

6.1 Background

6.1.1 ESPA 2004 Approach to Collection of Maternal Health Information

Maternal health is related not only to the health of a woman, but also 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 (Maternal and Neonatal Health Program, 2001a). Many complications and subsequent poor outcomes for women and infants can be prevented or minimized with early detection of problems and appropriate interventions.

With an international focus on decreasing maternal morbidity and mortality, during recent years there have been shifts in the emphasis placed on some traditional maternal health interventions. Some of the critical thinking and subsequent changes in program emphasis are described below:

- **Antenatal care (ANC):** Because all pregnant women are at risk of developing complications and because many of these complications are unpredictable, it is important to ensure that all pregnant women have access to preventive interventions, early diagnosis and treatment for problems, and emergency care when needed. It is now emphasized that ANC should focus on early detection and skilled and timely interventions for factors having proven impacts on maternal and infant outcomes (Maternal and Neonatal Health Program, 2001a).
- **Delivery care:** Because every delivery may have complications, the emphasis is to promote use of skilled and trained delivery care providers and to ensure that all women have access to lifesaving emergency interventions at the time of labor 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 program initiatives have concluded that, in almost all cases, “the level of skill among ‘skilled birth attendants’ is lower than is ‘safe’ for safe motherhood. In-service training cannot improve the skill level of trained providers to the level of competency desired in all skills” (Maternal and Neonatal Health Program, 2001b). With this conclusion has come a shift in the definition of qualified delivery providers to “persons with midwifery skills who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose and manage or refer complicated cases” (Koblinsky, 2000).
- **Postnatal care (PNC):** There is increasing emphasis placed on ensuring that women receive PNC within a few days 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 the increased awareness of the need to discourage some common practices that are detrimental to newborn health and to promote those good practices that contribute to newborn health.

Internationally accepted guidelines define the maternal health services necessary for safe delivery and improved maternal and newborn outcomes as follows (Koblinsky, 1999):

- **Basic essential obstetric care (BEOC):** BEOC includes preventive services as well as medical interventions and procedures that can be provided by well-trained primary care

physicians and nonphysician providers. This includes ANC, with preventive interventions, early detection and treatment of common problems of pregnancy, and the ability to manage simple problems of pregnancy, as well as first aid for complications of pregnancy and labor to minimize the need for emergency interventions.

- **Emergency obstetric care (EmOC):** EmOC specifically covers lifesaving interventions of blood transfusion and surgery.

Together BEOC and EmOC form the basis of what is considered comprehensive essential obstetric care (CEOC). CEOC has been adopted by the Ministry of Health and Population (MOHP) and forms the strategy of programs 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 ESPA 2004 draws on the findings and recommendations of Safe Motherhood initiatives such as the Maternal and Neonatal Health (MNH) Program and MotherCare, promoted by the World Health Organization (WHO) and other international organizations, to determine which aspects of maternal health to assess.

This chapter uses information obtained in the ESPA 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 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?

6.1.2 Maternal Health and the Utilization of Services in Egypt

MOHP has identified maternal health as a priority health issue and has developed a strategy based on CEOC to reduce maternal morbidity and mortality. The U.S. Agency for International Development (USAID) is assisting MOHP, through the Healthy Mother/Healthy Child (HM/HC) program, to implement the strategy.

The national maternal mortality study carried out in 2000 (MOHP, 2001) came to the following conclusions:

- Lack of ANC contributed to 19 percent of maternal deaths, and the poor quality of ANC contributed to 15 percent of maternal deaths.

¹ For the ESPA, 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.

- Twenty-six percent of maternal deaths in Egypt occurred during delivery or the first 24 hours after delivery.
- Thirty-four percent of direct causes of maternal deaths in Egypt were due to postpartum hemorrhage. In total, 26 percent of deaths occurred postpartum.
- Cardiac diseases were the leading indirect cause of maternal deaths (13 percent), and the most common cardiac problem was rheumatic fever.
- Most (62 percent) maternal deaths occurred in health facilities, 29 percent occurred at home, and 9 percent occurred during transportation, with 93 percent of the women who died having sought medical help for their problems. Of those who delivered in a health facility, a disproportionate number of postpartum hemorrhage and caesarean section deaths occurred in private facilities (37 and 47 percent, respectively), possibly because of lack of blood, poor backup, or delays in transferring patients to hospital.
- Substandard care (poor diagnosis and management) by health providers (in particular, obstetricians and general practitioners) remains the most important avoidable factor, contributing to 54 percent of maternal deaths. Substandard care in the private sector is of particular concern, since deliveries in the private sector have overtaken deliveries in the public sector (36 and 23 percent, respectively) (El-Zanaty and Way, 2004).
- Failure of the woman or her family to recognize danger signs, resulting in a delay in seeking care, was the second most important avoidable factor, contributing to 30 percent of all maternal deaths. Shortage of blood was the most frequently avoidable health facility factor, contributing to 16 percent of maternal deaths.

Through the HM/HC program, MOHP has developed interventions to decrease maternal morbidity and mortality from these causes. Essential obstetric care guidelines have been developed, and there is a focus on competency-based training for physicians and nurses on the new essential obstetric care guidelines and standards of care. MOHP has also been expanding the midwifery training of nurses. The objective is to increase the skills of primary care physicians and nurses trained in midwifery so that they acquire proficiency in the skills necessary to manage normal deliveries and to diagnose and manage or refer complicated cases.

Improvement in maternal health is being achieved. According to the 2000 Maternal Mortality Study (MOHP, 2001)—

- Nationally, maternal mortality has decreased from 174 deaths per 100,000 live births in 1992 and 1993 to 84 deaths per 100,000 live births in 2000.
- There were significant regional differences in maternal mortality. Comparing 1992 and 1993 results with the 2000 results, Metropolitan Egypt had the largest percentage decrease in maternal mortality (79 percent), followed by Upper Egypt (59 percent) and Lower Egypt (29 percent).

The current goal for 2007 is to reduce maternal mortality to 50 or fewer maternal deaths per 100,000 live births.

Finally, the 2003 Egypt Interim Demographic and Health Survey (EIDHS 2003) provides information on levels of utilization of health services during pregnancy. Findings from the EIDHS 2003 include the following (El-Zanaty and Way, 2004):

- Sixty-nine percent of women who had been pregnant during the five-year period preceding the survey had received some type of ANC, an increase since the 2000 Egypt Demographic and Health Survey (EDHS) (53 percent).
- Four ANC visits with services provided by a trained provider (the MOHP definition for ANC) were received by an average of 56 percent of pregnant women, during the five-year period preceding the survey, an increase since the 2000 EDHS (37 percent).
- The proportion of women receiving ANC has increased since 2002 in both urban and rural areas (74 and 45 percent, respectively) (2003 EIDHS).
- Among women receiving ANC, almost two-thirds use private service providers, and one-third use public service providers, the same proportions as found in the 2000 EDHS.
- There has been an increase in the proportion of women using trained delivery service providers, with 69 percent using a trained provider (2003 EIDHS) compared with 61 percent in 2000. Fifty-nine percent of births in 2003 were in a medical facility, an increase from 48 percent in 2000.

6.2 Antenatal Care

6.2.1 Availability of ANC and PNC Services

To support appropriate utilization of ANC, services should be available with sufficient frequency to meet the needs of most pregnant women. Preventive services, such as ANC, are commonly offered only one or two days per week. Although this strategy may facilitate the management of services and personnel, particularly where limited space and equipment are problems, this can create “missed opportunities” for providing ANC. A pregnant woman may be at the facility for another purpose and if she cannot receive the ANC services at the same time, she might be disinclined to return another day specifically for ANC (because of time, financial constraints, or other factors).

Information on the availability of ANC, PNC, and tetanus toxoid (TT) immunization services is provided in Table 6.1. Appendix Table A-6.1 provides information on the availability of various family health services at a facility on the same day as ANC, and Appendix Table A-6.2 provides more detail on the availability of ANC and TT immunization services. Fever hospitals are excluded from the analysis because they are not eligible to provide ANC.

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), and tetanus toxoid (TT) immunization, and percentage offering all three services, by type of facility and region, Egypt SPA 2004					
Background characteristics	Percentage of facilities offering the indicated services				Number of facilities (weighted)
	ANC	PNC	TT immunization	ANC, PNC, and TT	
Type of facility¹					
GS hospital	82	66	60	56	65
MCH/urban HU	96	91	97	90	97
Rural HU	96	91	93	83	319
Mobile unit	72	16	0	0	55
Health office	5	3	5	3	33
NGO facility	84	26	12	3	76
Region					
Urban Governorates	72	44	37	24	72
Lower Egypt	86	77	72	68	316
Upper Egypt	91	68	73	63	257
Total	87	70	68	61	645
¹ Fever hospitals are not eligible to provide maternity services and so are excluded from analysis of availability of maternity services.					

Most facilities (87 percent) offer ANC, with fewer offering PNC and TT immunization services (around 70 percent each) (Table 6.1). Sixty-one percent of facilities offer all three services, an increase from 2002 when 53 percent offered all three services. Facilities in the Urban Governorates are less likely to offer any of these maternal health services than those in Upper and Lower Egypt.

There has been an increase in availability of PNC since 2002 (when 61 percent of facilities offered the service), with the increase particularly noted in Lower Egypt.

Although two in three facilities offer TT immunization services, less than half (43 percent) report that TT is offered every day ANC is offered (Appendix Table A-6.2).

Facility respondents were asked to provide the number of days per week that ANC and TT are routinely offered. Overall, 64 percent of facilities offer ANC at least five days per week (Appendix Table A-6.2), a slight increase over 57 percent in 2002.

Key Findings

ANC is offered in most eligible facilities (87 percent) and is offered five days per week at two in three facilities.

PNC is more available in 2004 (70 percent of facilities) than in 2002 (61 percent of facilities).

TT is routinely offered the same day as ANC in less than half of facilities.

ANC, PNC, and TT immunization services are all offered at two in three facilities, with MCH/urban HUs and rural HUs offering all three services more frequently than other facilities. Facilities in the Urban Governorates are the least likely to offer any of these maternal health services.

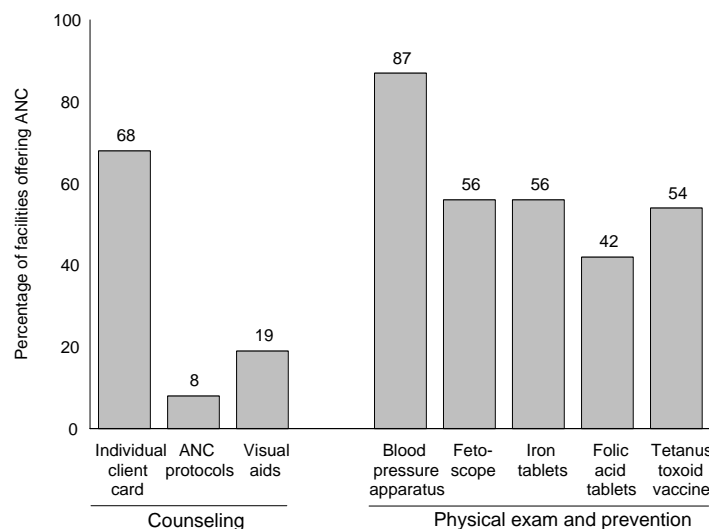
6.3 Capacity to Provide Quality ANC

ANC aims to promote healthy behaviors in pregnant women and to provide early detection and treatment for complications.

