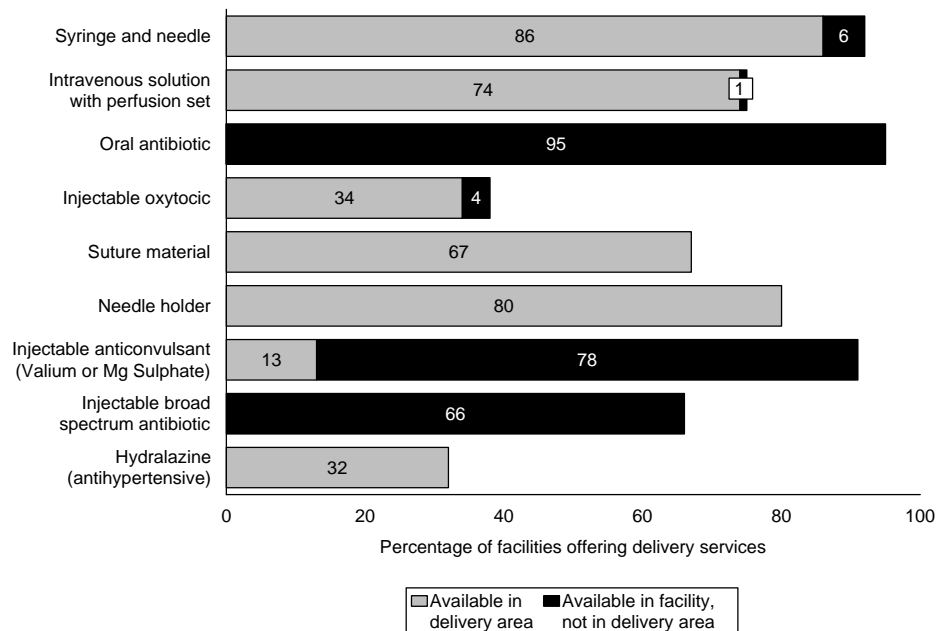
Kenya SPA 2004

Medicines and Supplies for Complications

Table 6.8 provides information on the availability of essential supplies for normal delivery and additional medicines and supplies to handle common and serious delivery complications. Figure 6.11 provides detailed information on these additional medicines and supplies.

All items for managing common delivery complications are available in one out of every four facilities offering delivery services (Table 6.8), primarily in hospitals and maternities (59 percent and 36 percent, respectively) and in private for-profit facilities (48 percent). These items are most widely available in facilities in the Central province (81 percent) and least available in facilities in Rift Valley province (9 percent).

Figure 6.11 Additional medicines and supplies for managing complications of delivery (N=164)



Kenya SPA 2004

The KSPA also assessed whether facilities offering delivery services had selected medicines and supplies for managing serious complications. The standards for maternal care in Kenya indicate that every pregnant woman or woman in puerperium seeking health care should be attended to by a skilled health care provider within 30 minutes of arrival at a health facility. This implies that all the supplies needed for emergencies should be readily available. The Kenyan maternal care standards call for EmOC facilities to have an emergency tray of drugs available, with anticonvulsants, anti-hypertensives, and oxytocics, among others (Population Council, 2002b).

These additional medicines and supplies for managing serious complications were available in 13 percent of facilities offering delivery services. FBO-managed facilities are most likely to have these medicines and supplies (Table 6.8). Injectable anticonvulsants, used to treat severe pre-eclampsia and eclampsia, are available in the delivery service area in 13 percent of facilities, though an additional 78 percent have them elsewhere in the facility (Figure 6.11).

Injectable antibiotics for treating sepsis are available in two-thirds of facilities, but none had them in the delivery area. Hydralazine, commonly used to manage hypertension during labour, is found in the delivery area of only 32 percent of facilities.

Provider Knowledge of Signs of Postpartum Haemorrhage

KSPA interviewers spoke with the most experienced maternal health provider present on the day of the survey in each facility that offered maternal health services. They used the maternal health provider questionnaire to assess the provider's knowledge of common signs of postpartum haemorrhage and obstructed labour. Interviewed providers were expected to spontaneously name signs they should look for to assess the severity of any postpartum haemorrhage. The expected responses included signs of shock (dizziness or low blood pressure), amount of external bleeding, un-contracted uterus, and retained products of conception/placenta. Table 6.9 provides information on providers' knowledge of these signs and of immediate intervention steps to alleviate the problem.