6.3.1 Infrastructure and Resources to Support Quality Assessment and Counseling of ANC Clients

Essential items that should be available to support quality assessment and counseling of ANC clients include individual client cards, guidelines or protocols for ANC, and visual aids for client education. Aggregate information on the availability of all items for quality counseling is provided in Table 6.2 by type of facility and region. Summary information on the availability of each of these items is provided in Figure 6.1, with details, by facility type, provided in Appendix Table A-6.3.

Figure 6.1 Availability of items to support quality ANC services (N=559)



Egypt SPA 2004

Individual client cards, important for recording information to allow followup of a woman's pregnancy and health status over time, are available in 68 percent of facilities (Figure 6.1). Written ANC protocols that include management of common problems during pregnancy are available in the ANC service

delivery area in only 8 percent of facilities. Visual aids for ANC client counseling are available in 19 percent of facilities.

In total, 5 percent of facilities have all items assessed for supporting counseling for ANC (Table 6.2). This is less than found in 2002, when 9 percent of facilities had all items. The major contributing factor is a decrease in availability of written guidelines or protocols for ANC (available in 12 percent of facilities in 2002) and availability of visual aids (available in 27 percent of facilities in 2002). Overall facilities in the Urban Governorates and Upper Egypt are least likely to have all items to support counseling for ANC.

Table 6.2 Availability of infrastructure and resources to support quality counseling and examinations for ANC					
Percentage of facilities with all elements to support quality ANC counseling, examinations, and interventions for basic ANC, by type of facility and region, Egypt SPA 2004					
Background characteristics	Percentage of facilities offering ANC services with				Number of facilities offering ANC (weighted) ⁵
	All items to support quality counseling ¹	All items for infection control ²	All items for physical examination ³	All essential supplies for basic ANC ⁴	
Type of facility					
GS hospital	4	3	59	10	54
MCH/urban HU	10	9	42	40	94
Rural HU	5	11	44	19	307
Mobile unit	0	11	72	0	39
NGO facility	0	10	82	0	64
Region					
Urban Governorates	4	6	71	18	52
Lower Egypt	8	13	46	20	272
Upper Egypt	1	6	54	16	234
Total ⁵	5	10	52	18	559
¹ Visual aids for health education, guidelines or protocols 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 fetoscope (pinard)					
⁵ Regional totals and total percentages include data from two health offices offering ANC.					

6.3.2 Infrastructure and Resources for Examinations

The ESPA 2004 assesses the availability, in the ANC service area, of furnishing, equipment, and conditions for infection control and for conducting client examinations.

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, by facility type.

Infection Control

All items (soap and water for hand-washing, clean latex gloves, disinfecting solution, and a sharps box) are available in the ANC service delivery area in only 10 percent of facilities (Table 6.2), similar to findings in 2002, when this was true for 14 percent of facilities. Facilities in Lower Egypt are far more likely to have all items for infection control (13 percent) than those in Urban Governorates and Upper Egypt (both 6 percent).

Water and sharps boxes are available in the ANC service areas in 79 and 66 percent of facilities, respectively. Similar to findings for other services, soap and clean latex gloves are the infection control items most often lacking. There has been some improvement, with soap present in half of facilities in 2004 (Appendix Table A-6.3), compared with 39 percent in 2002. Clean latex gloves are less available in 2004 (23 percent, compared with 44 percent in 2002), although, as mentioned in other sections, this may reflect a more accurate assessment of latex gloves, compared with other disposable gloves that are universally available but not defined as acceptable for infection control by the ESPA 2004.

Client Examinations

The common physical examinations for ANC include palpating the abdomen, a breast examination, and, when necessary, a pelvic examination.² The basic components assessed for examination of the ANC client are visual and auditory privacy (86 percent), a bed or examination table (91 percent), and an examination light (60 percent) (Appendix Table A-6.3). All three items are found in 52 percent of facilities, most frequently in NGO facilities (82 percent) and facilities in Urban Governorates (71 percent) (Table 6.2). The item most often missing is an examination light. These findings are similar to those in 2002, when 54 percent of facilities had all items for examination.

6.3.3 Essential Equipment and Supplies for Basic ANC

Essential equipment that should be available in the ANC service delivery area includes a functioning blood pressure apparatus (available in 87 percent of facilities) and a fetoscope (available in 56 percent of facilities). Essential supplies that should be available in the facility where ANC is offered are iron tablets (available in 56 percent of facilities), folic acid tablets (42 percent),³ and TT vaccine (54 percent) (Figure 6.1). There is a noticeable decrease in availability of iron tablets since 2002, when they were available in 73 percent of facilities. Iron tablets are most often lacking in mobile units and NGO facilities (Appendix Table A-6.3). All items for basic ANC care are found in only 18 percent of facilities, a slight decrease from 2002, when 22 percent had all items (Table 6.2).

Facilities in Lower Egypt are somewhat more likely than facilities in other regions to have all of the items assessed for quality counseling, infection control, and essential supplies for basic ANC (Table 6.2).

Key Findings
<p>Elements to support quality ANC are commonly lacking, with only 5 percent of facilities having all items for counseling, 10 percent having all items for infection control, and 18 percent having all items essential for providing basic ANC.</p> <p>Nine in ten facilities have a functioning blood pressure apparatus in the ANC service delivery areas, and around half of all facilities are lacking folic acid and/or iron tablets.</p> <p>Availability of ANC guidelines or protocols and visual aids (8 and 19 percent, respectively) has decreased since 2002.</p> <p>Items to support infection control in the ANC service area are lacking. Although availability of soap has increased (half of all facilities) since 2002, clean latex gloves (23 percent) continue to be lacking, and all assessed items are found in the ANC service area in only one in ten facilities.</p>

² Pelvic examinations are not routine components of ANC in Egypt.

³ Forty percent of the facilities had the combined iron and folic acid tablets.

6.3.4 Additional Equipment and Supplies for Quality ANC and PNC Services

The ESPA 2004 assesses the availability of other elements that support quality ANC. These include medicines to treat common infections, diagnostic capacity, and elements to support PNC.

Summary information on each component is provided in Figures 6.2 and 6.3, and aggregated information is given in Table 6.3. Appendix Tables A-6.4 through A-6.9 provide details on each item assessed, by type of facility.

Hypertensive disorder of pregnancy (preeclampsia), anemia, RTI/STIs are conditions that can directly affect both maternal and newborn health. BEOC requires that a facility provide early treatment for the common problems and complications of pregnancy to prevent progression to more serious problems. The standard for treatment of these conditions by ANC service providers may vary depending on ANC guidelines and policies and the qualifications of the service provider.

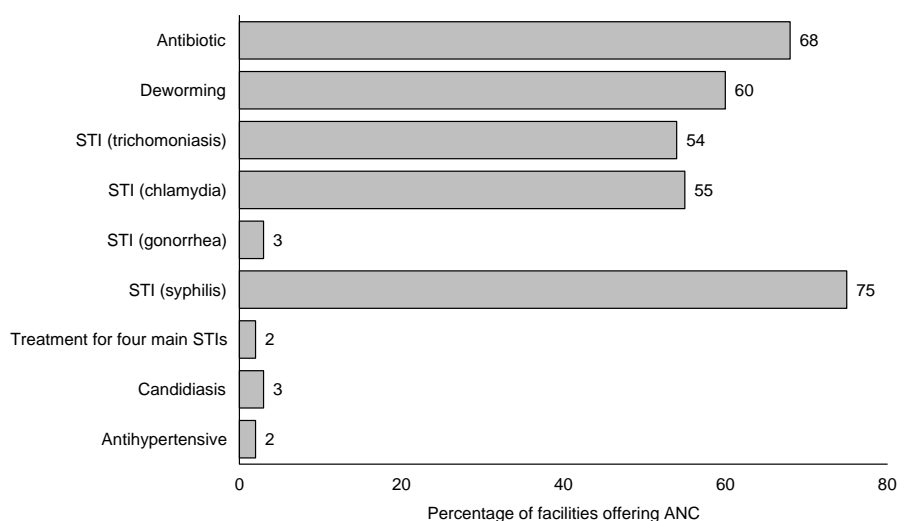
Background characteristics	Percentage where RTI/STI treatment is provided by ANC providers	Percentage with all medicines for treating pregnancy complications ¹	Percentage with capacity for conducting the indicated diagnostic test				Number of facilities offering ANC (weighted) ⁷	
			Anemia ²	Urine protein ³	Urine glucose ⁴	Blood grouping ⁵		Ultrasound ⁶
Type of facility								
GS hospital	90	1	92	80	62	54	33	54
MCH/ urban HU	89	0	88	81	75	63	61	94
Rural HU	74	0	85	69	63	17	13	307
Mobile unit	81	0	1	1	1	0	93	39
NGO facility	85	2	56	55	51	33	19	64
Region								
Urban Governorates	95	2	68	67	66	51	56	52
Lower Egypt	77	0	80	67	60	30	26	272
Upper Egypt	79	0	76	63	57	23	27	234
Total ⁷	80	0	77	66	59	29	29	559

There has been a slight decrease in the percentage of facilities where ANC service providers diagnose and treat STIs, from 87 percent in 2002 to 80 percent in 2004 (Table 6.3). The provision of RTI/STI services by ANC providers was observed, with 8 percent of the 541 observed RTI/STI clients receiving both ANC and RTI/STI services from the ANC service provider (Table A-7.10).⁴ RTI/STI diagnosis and treatment for ANC clients were observed in higher proportions in rural health units (HUs), in NGO facilities, and in facilities in Upper Egypt and the Urban Governorates.

⁴ The STI observations are discussed in Chapter 7.

There are no major changes from 2002 to 2004 in the availability of medicines for treating common problems and complications of pregnancy. Antibiotics for treating urinary tract and postpartum infections, and deworming medicines are available at two in three facilities. However, only 2 percent of facilities have at least one medicine to manage each of the four major STIs (trichomoniasis, chlamydia, syphilis, and gonorrhea), with a medicine for gonorrhea most often lacking (Figure 6.2 and Appendix Table A-6.4). Only 3 percent of facilities have a medicine for candidiasis, a common vaginal infection or STI, and only 2 percent of all facilities (7 percent of general service hospitals) have methyldopa for managing hypertension during pregnancy⁵ (Appendix Table A-6.4). Almost no facilities have all medicines assessed for management of basic infections or health problems during pregnancy (Table 6.3).

Figure 6.2 Medicines for managing common problems and complications of pregnancy (N=559)



Egypt SPA 2004

Laboratory tests for anemia, urine protein (for preeclampsia), and urine glucose (for diabetes) can either identify or facilitate early detection of health conditions that may be exacerbated during pregnancy or that may affect newborn health. It is helpful to know the proportion of facilities that have the standard to routinely offer or provide these tests during pregnancy, as well as the proportion of those that have the laboratory capacity (all equipment and, where applicable, reagents) to conduct the test in-house. Syphilis testing is not a routine component of ANC in Egypt; therefore, information on syphilis testing for ANC was not collected.

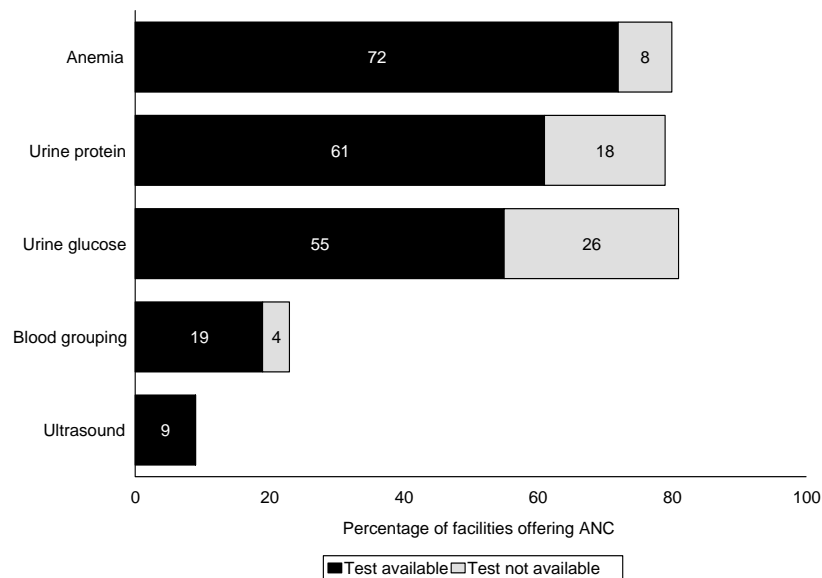
The proportion of facilities with a standard to routinely test ANC clients for anemia, urine protein, and urine sugar has not changed since 2002, with around eight in ten facilities indicating that each of these tests is a routine component of ANC (Figure 6.3). There continues to be a proportion of facilities that report they routinely offer a test, but that do not consistently have the testing capacity. Among facilities with the standard to offer a test, one in ten did not have the capacity to test for anemia on the day of the survey, two in ten for urine protein, and around three in ten for urine glucose.

⁵ In Egypt, methyldopa, for managing hypertension, is to be used for ANC clients only by specialists, and facilities without specialists are expected to refer these cases.

One in four facilities (23 percent) report that they have a standard to routinely ascertain the blood group and Rh factor for ANC clients. This is about half the proportion (44 percent) that reported this was standard for ANC in 2002. The proportion of facilities with both the standard and the capacity to perform these tests, however, has not changed (19 percent).

Finally, routine use of ultrasound is similar, with around one in ten facilities (9 percent) reporting that this is a routine component of ANC (Appendix Table A-6.4). The availability of an ultrasound machine and a trained provider for ultrasound also remains the same, with around one in four facilities (24 percent) having both elements for ultrasound testing (Appendix Table A-6.9). Routine use of ultrasound for ANC has greatly expanded in mobile units (26 percent in 2004, compared with 7 percent in 2002) and MCH/urban HUs (25 percent in 2004, compared with 18 percent in 2002) (2004 data in Appendix Table A-6.4).

Figure 6.3 Availability of ANC tests in facilities where tests are reported to be routine components of ANC (N=559)



Egypt SPA 2004

In Egypt, PNC is often provided through outreach services, with a provider from the facility making home visits for newborns and their mothers. When PNC is received in facilities, however, often the PNC is offered in the same service area as ANC. In addition to supplies assessed for ANC that also are relevant to PNC, there is a need to be able to assess a postpartum woman for infection and to weigh the newborn. A thermometer is available in the ANC service delivery area in 60 percent of facilities, and a functioning infant scale is available in 62 percent (Appendix Table A-6.4). NGO facilities and mobile units are least likely to have an infant scale in the ANC area (16 percent and none, respectively).

Key Findings

The lack of medicines for managing common complications of pregnancy is notable in all facilities, including general service hospitals. Commonly recommended antibiotics are available at two in three facilities.

Eighty percent of facilities diagnose and prescribe treatment for STIs in the ANC service area; however, only 2 percent of these facilities have a medicine to treat each of the four main STIs (syphilis, gonorrhea, chlamydia, and trichomoniasis). The recommended treatment for gonorrhea is most often lacking.

Around 80 percent of facilities have a standard to routinely check urine protein and glucose and blood for anemia during ANC, although each test is absent from 10 to 30 percent of facilities having the standard.

One in five facilities have the standard and capacity to routinely ascertain blood group and Rh factor of ANC clients.

One in three facilities has the capacity to conduct an ultrasound test and one in ten reports that this is a standard component of ANC. Routine use of ultrasound has greatly increased in mobile units (26 percent) and MCH/urban HUs (25 percent) since 2002.

6.4 Management Practices Supportive of Quality ANC and PNC Services

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

Table 6.4 provides information on management practices, by type of facility and region, and Figure 6.4 provides summary information on in-service training topics related to ANC that were received during the past five years. Appendix Tables A-6.10 through A-6.12 provide details on utilization of ANC services at facilities included in the ESPA 2004, as well as information on charging practices and out-of-pocket payments. Appendix Tables A-6.13 through A-6.15 provide detailed information on supervision and in-service training from the perspective of the provider, and details on the content of in-service training and supervision for ANC providers.

6.4.1 Facility Documentation and Records

Up-to-date ANC registers that include an entry in the past seven days and indicate, at minimum, if the visit was a first or followup visit are available in 72 percent of facilities (Table 6.4). A register for PNC clients⁶ is present in 57 percent of facilities offering ANC.

⁶ This register may include outreach services (home visits) and/or facility-based services.

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 and region, Egypt SPA 2004

Background characteristics	Percentage of facilities offering ANC that have:				Number of facilities offering ANC (weighted) ²	Percentage of facilities where at least half of the interviewed ANC service providers		Number of facilities with interviewed ANC providers (weighted) ⁴
	Observed up-to-date patient register ¹		Documen- tation of monitoring ANC coverage	User fees for ANC		Received in-service training during past 12 months ³	Were personally supervised during the past 6 months	
	ANC	PNC						
Type of facility								
GS hospital	74	52	43	29	53	3	92	53
MCH/ urban HU	91	78	37	22	94	8	96	94
Rural HU	87	71	43	5	307	5	98	305
Mobile unit	11	0	0	59	39	10	84	39
NGO facility	11	0	0	99	64	9	59	63
Region								
Urban Governorates	49	28	12	73	52	7	77	52
Lower Egypt	77	72	35	17	272	8	94	271
Upper Egypt	71	47	37	23	234	4	92	233
Total ²	72	57	34	25	559	6	92	556

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

² Regional totals and total percentages include data from two health offices offering ANC.

³ This refers to structured in-service sessions and does not include individual instruction received during routine supervision.

⁴ This includes only providers of ANC in facilities offering ANC services.

Thirty-four percent of facilities have documentation indicating that they monitor the proportion of eligible women in their catchment area who receive ANC services (ANC coverage), with general service (GS) hospitals and rural HUs (43 percent each) more likely than other types of facilities to monitor ANC coverage (Table 6.4). Mobile units and NGO facilities report that they do not monitor ANC coverage. When asked the definition for ANC that the facility uses to calculate ANC coverage, 22 percent of facilities indicate that a woman must have at least four visits (the MOHP standard definition), a decline from 34 percent in 2002 (data not shown). Five percent indicate that they define one visit as acceptable for ANC coverage (similar to 2002, when 3 percent used this definition). The remaining facilities use either two or three visits for calculating ANC coverage.

6.4.2 Practices Related to User Fees

User fees may have a positive effect on utilization of health facilities (augmenting funds to improve services) or a negative effect (detering poor clients from using services). Health insurance does not apply for ANC clients in public sector facilities. One in four facilities have user fees for ANC, with wide variation between types of facilities (from 5 percent of rural HUs to almost all NGO facilities) reporting user fees. User fees are most common in facilities in the Urban Governorates (73 percent) (Table 6.4).

Findings on implementation of user fees are similar for mobile units and NGO facilities for 2002 and 2004, but they are substantially lower in 2004 for other facility types and for facilities in Lower and Upper Egypt. The reasons for this are unclear. Further investigation is required to ascertain whether the

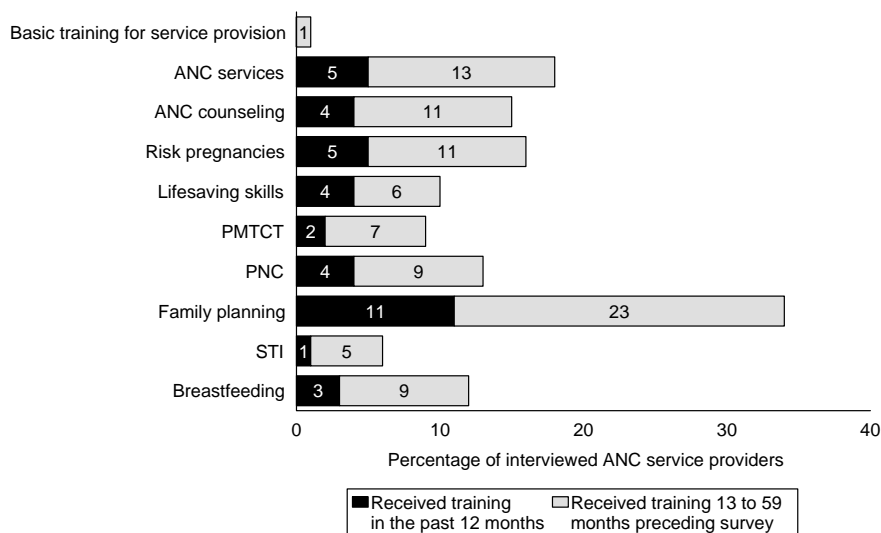
major decrease in implementation of user fees is real or reflects a different understanding by the respondent of the question being asked.

6.4.3 Supervision and Staff Development

If at least half of the interviewed ANC providers at a facility have received any 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), the facility is defined as providing routine staff development activities. During the past 12 months, at least half of the interviewed ANC providers had received in-service training related to ANC in only 6 percent of facilities (Table 6.4); this is one-fourth that found in 2002, when routine staff development activities were found for one in four facilities.

The most frequently reported topics of in-service training during the past 12 months were related to family planning (11 percent), with around 4 percent reporting in-service training on other topics specific to ANC, PNC, or STIs (Figure 6.4). An additional one in three providers reported in-service training on topics specific to ANC or PNC during the 13 to 59 months preceding the survey (Appendix Table A-6.13).