Only 6 percent of interviewed midwives spontaneously named all four categories of signs of postpartum haemorrhage. More midwives in maternities (23 percent), private for-profit facilities (13 percent) and facilities in Nairobi province (31 percent) were able to name all four signs and symptoms spontaneously. Sixty percent of interviewed midwives spontaneously named signs of shock, 55 percent named uncontracted uterus, and 53 percent named the amount of external bleeding as signs for assessing the severity of the haemorrhage. Forty-one percent spontaneously named retained products/placenta.

Provider Knowledge of Interventions for Postpartum Haemorrhage

When asked to name interventions for postpartum haemorrhage, 70 percent of midwives spontaneously mentioned massaging the uterus, and 76 mentioned giving an injection of ergometrine intramuscularly or intravenously. They were less likely to mention emptying the patient's urinary bladder (46 percent) and giving intravenous fluids (44 percent). In all, only 12 percent of all interviewed midwives were able to spontaneously name all four expected interventions for postpartum haemorrhage. Unlike naming signs and symptoms for assessing the severity of postpartum haemorrhage, more midwives in hospitals than in other types of facilities were able to name all expected interventions. However, more midwives in Nairobi than in other provinces were still able to name all four interventions compared to midwives in other provinces. Not a single midwife interviewed in dispensaries, NGO facilities, or the North Eastern province was able to mention all four interventions.

Table 6.9 Knowledge of signs of postpartum haemorrhage and of immediate interventions

Percentage of interviewed midwives who spontaneously described the indicated signs of postpartum haemorrhage and interventions for postpartum haemorrhage, Kenya SPA 2004

Background characteristics	Percentage mentioning indicated signs of postpartum haemorrhage					Percentage mentioning indicated interventions for postpartum haemorrhage ¹					Number of interviewed midwives (weighted)
	Uncontracted uterus	Signs of shock ²	Amount of external bleeding	Retained products/placenta	All four signs & symptoms	Massage fundus	Empty woman's bladder	Ergometrine IM or IV ³	Start intravenous fluids	All four interventions	
Type of facility											
Hospital	64	72	61	44	12	73	50	79	66	24	27
Health centre	55	67	43	41	2	72	43	74	60	17	86
Maternity	65	66	66	53	23	69	40	79	57	20	18
Clinic	75	45	53	61	16	62	68	81	31	15	2
Dispensary	48	45	60	35	4	67	49	76	10	0	65
Managing authority											
Government	55	70	48	37	5	77	45	76	44	14	115
NGO	41	28	62	4	1	38	58	99	5	0	14
Private for-profit	49	64	65	46	13	69	34	74	70	18	30
FBO	65	40	55	60	3	62	52	70	36	7	40
Province											
Nairobi	94	60	49	76	31	60	64	99	79	40	11
Central	81	88	36	79	16	94	45	87	35	23	9
Coast	73	44	46	46	3	60	31	50	42	4	25
Eastern	60	60	59	32	3	93	56	86	60	15	35
North Eastern	26	56	28	44	0	35	0	44	50	0	3
Nyanza	34	56	43	42	3	35	38	82	21	1	35
Rift Valley	41	57	57	25	2	78	51	69	40	14	56
Western	68	79	68	51	11	80	44	82	50	15	25
Total	55	60	53	41	6	70	46	76	44	12	198

¹ Postpartum haemorrhage resulting from an atonic or un-contracted uterus

² Dizziness or low blood pressure

³ Ergometrine is commonly used for the management of post-partum haemorrhage, and is either given intramuscularly or intravenously

Key Findings

Basic equipment and supplies that should be available for any normal delivery are available in 1 of 3 facilities offering delivery services, with minimal provincial variation.

Capacity to manage common or serious complications of labour and delivery is weak in all facilities, including hospitals.

Thirty-nine percent of facilities offering delivery services have blank partographs, and thirty-eight percent of providers offering delivery services had used a partograph within one month of the survey.

Three out of five hospitals have all the basic medicines and supplies for managing common complications of labour and delivery, whereas only 1 in 4 has medicines for managing serious complications.

An injectable oxytocic medicine is available in the delivery area in only one-third of all facilities assessed.