Figure 6.4 In-service training received by interviewed ANC service providers, by topic and timing of most recent training (N=1,121)



PMTCT = Prevention of mother-to-child transmission

Egypt SPA 2004

Supervision of individual staff helps to promote adherence to standards and to identify problems that contribute to poor-quality services. Similar to findings in other services, supervision of ANC providers is common, with at least half of the interviewed ANC providers having been personally supervised during the past six months in 92 percent of facilities (Table 6.4). Routine supervision practices for ANC providers are found least often in facilities in the Urban Governorates (77 percent). Among providers who had been supervised, the median number of times they were supervised during the past six months was seven (Appendix Table A-6.15).

Key Findings

While three in four facilities have up-to-date registers for ANC, only around half have PNC registers, and one in three monitor ANC coverage.

Routine provision of in-service training for ANC providers during the past 12 months is found in only 6 percent of facilities, one-fourth of that found in 2002.

Routine supervision of ANC service providers is common across all facilities (92 percent), with the notable exception being NGO facilities (59 percent); routine supervision is least often found in facilities in the Urban Governorates (77 percent).

6.5 Adherence to Standards for Quality ANC Service Provision

Observed ANC client-provider consultations are the basis for assessing whether providers adhere to standards for quality service. The observation checklists used are based on elements of focused ANC as well as additional components of ANC.

The objective in the observations of the consultations is to note if information on a topic is shared or if an examination is conducted (process information). An assessment of whether the information is correct or whether findings are appropriately interpreted is not a component of the observation.

Because ANC services are not provided every day, in some facilities, the survey team made a special effort to schedule the visit on the day when ANC services were offered. If ANC services were not provided on the day of the survey, when possible, the team returned another day specifically for observation of ANC clients.

ANC services were observed for a total of 1093 women in 320 facilities.⁷ Details on characteristics of observed ANC clients are provided in Appendix Table A-6.16. Among the observed ANC clients, this was the first visit for 48 percent of the women. Twenty-eight percent of the observed clients were estimated to be less than five months pregnant, and 21 percent were at least eight months pregnant.⁸ This was the first pregnancy for 38 percent of the clients. An exit interview was obtained from all observed ANC clients.

6.5.1 Appropriate Assessment and Examination for the Visit Number and Gestational Age

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

Client History

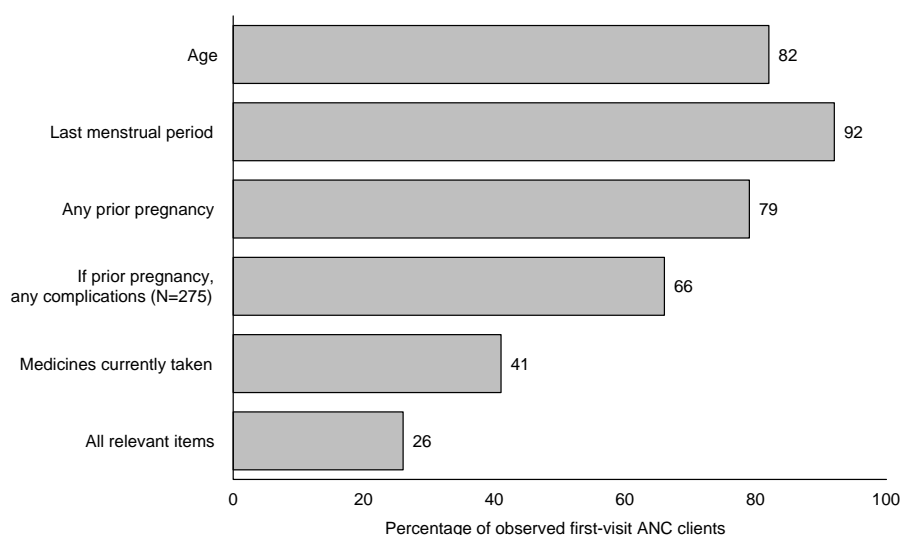
The first ANC visit should include a basic history to assess preexisting risk factors. Age was elicited for 82 percent of first-visit clients, information about the date of last menstrual period for 92 percent, and assessment of any prior pregnancy for 79 percent; 41 percent were asked if they were taking any medications (Figure 6.5). Information about any complications during prior pregnancies was sought for

⁷ These are actual numbers. Data in tables and figures are weighted to provide accurate representation by facility type and governorate.

⁸ Month of pregnancy was noted if information was shared during the observation. The client was also asked during the exit interview. Where there were discrepancies, the observation information was utilized, since the provider assessment of pregnancy status influenced the ANC activities.

66 percent of the first-visit clients who had previously been pregnant. Although there is some improvement in elements of client assessment (in 2002 only 29 percent were asked about medications, and 68 percent were asked their age), overall, a full assessment continues to be conducted for only one in four (26 percent) first-visit ANC clients. More complete histories were noted for clients observed at MCH/urban HUs (all items observed for 34 percent of observations) and at NGO facilities (all items observed for 57 percent of observations) than for clients observed elsewhere (25 percent or less) (Appendix Table A-6.17).

Figure 6.5 Content of client history assessed for first-visit ANC clients (N=489)



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Monitoring Progress of Pregnancy

All ANC clients should receive certain assessments to monitor the progress of their pregnancy and to identify risk factors. These include assessments of vaginal bleeding, blood pressure, and fetal condition.

All relevant examinations and assessments were conducted for only 15 percent of the ANC clients (Appendix Table A-6.18). While low, this is an improvement over findings in 2002, when only 3 percent of observed clients had all relevant assessments. Vaginal bleeding was assessed for 25 percent of the ANC clients, and blood pressure was measured for 93 percent. Among women five or more months pregnant, 62 percent were asked about fetal movement, and the fetal heart was listened for in 19 percent; among women at least eight months pregnant, fetal position was assessed (either through palpation or ultrasound) for 62 percent. There was no consistent difference by facility type in whether or not assessments were conducted, although MCH/urban HUs and NGO facilities were more likely to perform all relevant assessments.

In addition to the basic examinations, weight was measured for 80 percent of women and activities to allow assessment of gestational age (either palpation, measuring of fundal height, or conducting an ultrasound) were conducted for 49 percent. In total, ultrasound was conducted on 5 percent of women, with the mobile units using it most frequently (22 percent of observed ANC clients), followed by NGO facilities (9 percent) (Appendix Table A-6.18). This represents a substantial decrease in the use of ultrasound since 2002, when 17 percent of observed ANC clients received an ultrasound. It is possible

that the decrease in the use of ultrasound is a result of providers being more discerning about when it is medically appropriate to use the procedure.

Laboratory Testing and Provision of Iron Tablets

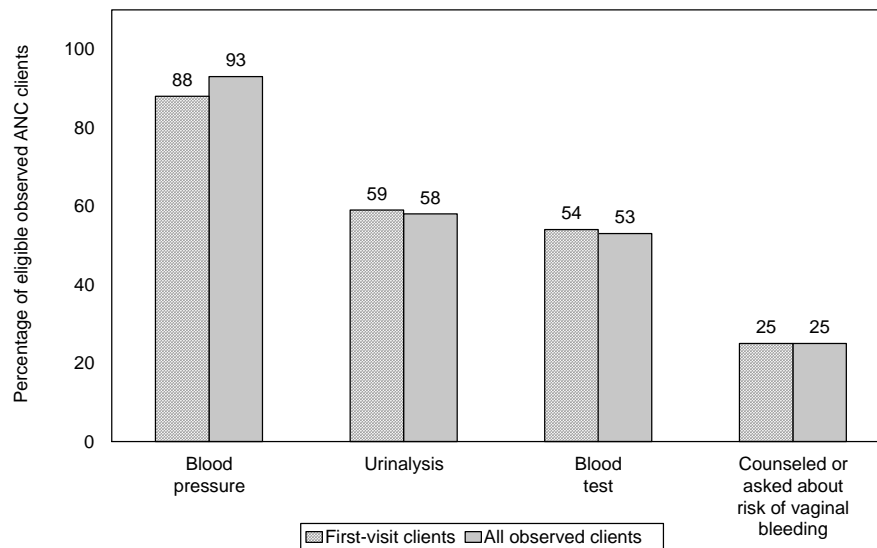
Laboratory facilities and cold chain maintenance capability are required for some screening and preventive interventions. If a facility does not have the capacity to provide the service itself, it should have a referral site that will provide the service to the ANC client.

Over half of all clients received (or were prescribed) a urine test (either urine protein or sugar) and/or a blood test (usually for anemia), and 45 percent received iron tablets (Appendix Table A-6.18), with no major differences between first-visit and followup clients (Appendix Table A-6.17). In addition, 44 percent of first-visit clients (37 percent of all clients) received or were prescribed TT vaccine. These items were components of ANC at MCH/urban HUs and rural HUs more often than they were at other facilities. TT vaccine was least often offered to clients at NGO facilities and mobile units (both about 10 percent).

To meet defined minimum standards for ANC that are promoted in Egypt, each ANC visit should include the following components: 1) counseling on vaginal bleeding as a risk sign for which help should be sought, 2) measuring blood pressure, and 3) a urinalysis (checking for urine protein and glucose). In addition, first-visit clients should have their blood checked (for anemia).

Figure 6.6 provides information on the percentage of observed ANC clients (first-visit and all ANC clients) for whom these elements were part of the services they received. Appendix Tables A-6.17 and A-6.18 provide this information by facility type.

Figure 6.6 ANC content for first-visit ANC clients (N=489) and all observed ANC clients (N=1,029)



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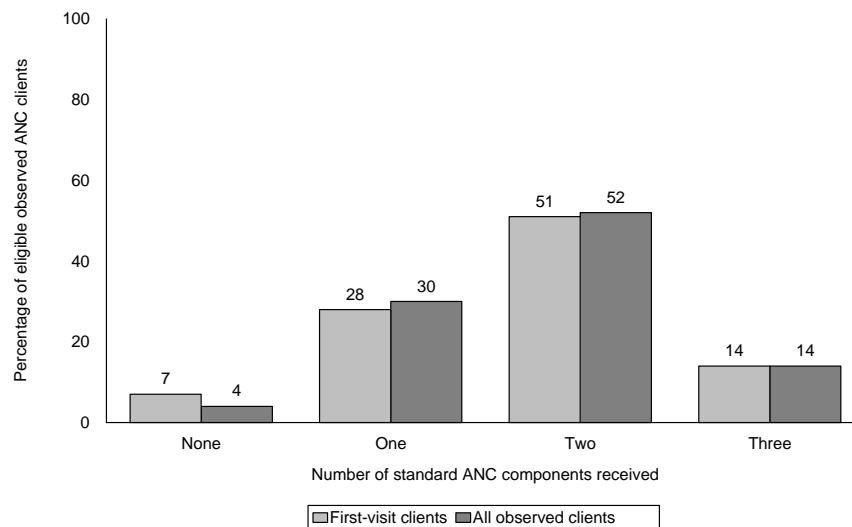
Counseling on vaginal bleeding (defined as either being counseled about vaginal bleeding as a risk or asked about vaginal bleeding during the examination) was received by one in four clients (Figure 6.6). This is a substantial improvement over 2002, when around 4 percent of clients were counseled about vaginal bleeding as a risk sign (compared with around 6 percent in 2004) and around 7 percent were asked about vaginal bleeding (compared with around 26 percent in 2004) (data not shown).