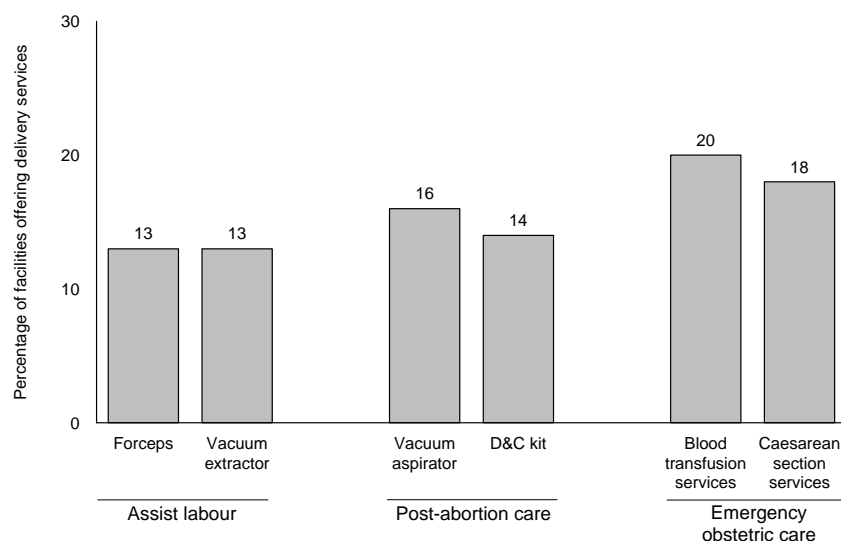
Only 6 percent of providers mentioned all four signs of postpartum haemorrhage; 12 percent mentioned all four interventions to manage postpartum haemorrhage.

Emergency Equipment

In addition to the previously mentioned equipment and supplies, a facility that manages complicated deliveries should have the capacity to offer comprehensive essential obstetric care. In Kenya, support for complicated deliveries is authorized primarily in hospitals and maternities that can perform a caesarean section. Facilities that do not have the capacity to provide the service are expected to refer the clients.

In cases where life-saving emergency obstetric care is required, the capacity to provide a caesarean section (CS) and to transfuse blood is essential. Overall, among facilities offering delivery services, only around 2 in 10 provide CS or blood transfusion services (Figure 6.12). Among eligible hospitals, 8 in 10 provide caesarean section and around 9 in 10 provide blood transfusion services (Table A-6.36); this is very similar to the findings in 1999, when 79 percent of hospitals offering delivery services provided caesarean section and 86 percent provided blood transfusion services. The number of maternities providing these services has declined since 1999; only 26 percent provide CS (compared with 50 percent in 1999) and 46 percent provide blood transfusion services (compared with 65 percent in 1999). Among government-managed facilities, only 1 in 10 can provide caesarean section or blood transfusion services.

Figure 6.12 Emergency equipment and services available in facilities providing delivery services (N=164)



Kenya SPA 2004

Key Findings

Among government-managed facilities, less than one in ten has the capacity to perform assisted vaginal delivery.

Only one in ten government facilities offering delivery services can provide caesarean section or blood transfusion services, whereas almost half of private for-profit facilities offering delivery services can provide caesarean section or blood transfusion services.

Assisted Vaginal Delivery

Assisted vaginal delivery in Kenya is a procedure performed only by obstetricians, and therefore not frequently performed. If required, it should involve as little trauma as possible (for example, by using a plastic cap vacuum extractor at low pressure). The practice is not banned (MOH/KOGS, 2001).

Among facilities offering delivery services, 13 percent have the capacity to provide assisted vaginal delivery by means of forceps, and another 13 percent by means of vacuum extraction (Figure 6.12). Rather surprisingly, 31 percent of dispensaries have the capacity to provide forceps delivery (Table A-6.36). FBO-managed facilities and facilities in Nyanza are more likely than other facilities to provide this service. In the case of vacuum extraction, hospitals and FBO-managed facilities are most likely to provide this service.

Post-abortion Care

The ability to provide care to a woman after an abortion is vital to prevent any further complications. To remove any retained products of conception, facilities should be able to provide manual vacuum aspiration or dilatation and curettage (D&C). Information on the availability of these services is found in Figure 6.12 and Appendix Table A-6.36. Among facilities offering delivery services, only 16 percent have a vacuum aspirator, and 14 percent have a D&C kit. As expected, hospitals and maternities are most likely to have this equipment. Private for-profit facilities are more likely to have a vacuum aspirator (32 percent), while NGO facilities are least likely to have either a vacuum aspirator (4 percent) or D&C kit (5 percent). Facilities in Coast province are most likely to have a vacuum aspirator (59 percent), compared with facilities in Rift Valley and Eastern provinces (6 percent and 5 percent, respectively).

6.7 Newborn Care Practices

The perinatal mortality rate (PNMR) in Kenya is 40 deaths per 1,000 births (KDHS 2003), with the Coast province having the highest rate and Western province the lowest. The KSPA 2004 assessed newborn care practices and the availability of equipment and supplies for newborn care. Facilities sometimes need special equipment to support the newborn. KSPA observers noted whether facilities had a emergency respiratory support unit (resuscitaire or Ambu bag) and an external heat source to maintain the infant's body heat, especially in a premature newborn (incubator, heat lamp, or other device). Details on emergency support for newborns and on newborn care practices (excluding care of the umbilical cord) are provided in Figure 6.13 and Appendix Tables A-6.36 and A-6.38.

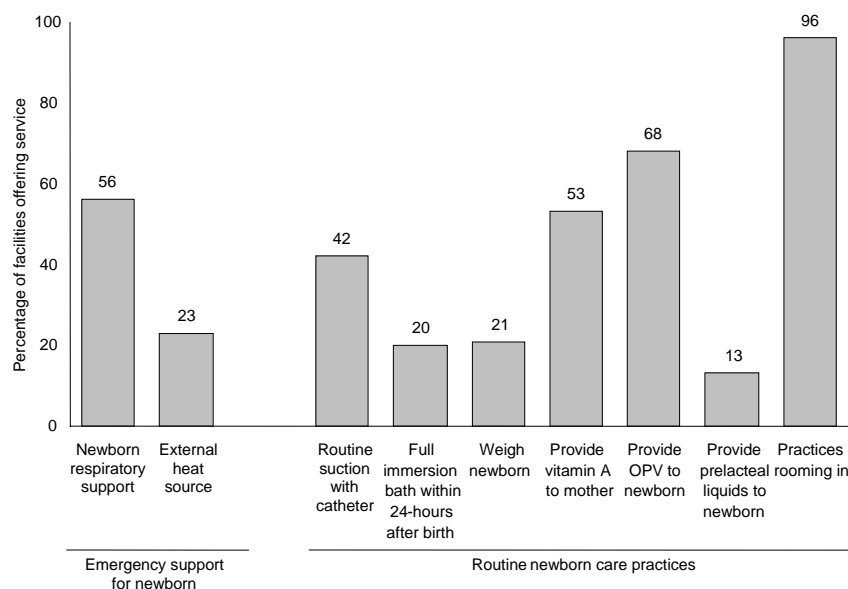
Only 39 percent of eligible facilities had an Ambu bag for newborn respiratory support in 1999, but close to 6 in 10 facilities had this support for newborns in 2004 (Figure 6.13). Hospitals are most likely to have this emergency respiratory support available, and NGO-managed facilities were most unlikely to have it. Almost all facilities in the Central province (93 percent) have a respiratory support system for the newborn (Table A-6.36).

Figure are very similar for an external heat source for newborns. On average, only 23 percent of all facilities have an external heat source; most hospitals (72 percent) and facilities in the Central province (78 percent) have an external heat source for newborns. NGO-managed facilities, again, are the least likely to have this equipment (Appendix Table A-6.36)

Using catheter suction to stimulate respiration in newborns who are not breathing is a common practice in many facilities. However, this should not be a routine practice, as it may cause injury to the newborn and risk mother-to-child transmission of HIV. Approximately 4 in 10 facilities report routinely using catheter suction (Figure 6.13, Appendix Table A-6.38).

Hypothermia contributes to increased morbidity and mortality of newborns. This can be prevented by avoiding a full-immersion bath the first few hours after birth and, instead, drying the newborn and either immediately giving the infant to the mother for skin-to-skin contact or wrapping the newborn in a warm blanket. Full-immersion bathing is relatively uncommon, with 20 percent of facilities indicating that this practice is routine. The practice is more common in hospitals and in maternities (33 percent and 42 percent, respectively) than in other facility types (Figure 6.13, Appendix Table A-6.38).

Figure 6.13 Emergency support and routine practices for newborns (N=164)



Weighing the newborn provides health information for monitoring postnatal care, as low birth weight is a risk indicator of infant death. Although 9 out of 10 facilities indicate that they routinely weigh the newborn, only 8 out of 10 have a functioning infant weighing scale in the delivery service area (Figure 6.13, Appendix Table A-6.38).

Vitamin A supplementation in poorly nourished children has been shown to decrease the risk of infection and death. Newborns can receive a healthy amount of vitamin A through breast milk; however, pregnant women are also at risk of developing vitamin A deficiency, and therefore need vitamin A supplementation after delivery. About half of facilities indicate that they routinely provide vitamin A to new mothers, and half have it available in the delivery area of the facility. Eighty percent of facilities have vitamin A available either in the delivery room or in the pharmacy.

Oral polio virus (OPV) vaccination is provided to newborns in 68 percent of the assessed facilities, and BCG vaccine is provided in 66 percent of the facilities.