The proportion of first-visit clients having their blood tested has declined to around half (54 percent) from about two in three (60 percent) in 2002. The decline in testing is most notable for GS hospitals, where the percentage of first-visit clients having their blood tested has decreased from 50 percent in 2002 to 26 percent in 2004 ($p < 0.01$).

Overall, one in three observed ANC clients received one of the standard components during the ANC visit, over half received two of the three standard components of ANC, and 14 percent received all three standard components (Figure 6.7), with findings similar for first-visit and all ANC clients.

The percentage of clients receiving all three standard ANC components has increased from around 4 percent in 2002 to 14 percent in 2004 ($p < 0.01$), signifying an improvement in ANC quality. The improvement was most notable in MCH/urban HUs, NGO facilities, and GS hospitals, and in facilities in the Urban Governorates (Appendix Tables A-6.19, A-6.20).

Figure 6.7 Percentage of first-visit ANC clients (N=489) and all observed ANC clients (N=1,029) who received the indicated number of standard ANC components during the observed visit



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Key Findings

A complete risk-history assessment is received by only one in four first-visit ANC clients. There is some improvement in assessment of medications being taken (41 percent in 2004, compared with 29 percent in 2002).

Basic components for routine ANC care are also not consistently provided, with only 15 percent of clients receiving the components of ANC for which they are eligible.

Laboratory tests to support screening for risk symptoms are utilized for around half of both first-visit and followup ANC clients.

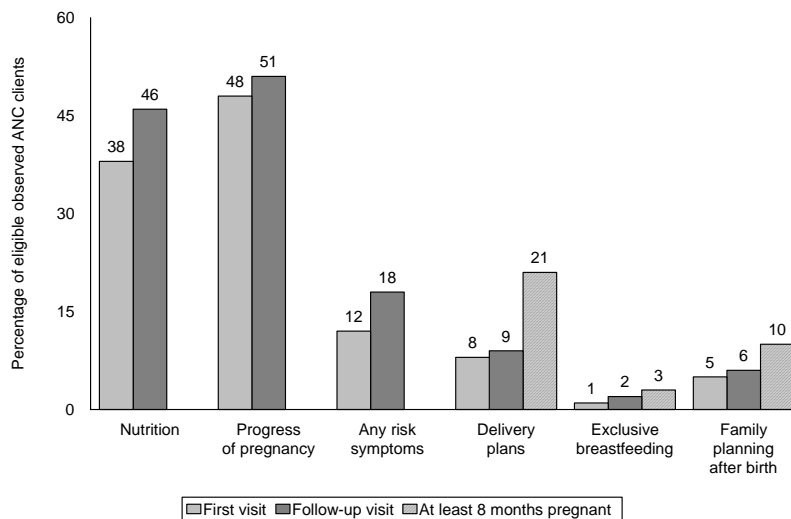
Despite an improvement since 2002, over 85 percent of ANC clients are not receiving the three key components of ANC (assessment of vaginal bleeding, blood pressure, and urine) as defined by MOHP.

6.5.2 Counseling to Promote Healthy Outcomes

Observed and reported components of client counseling are provided in Figures 6.8 and 6.9, respectively. Details on counseling and on client knowledge about risk signs are provided in Appendix Tables A-6.22 through A-6.25. Details on client plans for delivery are provided in Appendix Table A-6.26.

To improve the chances that preventive interventions for pregnancy (iron tablets and tetanus toxoid vaccine) will be effective, clients need to understand why these are important, and how or when they should be taken. Among the women who received (or were prescribed) iron or folic acid tablets, 36 percent were observed receiving an explanation of why the tablets were necessary, and 68 percent were observed receiving information on how to take them (Appendix Table A-6.21). Among those who received or were prescribed TT vaccine, 9 percent were observed being told why it was necessary.

Figure 6.8 Counseling topics discussed during observed first visit (N=489) and followup visit (N=539) and with ANC clients at least 8 months pregnant (N=218), when relevant



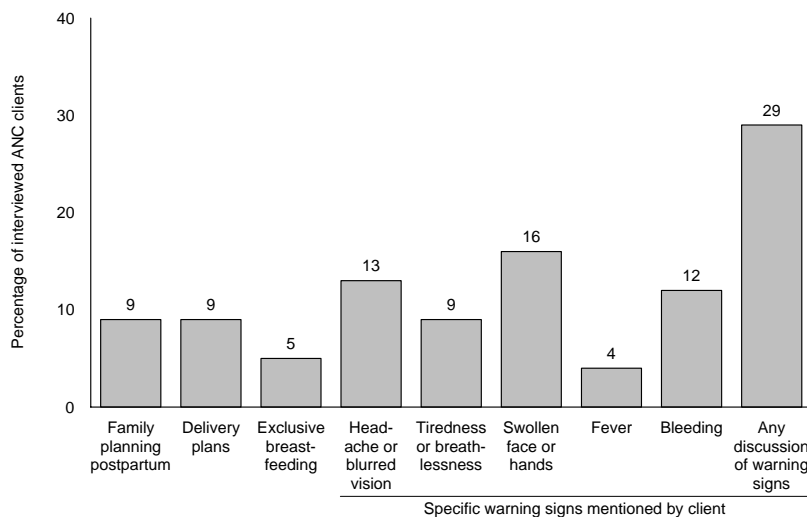
Egypt SPA 2004

Informing a pregnant woman about special nutritional needs during pregnancy and about signs and symptoms that may indicate a problem should be a routine component of ANC counseling. It is not unreasonable, however, to assume that all components of counseling are not discussed during each visit, when a woman makes multiple ANC visits. Thus, the content of counseling for first and followup visits is assessed separately.

Nutritional issues were discussed during the observed consultation with 38 percent of first-visit clients and 46 percent of followup clients, and progress of the pregnancy was discussed with about half of all ANC clients (Figure 6.8).

Risk symptoms, for which a woman should seek help, were rarely observed being discussed (12 percent for first-visit clients and 18 percent for followup clients). While 29 percent of the interviewed clients said that they had been told about warning signs during the current visit or a past visit (an increase from 22 percent in 2002), when asked to name any risk symptoms, only 12 percent mentioned vaginal bleeding (without a prompted responses) (Figure 6.9). Sixteen percent of the women mentioned swollen face or hands, and 13 percent mentioned headache or blurred vision as risk symptoms, with each of the other risk symptoms mentioned by less than 10 percent of the interviewed women.

Figure 6.9 Topics reported by interviewed clients as having been discussed either during this or a previous ANC visit (N=1,029)



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While, overall, the observed discussion of any particular risk symptom was low (15 percent), this is an improvement when compared with 7 percent observed in 2002; improvements were particularly noted in Lower Egypt, where risk symptoms were observed being discussed with 24 percent of the clients (Appendix Table A-6.23), compared with 10 percent in 2002.

Discussions about plans for delivery were observed with around 9 percent of ANC clients. Plans were more commonly discussed with clients at facilities in the Urban Governorates (19 percent) (Appendix Table A-6.23) and during consultations with clients who were at least eight months pregnant (21 percent) (Figure 6.8). When asked during the exit interview where they planned to deliver, a larger proportion of women in 2004 indicated a plan to deliver at a health facility (47 percent) than in 2002 (37 percent), with 10 percent saying that they planned to deliver at the facility where they were receiving ANC and 37

percent saying that they would go to another facility. Twenty-one percent indicated that they would deliver at home and 32 percent were uncertain (Appendix Table A-6.26).

Counseling on exclusive breastfeeding has not changed since 2002, continuing to be essentially nonexistent. Exclusive breastfeeding was mentioned to only 1 percent of all observed ANC clients, with clients observed in facilities in the Urban Governorates slightly more likely to be counseled on the topic (4 percent). The finding from the observation is supported by reports during exit interviews. When ANC clients were asked if they had ever been instructed about exclusive breastfeeding, only 5 percent said that they had (Figure 6.9), a decrease from 10 percent in 2002, with 3 percent reporting that they had been told to exclusively breastfeed for six months (Appendix Table A-6.24)

Despite the fact that half of all facilities report that counseling about family planning is a routine component of ANC (Appendix Table A-6.4), discussion about the use of family planning after delivery was rarely observed. Family planning was mentioned during only 5 percent of all observed ANC consultations, and was noted only slightly more often when the client was at least eight months pregnant (10 percent) (Figure 6.8). During the exit interview, 9 percent of the interviewed clients mentioned that they had been advised about using family planning postpartum (Figure 6.9). These findings are similar to those from 2002.

Key Findings

Counseling related to nutrition during pregnancy and progress of the pregnancy, the most commonly observed counseling topics, has improved since 2002, with 38 percent of first-visit clients and 46 percent of followup clients being advised about nutrition, and 48 percent of first-visit clients and 51 percent of followup clients being counseled on the progress of their pregnancy.

Although counseling on risk symptoms has also improved since 2002, it continues to be uncommon. Only 15 percent of clients were observed receiving information about risk symptoms, and only one in three reported that the topic had ever been discussed.

Counseling on exclusive breastfeeding is essentially nonexistent. Only 1 percent of clients were observed receiving information about exclusive breastfeeding, and only 5 percent of interviewed clients reported that the topic had ever been discussed.

6.5.3 Supporting Continuity of Care

For quality ANC, continuity of care, which includes monitoring changes between visits, is important. One of the more reliable means for achieving this is to maintain a record of relevant history and findings, as well as interventions or treatments provided. Frequently, health services are organized in such a way that measurements of blood pressure, weight, and other components of a consultation take place prior to the client being seen by the ANC provider responsible for the consultation, and the information is recorded on a client record. Thirty-two percent of facilities were observed to weigh ANC clients and 34 percent to measure blood pressure before the consultation (data not shown). For this information to be available to the provider for use during the assessment, an individual client card must be used. Details on the use of individual client cards are provided in Appendix Table A-6.27.

Individual client cards were used (the provider was noted to look at the card prior to or during the consultation and/or to write on the card after the consultation) during half of the observed first-visit and in over 80 percent of the followup ANC consultations (Appendix Table A-6.27). This is an improvement

since 2002, when the individual client card was used for 65 percent of followup clients. Individual client cards were more often used in the MCH/urban HUs and rural HUs than in other facilities.

6.6 Client Opinions from Exit Interviews

Before they left the facility, observed ANC clients were interviewed for their opinions on the services they received and any problems they encountered on the day of the visit. Similar to findings from other services, there is not much dissatisfaction. The issue of greatest concern was a long waiting time (7 percent), an improvement since 2002, when 11 percent said that the waiting time was a big problem (Appendix Table A-6.29). Lack of medicines or supplies, a big problem for 10 percent of clients in 2002, was only identified by 2 percent of interviewed clients in 2004.