Internationally, exclusive breastfeeding is promoted for the first six months of age, and providing pre-lacteal liquids is discouraged. As noted in the section in Chapter 6 on antenatal care (Figure 6.7), pregnant women are not routinely counselled on exclusive breastfeeding. Prelacteal liquids are routinely provided in 13 percent of facilities.

“Rooming in,” where the infant routinely stays with the mother (a practice that supports exclusive breastfeeding and mother-child bonding), is routinely practiced in most facilities (96 percent).

Key Findings

Emergency support for newborns is lacking in most facilities. Hospitals and facilities in Central province are most likely to have emergency newborn support capacity, and NGO-managed facilities are least likely to have this capacity

Weighing the infant, providing vitamin A to the mother, and rooming in are practices that are common in Kenya and are considered supportive of newborn health.

Routine suctioning with a catheter is a practice that is being carried out routinely in some facilities, especially maternities (53 percent) and hospitals (46 percent); this should be re-assessed and discouraged as a routine practice.

One out of five hospitals report routinely providing prelacteal liquids to newborns.

6.8 Management Practices Supportive of Quality Delivery Services

Tables 6.4 and 6.10 provide information on management practices related to childbirth that were assessed by the KSPA 2004. Appendix Table A-6.42 provides information on supportive management for providers of delivery services. Appendix Table A-6.34 provides information on availability of delivery service providers, Appendix Table A-6.41 provides information on routine charging practices for delivery services, and Appendix Tables A-6.42 through A-6.44 provide information on supervision and staff development from the provider's perspective.

6.8.1 Facility Documentation and Records

A delivery register is defined as being up-to-date if there is an entry in the past 30 days (assuming there should be at least one birth per month in facilities that provide the service) and if the entry, at a minimum, provides the birth outcome. Seventy-six percent of facilities offering delivery services have an up-to-date delivery register available (Table 6.10). Hospitals and facilities in the Central province (92 percent each) are most likely to have up-to-date registers. NGO-managed facilities are least likely (44 percent) to have up-to-date registers.

Facilities frequently have catchment populations for whom they are responsible for providing services. The KSPA 2004 assessed whether facilities have any documentation indicating that they monitor the proportion of deliveries that occur in their catchment area under skilled care (or, for some programme strategies, deliveries that are attended by skilled providers affiliated with the facility). Only 14 percent of facilities offering delivery services have documentation on monitoring delivery coverage in their catchment areas (Table 6.10). Despite the low overall percentages, facilities in Coast, Central, and Eastern provinces are much more likely to monitor delivery coverage (49, 47, and 31 percent, respectively).

Table 6.10 Facility-based supportive management practices in relation to childbirth

Percentage of facilities with the indicated documentation, percentage with user fees, and percentage that provide the indicated supportive management, by type of facility, managing authority and province, Kenya SPA 2004

Background characteristics	Percentage of facilities offering delivery services with:				Number of facilities offering delivery services (weighted)	Percentage of facilities where at least half of the interviewed delivery service providers:		Number of facilities with interviewed providers of delivery services (weighted) ^{3,4}
	Observed up-to-date patient register ¹	Documentation of monitoring delivery coverage	Reviews of maternal/newborn deaths or near misses	User fee for delivery		Received in-service training during the past 12 months ²	Were personally supervised during the past 6 months	
Type of facility								
Hospital	92	12	60	96	27	43	70	27
Health centre	80	22	12	76	80	26	86	80
Maternity	82	10	24	99	18	49	67	18
Dispensary	52	0	37	43	38	29	100	38
Managing authority								
Government	76	22	18	61	86	36	85	86
NGO	44	3	5	42	14	16	99	14
Private (for-profit)	81	9	33	98	29	36	69	29
Faith-based organisation	84	3	54	99	35	26	92	35
Province								
Nairobi	79	1	33	71	11	45	71	11
Central	92	47	33	100	9	19	82	9
Coast	78	49	43	77	13	45	67	13
Eastern	67	31	11	68	26	39	94	26
North Eastern	60	6	16	26	3	25	62	3
Nyanza	78	6	40	87	26	30	89	26
Rift Valley	74	3	20	66	55	19	86	55
Western	84	0	35	83	20	53	90	20
Total ⁴	76	14	27	74	164	32	85	164

Note: Refer to Table 1.1 for the actual number of facilities included in survey and analysis. Weighting results in small numbers for some categories of facilities.

¹ Register has an entry in the past 30 days; entry indicates delivery outcome.

² This refers to structured, in-service sessions and does not include individual instruction received during routine supervision. Topics are birth or delivery services related.

³ Includes only providers of delivery services in facilities offering delivery services.

⁴ Totals include one clinic (weighted)

6.8.2 Systems for Quality Assurance, Including Maternal Death Reviews

One measure of quality assurance for delivery services is to systematically review all maternal and newborn deaths or near-misses, in order to identify avoidable factors leading to these deaths. This helps to develop interventions that prevent the occurrence of future deaths. The KSPA 2004 did not assess the quality of these review programmes, but did enquire whether facilities implemented the process or not. Overall, only 27 percent of facilities providing delivery services indicated that they conduct reviews of maternal or newborn deaths or near-misses (Table 6.10). The practice is most common in hospitals (60 percent) and in FBO-managed facilities (54 percent). Facilities in Eastern and North Eastern provinces are less likely to conduct these reviews.

6.8.3 Practices Related to User Fees

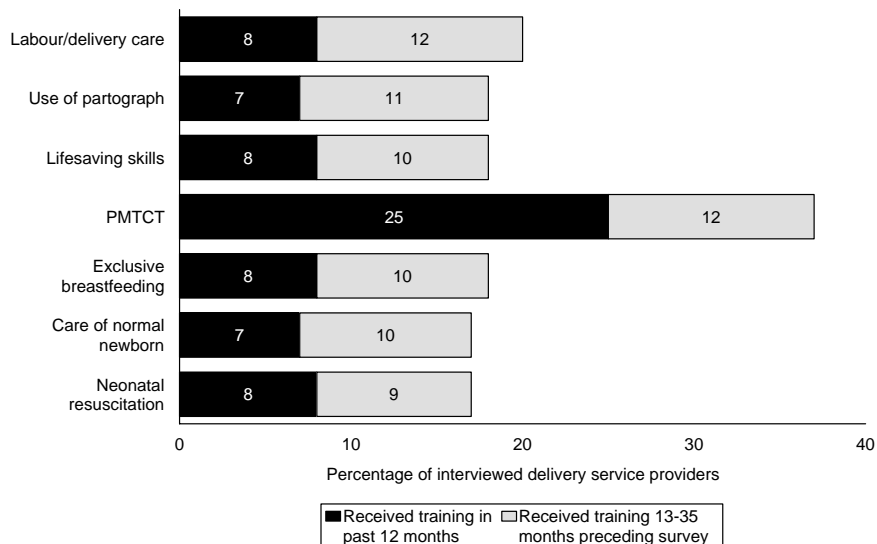
The KSPA 2004 documented the percentage of facilities that collect user fees for delivery-related services. Seventy-four percent of all facilities offering delivery services charge some form of user fee (Table 6.10), with almost all hospitals and maternities, and all private for-profit and FBO-managed facilities, doing so. Similarly, all facilities in Central province charge user fees, while only a quarter of facilities in

North Eastern province do. While 73 percent of facilities charge user fees specifically for normal delivery services, 19 percent charge a fixed fee covering both ANC and normal delivery services (Appendix Table A-6.41). About one-third have specific fees for medicines, and one-fourth charge for laboratory tests.

6.8.4 Staff Development and Supervision

A facility is defined as providing routine staff development activities when at least half of the interviewed delivery service providers at that facility have received any structured in-service training relevant to delivery services during the past 12 months (excluding on-the-job training/coaching that may be received during discussions with supervisors). Just 3 in 10 facilities meet these criteria for providing routine staff development activities (Table 6.10). Hospitals and maternities are slightly more likely than other types of facilities to provide routine staff development (43 percent and 49 percent, respectively); the same is true of government and private for-profit facilities (36 percent). Figure 6.14 shows what topics were covered in the most recent in-service training received, and when it was offered. Staff members were more likely to be trained in PMTCT than in any other topic.

Figure 6.14 In-service training received by interviewed delivery service providers, by topic and timing of most recent training (N=881)



Kenya SPA 2004

A facility is defined as providing routine staff supervision when at least half of the interviewed delivery service providers have been personally supervised in the past six months. Eighty-five percent of facilities meet these criteria for provide routine staff supervision (Table 6.10).

Key Findings

Three out of four facilities have up-to-date delivery registers.

One out of ten facilities have documents showing they monitor community coverage of delivery services.

Almost three out of ten facilities offering delivery services conduct reviews of maternal or newborn deaths or near-misses.

Routine supervision of delivery service providers is almost universal (85 percent of facilities), but routine in-service training is not common (32 percent of facilities).