Details on the outcome of ANC visits are provided in Appendix Table A-6.28. Details on client opinion on issues related to service delivery and on why they selected the facility for ANC are provided in Appendix Tables A-6.29 and A-6.30. Appendix Tables A-6.31 and A-6.32 provide additional details on client employment and educational backgrounds.

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

The availability of emergency obstetric care (EmOC) and the presence of standards, equipment and supplies, and health system components to support quality delivery services are assessed by the ESPA 2004.

It is not uncommon to find that a single facility does not have all resources to provide Comprehensive Essential Obstetric Care (CEOC). It is important, however, that facilities without all resources facilitate a woman's access to the CEOC life-saving interventions when needed.

6.7.1 Availability of Components of CEOC Services

Table 6.5 provides information on the availability of CEOC services that were assessed by the ESPA 2004, by facility type and region. Details on types of emergency transportation systems and the median transportation time using the most common system are provided in Appendix Table A-6.33.

Although 87 percent of facilities offer ANC, only 26 percent offer delivery services, and 24 percent offer both ANC and delivery services (Table 6.5). Delivery services were more widely available in 2002 (35 percent); there is a notable decrease in delivery services in GS hospitals (77 percent in 2002 and 60 percent in 2004) and rural HUs (35 percent in 2002, compared with 23 percent in 2004). Facilities in Lower Egypt are the least likely to offer delivery services (18 percent).

Caesarean sections are offered at 45 percent of GS hospitals (also a decrease from 55 percent in 2002) and at 8 percent of NGO facilities. There are no regional differences in the percentage of facilities offering caesarean sections.

One means of increasing access to EmOC is to offer a means for rapid transfer to a site where the needed service is available. Only 10 percent of facilities have some system for supporting transportation to another facility for obstetric emergencies (Table 6.5). GS hospitals are more likely to have a system for emergency transportation⁹ (47 percent) than other types of health facilities. This is a decrease from 58 percent in 2002. Similar to findings in 2002, facilities that offer facility-based delivery services are more likely to have emergency transportation systems, with 36 percent of facilities that offer delivery services

⁹ Hospitals that are referral centers are counted as having an emergency transportation system, since they can provide all relevant services.

having an emergency transportation system or being a referral hospital (data not shown). This includes 74 percent of the GS hospitals, 48 percent of MCH/urban HUs, 6 percent of rural HUs, and 43 percent of NGO facilities that offer delivery services (data not shown). The lack of a system for emergency transportation from MCH/urban HUs and rural HUs is a particular concern, since the resources to provide emergency interventions are not strong in most HUs. Without a facility-supported emergency transportation system, the woman and family are left to their own devices to arrange for transportation for help during an emergency. Even where a facility does not offer delivery services, but offers ANC, facilitating a woman's access to emergency obstetric care is desirable, given that the 2000 Maternal Mortality Study (MOHP, 2001) documented that 29 percent of maternal deaths occur at home. 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.

Background characteristics	Percentage of facilities providing indicated services								Number of facilities (weighted)
	Facility-based maternity services					Emergency transportation support for maternity emergencies ²	Services supporting safe home delivery		
	Antenatal care	Normal delivery services ¹	Caesarean section	ANC and normal delivery services	ANC, normal delivery, and caesarean section		Any home delivery services ^{3,4}	Documented official program supportive of TBAs ⁵	
Type of facility⁶									
GS hospital	82	60	45	46	26	47	31	2	65
MCH/urban HU	96	50	0	49	0	24	58	20	97
Rural HU	96	23	1	23	1	2	45	5	319
Mobile unit	72	0	0	0	0	0	0	0	55
Health office	5	0	0	0	0	0	0	0	33
NGO facility	84	9	8	5	4	4	2	0	76
Region									
Urban									
Governorates	72	27	7	25	6	13	26	7	72
Lower Egypt	86	18	6	15	2	9	35	6	316
Upper Egypt	91	35	5	34	4	10	37	5	257
Total	87	26	6	24	3	10	35	6	645

6.7.2 Support for Safe Home Deliveries

In countries where many deliveries take place at home, frequently with the assistance of traditional birth attendants (TBAs), a support system from a facility may increase the chances of having a safe delivery. The common support systems are for facility staff to attend home births, either routinely or for emergencies only, with formal systems for working with TBAs. There is some evidence that TBAs who are linked with the formal health sector are more likely to refer women appropriately and to adopt safer delivery practices (Maternal and Neonatal Health Program, 2002a). The Egypt MOHP encourages facilities to develop programs to link with TBAs and to upgrade the skills of the TBAs.

In assessing TBA support programs, the ESPA 2004 looked for documentation of some official relationship between the TBA and the facility (e.g., minutes or an attendance list from a meeting) to indicate that the relationship is more structured than simply accepting TBA referrals or letting TBAs know they can call for help.

Six percent of facilities have programs with TBAs and have documentation to support that the program is formal and active (Table 6.5). This is a slight decrease from 10 percent in 2002.

Thirty-five percent of facilities provide home delivery services (Table 6.5), with 24 percent reporting that they routinely conducted home deliveries and 11 percent indicating that this is an emergency service only (data not shown). A larger proportion of facilities in Upper and Lower Egypt provide some home delivery service (around 35 percent).

Key Findings

Although ANC is offered in 87 percent of facilities, only 26 percent offer delivery services, and only 6 percent offer caesarean sections.

All three maternity services are offered in 3 percent of all facilities; this includes 26 percent of GS hospitals.

Delivery services remain more available in facilities in Upper Egypt (35 percent) and least available in facilities in Lower Egypt (18 percent), where the proportion of facilities offering the service has decreased from 26 percent in 2002.

Only one in ten facilities provides support for emergency transportation of maternity emergencies to referral facilities.

About 35 percent of facilities in Upper and Lower Egypt provide home delivery services, with 28 percent of facilities in Lower Egypt and 18 percent in Upper Egypt indicating that the service is a routine one, not only for emergencies.

6.7.3 Infrastructure and Resources to Support Quality Delivery Services

In addition to a basic infrastructure that provides privacy and supports prevention of infection, there are multiple types of equipment and medicines that are important for supporting safe deliveries.

Aggregate information on infrastructure, as well as equipment and supplies for basic delivery services, including emergency medicines, is provided in Tables 6.6 and 6.7. Figures 6.10 through 6.12 provide summary information on individual items, 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 sterilization/high-level disinfection (HLD) procedures for delivery equipment. Figure 6.13 provides information on equipment for EmOC, with further details provided 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 and region, Egypt SPA 2004					
Background characteristics	Percentage of facilities offering delivery services with:				Number of facilities offering delivery services (weighted)
	All items for infection control ¹	Capacity for sterilization/ HLD processing ²	delivery room infrastructure and furnishings ³	All other elements to support quality ⁴	
Type of facility					
GS hospital	28	65	79	5	39
MCH/urban HU	8	64	93	3	48
Rural HU	19	50	71	0	73
NGO facility	31	66	100	0	7
Region					
Urban Governorates	33	69	91	7	19
Lower Egypt	17	49	85	0	57
Upper Egypt	16	62	75	2	91
Total	18	58	80	2	167
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 sterilizing or HLD processing and an automatic timing device were available.					
³ Bed, examination light, and visual and auditory privacy					
⁴ Service guidelines or protocols, partographs, and 24-hour delivery provider onsite or on call, with duty schedule observed					

Infection Control

Infection is one of the most common causes of maternal and neonatal morbidity and mortality. Thus, infection control practices are essential for quality delivery care. All items assessed for infection control (hand-washing supplies, clean or sterile latex gloves, disinfecting solution, and a sharps box) are present in the delivery service area in one of five (18 percent) facilities (Table 6.6), a decrease from one in four facilities in 2002. The item most often lacking is hand-washing soap (available in only 49 percent of facilities) (Appendix Table A-6.34). Latex gloves and a sharps box are also lacking, available in only 52 and 70 percent of facilities, respectively. Over 90 percent of facilities have a regular water supply at the delivery services area. Infection control items are least available in MCH/urban HUs.

The procedures used for sterilizing or HLD-processing equipment used for deliveries are also assessed.¹⁰ Slightly fewer than half (43 percent) of facilities process delivery equipment specifically in the delivery service area, and the rest send equipment to the main processing area in the facility (45 percent) or the family planning service area (12 percent) for processing (Appendix Table A-6.35). Overall, 76 percent of facilities have functioning equipment and a person who knows the proper processing procedure for the sterilization or HLD method used for delivery equipment (Appendix Table A-6.36). This is somewhat higher than findings in 2002 (60 percent). An automatic timing device is also important for supporting quality sterilization or using HLD processing. When this criteria is added, 58 percent of facilities have the equipment, knowledge, and an automatic timing device for sterilization or HLD processing (Table 6.6), with 53 percent using sterilization and 5 percent using HLD (data not shown). HLD processing does not

¹⁰ Chapter 3, sections 3.4.1 and 3.4.2 provide details on the definitions for quality sterilization or HLD procedures and storage conditions.

kill the tetanus spore and thus does not provide a sufficient level of cleanliness for most equipment used for deliveries.

Written guidelines for sterilization or HLD processing are available in the area where delivery equipment is processed for 22 percent of facilities (Appendix Table A-6.36). Guidelines are found more often in facilities in the Urban Governorates (41 percent) than in those in Lower Egypt (24 percent) or Upper Egypt (16 percent).

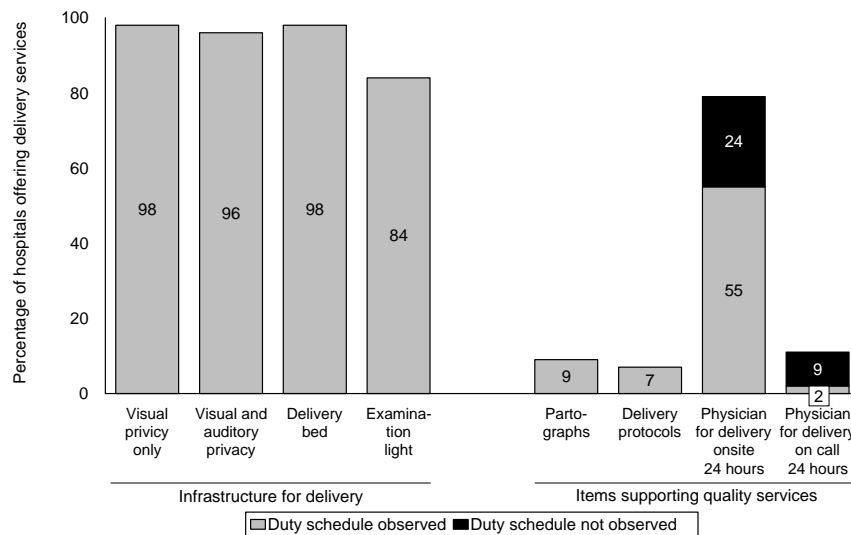
Infrastructure for Delivery

Infrastructure for delivery services has shown little change since 2002. The delivery area in most facilities (98 percent) provides visual privacy (either a private room or a room with a temporary divider), and 96 percent provide both visual and auditory privacy (a private room). Almost all facilities have a bed for delivery (98 percent), and 84 percent have an examination light. Overall, 80 percent of facilities have all of the basic infrastructure and furnishings (Table 6.6), with NGO facilities being the best equipped (100 percent having all items) and rural HUs being the least equipped (71 percent having all items), primarily because of a lack of an examination light (75 percent) (Appendix Table A-6.34).