6.8.5 Youth-friendly Services

Most youth who need sexual and reproductive health care are not comfortable accessing existing services, because these services are not "youth-friendly" and may not meet their need. In addition, providers are often biased and untrained, and do not feel comfortable serving sexually active youth. There has been a recent effort to sensitize all staff at health care facilities on the provision of "youth-friendly" services (YFS) that are geared towards making youth feel comfortable and welcome to seek health care. More information on the availability of YFS is provided elsewhere in this report; however, it bears mentioning in this section that only 2 percent of facilities in Kenya provide any youth-friendly services related to ANC (data not shown).

6.9 Availability of Emergency Obstetric Care

6.9.1 The Signal Functions for EmOC

Outcome indicators of maternal health, such as the maternal mortality ratio, require large numbers of observations in the denominator, and are amenable to change only in the long term (4-5 years). In recognition of this fact, Columbia University and UNICEF developed a series of tools to measure "process indicators" that are easier to collect and interpret, and susceptible to changes in a shorter period (UNICEF et al., 1997). The indicators developed were called the UN Process Indicators for Emergency Obstetric Care (EmOC) and measured certain types of obstetric services that were understood to have a direct bearing on maternal outcomes, including mortality and morbidity. The assessment of UN process indicators for EmOC follows two main steps. The first step is based on a set of certain critical services or "signal functions" proven to significantly reduce maternal deaths and improve birth outcomes for the newborn. These signal functions include:

1. Administration of parenteral antibiotics
2. Administration of parenteral oxytocic drugs
3. Administration of parenteral anticonvulsants for pre-eclampsia/eclampsia
4. Manual removal of placenta
5. Removal of retained products of conception
6. Assisted vaginal delivery
7. Blood transfusions
8. Surgery (caesarean delivery)

The second main step for assessing the UN process indicators of EmOC involves categorising health facilities on the basis of their EmOC signal function status as Basic Emergency Obstetric Care (BEmOC) facilities or Comprehensive Emergency Obstetric (CEmOC) facilities. Internationally, if a health facility provides the first six functions described above, it qualifies as a Basic EmOC facility (BEmOC). If a fa-

cility provides all eight functions, it qualifies as a Comprehensive EmOC facility (CEmOC). For purposes of the KSPA, a facility providing the first five of six signal functions qualifies as a BEmOC facility (known as BEmOC “minus one”). Further, a facility that qualifies as BEmOC and performs Caesarean delivery and blood transfusions qualifies as a CEmOC facility (or CEmOC “minus one”).

The KSPA used the proportion of facilities that provided normal delivery (38 percent in total) as the subset with which to examine the availability of EmOC services. This amounted to 164 facilities. However, since clinics and dispensaries are not really expected to provide emergency obstetric services, these facilities are left out for subsequent analysis.

Table 6.11 shows the percentage of facilities in the KSPA sample (among those offering delivery services) that reported having carried out the “signal functions” for EmOC in the three months preceding the survey.

Table 6.11 Signal functions for emergency obstetric care

Among facilities offering delivery services (excluding dispensaries and clinics), percentage reporting the indicated procedure/intervention was carried out at least once during the past 3 months, Kenya SPA 2004

Background characteristics	Percentage who applied/carried out										
	Parenteral antibiotics	Parenteral oxytocics	Parenteral anticonvulsants/sedatives	Manual removal of placenta	Removal of retained products	Assisted vaginal delivery (AVD)	Blood transfusion	Caesarean section	Basic EmOC-1 (minus AVD) ¹	Comprehensive EmOC-1 (minus AVD) ²	Number of facilities (weighted)
Type of facility											
Hospital	85	81	61	69	48	24	63	76	32	26	27
Health Centre	18	12	10	19	8	0	0	0	0	0	80
Maternity	42	33	26	41	29	10	14	22	16	0	18
Managing authority											
Government	24	16	17	30	18	2	11	12	6	5	69
NGO	72	66	12	67	14	7	12	8	5	2	6
Private (for-profit)	45	38	26	37	26	16	19	32	14	4	28
Faith-based organisation	52	52	42	29	19	10	26	32	14	10	21
Province											
Nairobi	25	25	21	21	13	9	15	24	7	1	11
Central	41	45	29	42	26	3	31	41	17	14	9
Coast	50	52	42	42	65	5	17	19	16	9	13
Eastern	17	17	11	13	8	6	13	14	6	6	22
North Eastern	38	23	35	35	16	13	23	13	16	10	3
Nyanza	23	14	12	21	21	7	14	14	8	5	22
Rift Valley	43	33	16	48	9	8	14	23	7	3	32
Western	59	42	56	42	25	2	12	11	10	7	13
Total	36	30	23	33	20	7	16	19	9	6	125

¹ Facility applied the first six procedures (left-to-right) in the three months preceding the survey.