Elements to Support Quality Delivery Services

The partograph—a document used to monitor an individual woman’s labor—is promoted internationally as a means for improving quality of care. It provides guidelines for monitoring and for early identification of complications (Maternal and Neonatal Health Program, 2002b). Although slight improvements are seen since 2002, partographs remain rarely available in any type of facility (9 percent) (Figure 6.10), although there has been a major improvement in NGO facilities where 14 percent had partographs in 2004 (none had them in 2002) (Appendix Table A-6.34). Guidelines or protocols for deliveries and managing complications of deliveries are also not commonly found, with only 7 percent of all facilities having them in the delivery service area.

Figure 6.10 Items to support quality delivery services (N=167)



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In Egypt, physicians and nurses with a license to conduct delivery are the principal delivery service providers in facilities. Although 90 percent of facilities report that there is a delivery service provider available 24 hours, either onsite (79 percent) or on call (11 percent), a 24-hour duty schedule is available at only 55 percent of facilities reporting onsite providers and at only 2 percent of facilities with on-call staff (Figure 6.10). An onsite delivery service provider with an observed duty schedule is found in only half (49 percent) of facilities in Upper Egypt, and in two in three facilities in Lower Egypt and the Urban Governorates (Appendix Table A-6.39).

Without an official schedule assigning duty during nights and holidays, the consistency with which a provider will be found during these times is uncertain. In many rural HUs, there is one assigned physician who lives at the facility. In this situation there might, reasonably, be no duty schedule observed; however, staff coverage for when the physician is out of the immediate area for more than a few hours (e.g., visiting another town) is uncertain.

Key Findings
<p>Infection control measures for delivery services are weak, with hand-washing soap and latex gloves available in around half of the delivery service areas.</p> <p>Slightly more than half of facilities have all elements to support quality sterilization of delivery equipment.</p> <p>Partographs and guidelines or protocols to support a routine standard of delivery practice are rarely available (9 and 7 percent of facilities, respectively).</p> <p>Twenty-four-hour delivery services, supported by a night-duty schedule for staff either onsite (55 percent) or on call (2 percent), are available in 57 percent of facilities offering delivery services.</p>

Essential Supplies for Delivery Services

All basic supplies for conducting a normal delivery (an instrument to cut the umbilical cord, umbilical cord clamps or ties, a suction apparatus, antibiotic eye ointment for the newborn, and a disinfectant for cleaning the perineal area) are available in 33 percent of facilities (Table 6.7), an increase from 21 percent in 2002, with the most consistent improvement since 2002 noted in the availability of a suction apparatus and cord ties. The availability of different items varies from 90 percent for skin disinfectant to 57 percent for cord ties/clamps (Figure 6.11).

Table 6.7 Availability of medicines and supplies for normal and complicated delivery services

Percentage of facilities that have all indicated supplies, by type of facility and region, Egypt SPA 2004

Background characteristics	All essential supplies for delivery ¹	Among facilities offering delivery services, percentage with additional medicines and supplies for managing complications of delivery		Number of facilities offering delivery services (weighted)
		Common complications ²	Serious complications ³	
Type of facility				
GS hospital	33	44	12	39
MCH/urban HU	70	20	0	48
Rural HU	10	2	0	73
NGO facility	14	14	14	7
Region				
Urban Governorates	42	28	8	19
Lower Egypt	59	27	3	57
Upper Egypt	15	10	3	91
Total	33	18	3	167

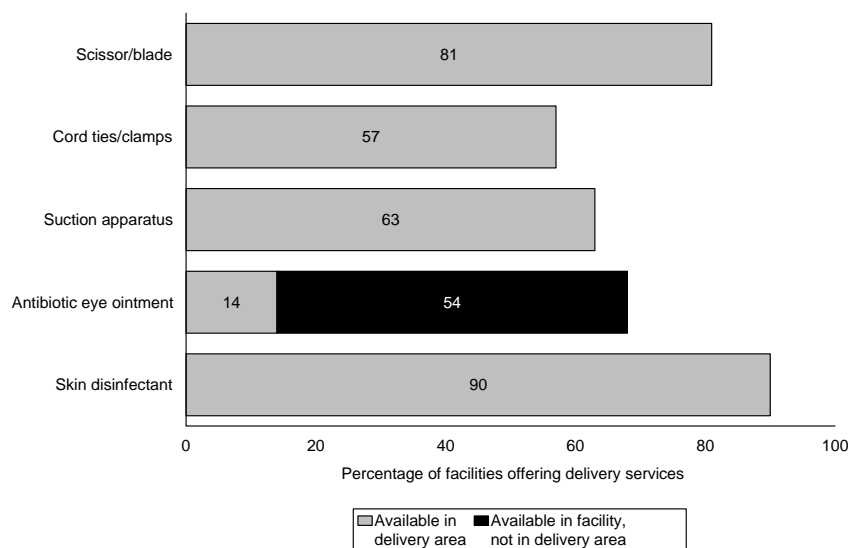
¹ Scissor or blade, cord clamp, suction apparatus, antibiotic eye ointment for newborn, skin disinfectant.

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 gentamycin) in delivery room area or pharmacy.

MCH/urban HUs are the most likely to have all basic supplies for deliveries, with 70 percent having all items, a major improvement over 44 percent in 2002. There is substantial variation by region in the availability of these essential items, with facilities in Lower Egypt (59 percent) and the Urban Governorates (42 percent) more likely to have all items. This reflects a large improvement in Lower Egypt and a deterioration for facilities in the Urban Governorates since 2002.

Figure 6.11 Essential supplies for delivery (N=167)

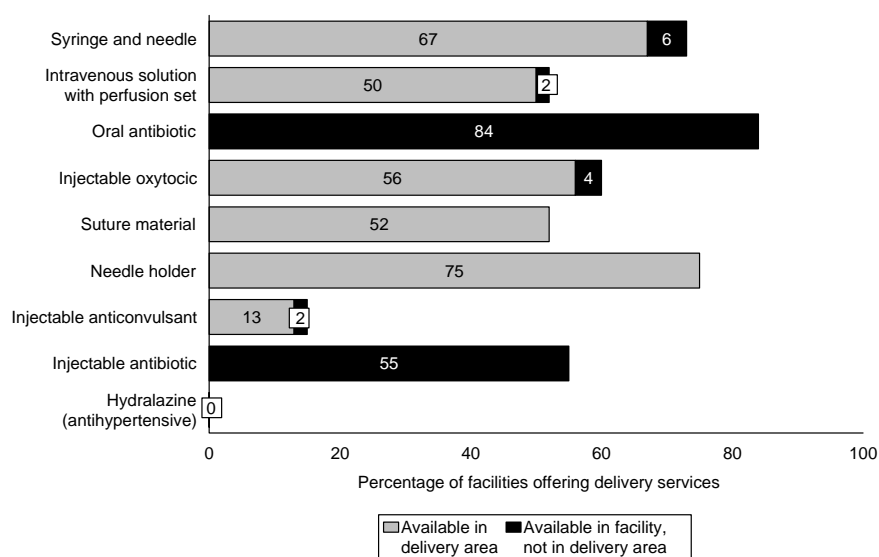


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Medicines and Supplies for Complications

Medicines and supplies to manage complications of labor and delivery are assessed for all facilities offering delivery services, although in Egypt it is expected that complications will be referred to a GS hospital if there is not a specialist assigned to the facility. Specific items for managing common complications (needles and syringes, intravenous solution and infusion sets, injectable oxytocic medicines, and suture supplies) must be in the delivery room or an immediately adjacent area; during an emergency, the items must be available immediately, and if they are stored in a pharmacy or other location in the facility, they might be locked away and, hence, not available at night. Figure 6.12 provides information on the availability of these items in the delivery area, as well as the additional availability of selected items that are not in the delivery area but are in the facility (most often either in the pharmacy or stock room). All of these items are available in 18 percent of facilities (Table 6.7), primarily in GS hospitals (44 percent) and MCH/urban HUs (20 percent). Items for management of common complications are least available in facilities in Upper Egypt (10 percent). While there are substantial changes since 2002 in the availability of all items, by region, overall, findings are about the same. Each of the essential medicines and supplies is available in half or more of all facilities offering delivery services, with most facilities appropriately storing the relevant items in the delivery service area (Figure 6.12).

Figure 6.12 Additional medicines and supplies for managing complications of delivery (N=167)



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In addition to medicines for managing common complications, the availability of selected medicines for managing severe complications is assessed. An injectable anticonvulsant for severe preeclampsia and eclampsia is available in the delivery service area in 13 percent of facilities (Figure 6.12), most often in GS hospitals (42 percent) (Appendix Table A-6.40), with a substantial increase in availability in NGO facilities (from 48 percent in 2002 to 74 percent in 2004). Injectable antibiotics for sepsis are available in 55 percent of facilities. Both an anticonvulsant and an injectable broad-spectrum antibiotic are available in only 3 percent of facilities (Table 6.7). This is one-third the availability found in 2002. Hydralazine, commonly used to manage hypertension during labor, is practically unavailable (Figure 6.12), only found in 9 percent of NGO facilities (Appendix Table A-6.40), a decrease from 25 percent of NGO facilities in 2002.

Key Findings

Basic equipment and supplies that should be available for any normal delivery are available in one in three facilities offering delivery services, with large regional variation. Umbilical cord ties or clamps are the items most commonly lacking.

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

Forty-four percent of GS hospitals have all basic medicines and supplies for managing common complications of labor and delivery, and only one in ten have medicines for managing eclampsia and sepsis.

An injectable oxytocic medicine is available in the delivery area at 56 percent of facilities, including 83 percent of GS hospitals and 55 percent of MCH/urban HUs.