² Facility applied all Basic EmOC procedures, plus blood transfusion and caesarean section, in the three months preceding the survey.

Almost four in ten facilities report having the capacity to administer parenteral antibiotics, 33 percent report having the capacity for manual removal of the placenta, and 30 percent report administering parenteral oxytocics. Facilities are less likely to use parenteral anticonvulsants/sedatives (23 percent) and perform removal of retained products, caesarean sections and blood transfusions (between 16 and 20 percent). The function least often performed is assisted vaginal delivery (AVD). As noted above, AVD is a procedure performed only by specialists and is therefore not carried out in many facilities.

As expected, health centres are least able to provide critical emergency obstetric services, in particular removal of retained products. Regionally, there are differentials worth noting in the Eastern province and in some cases in the Nyanza and Rift Valley provinces.

Overall, fewer than one in ten facilities in Kenya is able to offer Basic Emergency Obstetric Care “minus one”, and even fewer (6 percent) offer Comprehensive Emergency Obstetric Care “minus 1”. When analyzed by type of facility, only one-third of hospitals and 16 percent of maternities provide BEmOC-1; no health centre qualifies for BEmOC-1. Further, only slightly more than one-fourth of hospitals are able to provide CEmOC-1, and no other type of facility in Kenya is capable of this level of service. These results demonstrate the urgent need to upgrade facilities to offer these critical services to women.

6.9.2 Assessment of the UN Process Indicators for EmOc

Once the proportion of facilities that offer basic or comprehensive EmOC is known, then a simple calculation can be made to apply the proportions to the total number of facilities within each region, in order to arrive at the number of facilities that offer EmOC⁷ (Table 6.12).

Table 6.12 Coverage rates for emergency obstetric care

Number of hospitals, maternities, and health centres in Kenya offering Basic and Comprehensive Emergency Obstetric Care (“minus 1”), derived from the proportions of BEmOC-1 and CEmOC-1 facilities surveyed, by province, Kenya SPA 2004

Province	Population	Number of hospitals, maternities, and health centres	Percentage providing BEmOC-1	Number providing BEmOC-1 ¹	Coverage of BEmOC-1 (per 500,000 population) ²	Percentage providing CEmOC-1 ¹	Number providing CEmOC-1	Coverage of CEmOC-1 (per 500,000 population) ²
Nairobi	2,656,997	224	7	16	3.0	1	2	0.4
Central	4,012,433	183	17	31	3.9	14	26	3.2
Coast	2,866,931	239	16	38	6.7	9	22	3.8
Eastern	5,070,098	326	6	20	1.9	6	20	1.9
North Eastern	1,358,301	32	16	5	1.9	10	3	1.2
Nyanza	4,857,210	292	8	23	2.4	5	15	1.5
Rift Valley	8,169,849	425	7	30	1.8	3	13	0.8
Western	3,816,448	161	10	16	2.1	7	11	1.5
Total	32,808,267	1,882	9	179	2.7	6	111	1.7

¹ Number of facilities in country × percentage found to be offering service ÷ 100

² Number of facilities in country calculated to be offering service ÷ population × 500,000

Nationally, coverage rates for basic and comprehensive EmOC are 2.7 and 1.7 facilities per 500,000 population, respectively. Overall coverage for basic EmOC is below the recommended level of 4 per 500,000 people in most provinces. The Coast (6.7 per 500,000) and Central (3.9 per 500,000) provinces achieve or surpass the recommended level. The overall coverage for comprehensive EmOC is nearly 2 facilities per 500,000 population, more than the recommended level of 1 per 500,000 people. However, when examining the data by region, large differentials are apparent, such as a rate of nearly 4 facilities per 500,000 in Coast province, compared with 0.4 in Nairobi province.

⁷ Because the KSPA uses a random sample of facilities, covering 55 percent of hospitals, 21 percent of maternities, and 4 percent of health centres, an assumption is made that the capacity found in the sampled facilities will also exist in the remaining non-sampled facilities.

The rates obtained here may be considered crude, since they are calculated for large areas and may hide greater gaps in smaller geopolitical areas. For example, within the Coast province, facilities may be concentrated in a small area (such as the tourist area) leaving relatively large pockets of population without coverage. Still, these differences speak of the need to upgrade facilities in several regions of the country, in particular in the Rift, Eastern, and North Eastern provinces.

It is important to highlight that this is the first time a nationwide facility survey has been used to derive signal functions and the UN indicators. Other indicators will be available as further analysis of data is conducted.