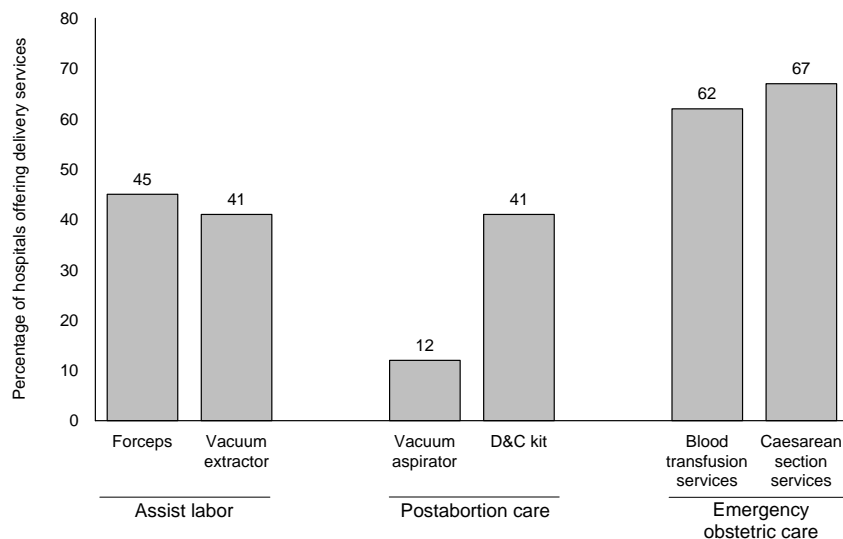
Emergency Equipment

In addition to the previously mentioned equipment and supplies, a facility that manages complicated deliveries should have the capacity to mechanically assist the delivery when contractions are ineffective (using either forceps or a vacuum extractor) and should be able to provide postabortion care by removing retained materials from the uterus, which contribute to hemorrhage and infection (dilatation and curettage [D&C] equipment or a vacuum aspirator). Finally, there is sometimes a need for special equipment to support the newborn. The equipment assessed was a means for providing emergency respiratory support (a resuscitator or ambu bag) and an external heat source to maintain the body heat in a premature newborn (incubator, heat lamp, or other device).

In Egypt, this level of support for complicated deliveries is authorized primarily in GS hospitals, and other facilities that do not have a specialist are expected to refer the clients. There is little change in availability of emergency equipment since 2002. Overall, four in ten GS hospitals have each of these pieces of equipment (Figure 6.13), with six in ten having a heating source for premature infants (Appendix Table A-6.42).

In cases where lifesaving EmOC is required, the capacity to provide a caesarean section and to transfuse blood is essential. Among GS hospitals, six in ten provide caesarean section and blood transfusion services (Figure 6.13).

Figure 6.13 Emergency equipment and services available in general service hospitals offering delivery services (N=39)



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Key Findings

Equipment for assisting complicated deliveries is available primarily in GS hospitals; thus, referrals are required for most complications.

Among GS hospitals offering delivery services, less than half have equipment to support inefficient labor or to provide postabortion D&C.

Around two-thirds of GS hospitals offer caesarean section and/or blood transfusion services.

6.8 Newborn Care Practices

There has been little change in routine facility practices related to the newborn since 2002. Details on newborn practices, including care of the umbilical cord, are provided in Appendix Table A-6.44.

Using catheter suction to stimulate respirations in newborns who are not breathing is not an uncommon practice; however, this should not be a routine practice, as it may cause injury to the newborn. Seventy-five percent of facilities, including 85 percent of GS hospitals, indicate that they routinely suction the mouth and nose of the newborn with a catheter (Appendix Table A-6.44). Only 33 percent of facilities have a suction bulb for clearing the respiratory path of the newborn (Appendix Table A-6.40).

Hypothermia is a contributing factor to increased morbidity and death for newborns. It can be prevented by avoiding full-immersion bathing 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 common, with 21 percent of facilities indicating that this practice is routine. MCH/urban HUs report full-immersion bathing more than other facilities (39 percent, compared with 24 percent or less for other facilities) (Appendix Table A-6.44).

Weighing the newborn provides health information for monitoring postnatal care. Birth weight is also an indicator for risk of infant death. Although 86 percent of facilities indicate that they routinely weigh the newborn, not all (77 percent) have a functioning infant scale in the delivery service area (Appendix Table A-6.44).

Vitamin A supplementation in depleted children has been shown to decrease 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. Eighty percent of facilities indicate that they routinely provide vitamin A to the new mother (Appendix Table A-6.44), an increase from 71 percent in 2002. Only 57 percent of facilities have vitamin A available in the delivery service area, although 77 percent have it available either in the delivery room or in the pharmacy.

When assessing policies and practices for providing oral polio vaccine (OPV) and the vaccine against tuberculosis (BCG) to the newborn, it should be remembered that the full immunization coverage for children in Egypt is estimated at 88 percent (EIDHS 2003). MOHP has recently adopted recommendations from a technical advisory group of international polio experts¹¹ to provide a dose of OPV (considered dose 0) after birth to provide extra protection for the infant. At the time of the ESPA 2002 survey, OPV was reported as being provided to newborns prior to discharge in 19 percent of facilities; in 2004, it has increased to 57 percent, a rapid expansion in implementation of the MOHP policy. It is current MOHP policy to provide BCG vaccine to the newborn within 42 days of birth. When asked, 10 percent of facilities (the same as in 2002) indicate that they provide BCG to the newborn prior to discharge.

MOHP promotes providing vitamin K to the newborn. Nineteen percent of facilities indicate that they routinely provide vitamin K to newborns (Appendix Table A-6.44). Fifty-one percent of facilities have vitamin K available; this suggests that, should it be desirable, this practice could easily be expanded.

Internationally, exclusive breastfeeding is promoted for the first six months of age, with provision of prelacteal liquids discouraged. As noted in section 6.5.2, however, pregnant women are not routinely counseled on exclusive breastfeeding. Prelacteal liquids are not routinely provided (only 9 percent of facilities), although NGO facilities report routinely providing prelacteal liquids more (25 percent) than other facilities. This practice has decreased in GS hospitals, from 31 percent (2002) to 15 percent (2004).

“Rooming in,” where the infant routinely stays with the mother (a practice to support exclusive breastfeeding and mother-child bonding), is routinely practiced in most (96 percent) facilities, a slight increase from 88 percent in 2002.

When asked about care of the umbilical cord, 87 percent of facilities indicate that they apply 70 percent alcohol, 26 percent apply Betadine, and 14 percent use dry dressings only. It is evident that facilities sometimes have more than one care practice for umbilical cords.

¹¹ The Technical Advisory Committee was formed of international polio experts from WHO, UNICEF, USAID, CDC, and Rotary International.

Key Findings

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

Routine suctioning with a catheter (75 percent of facilities) is a practice that did not decrease since 2002 (72 percent) and should be reassessed and discouraged as a routine procedure

One in four NGO facilities reports routinely providing prelacteal feeds to newborns. This practice should be assessed and potentially discouraged.

6.9 Management Practices Supportive of Quality Delivery Services

Table 6.8 provides information on management practices that are assessed by the ESPA 2004. Appendix Table A-6.45 provides information on user statistics, Appendix Table A-6.46 provides information on user fee practices, and Appendix Tables A-6.47 through A-6.49 provide information on supervision and staff development from the perspective of the provider.

6.9.1 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. Fifty-three percent of facilities have an up-to-date delivery register available (Table 6.8).

Table 6.8 Facility-based supportive management practices

Percentage of facilities with the indicated documentation, percentage with user fees, and percentage that provide the indicated supportive management, by type of facility and region, Egypt 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
	Observed up-to-date patient register ¹	Documentation of monitoring delivery coverage	Facility reviews 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								
GS hospital	78	11	51	30	39	15	85	35
MCH/urban HU	53	30	33	62	48	26	82	48
Rural HU	42	46	35	28	73	7	98	69
NGO facility	39	0	0	100	7	10	39	6
Region								
Urban Governorates	73	32	36	54	19	11	82	19
Lower Egypt	63	16	36	43	57	24	80	54
Upper Egypt	43	41	37	37	91	10	94	86
Total	53	32	37	41	167	15	88	159

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.

³ This includes only providers of delivery services in facilities offering delivery services.

Facilities frequently have catchment populations for whom they provide services. The ESPA 2004 assesses whether the facility has any documentation indicating that it monitors the proportion of deliveries that occur in its catchment area and are attended by facility staff (or, for some program strategies, deliveries that are attended by skilled providers affiliated with the facility). This is a facility's delivery coverage for its catchment population. There has been improvement in monitoring of delivery coverage, with 32 percent of facilities having documentation of this practice, compared with 11 percent in 2002 (Table 6.8).

6.9.2 Systems for Quality Assurance

One quality assurance measure is to systematically review all maternal and newborn deaths or near deaths to develop interventions to decrease or prevent these events. The ESPA 2004 does not assess the quality of these review programs, but it does assess whether facilities have implemented the process. Thirty-seven percent of facilities providing delivery services and over half of GS hospitals indicate that they conduct reviews of maternal or newborn deaths or near deaths, with no difference by other facility types or by region (Table 6.8). This is a decrease from 49 percent of all facilities in 2002, with rural HUs decreasing from 58 percent in 2002 to 35 percent in 2004.

Referral forms, a means for improving effective referrals of obstetric emergencies, are found in 29 percent of facilities (primarily in MCH/urban HUs [54 percent] (Appendix Table A-6.41).

6.9.3 Practices Related to User Fees

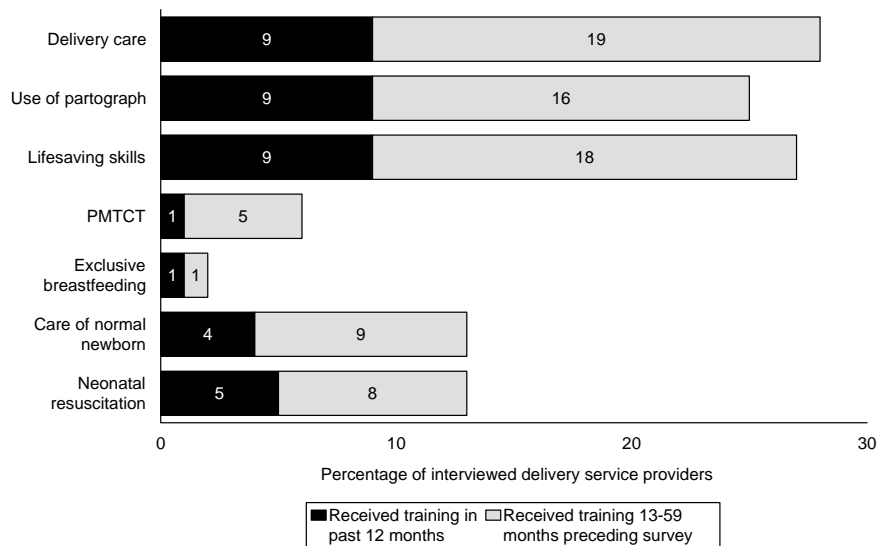
The ESPA 2004 documents the percentage of facilities where user fees are collected for delivery services. Similar to practices in 2002, 41 percent report having user fees for some aspects of deliveries (Table 6.8).

6.9.4 Supervision and Staff Development

Supervision and staff development practices are similar to those found in 2002.

If at least half of the interviewed delivery service providers at a facility have received any structured in-service training relevant to delivery services during the past 12 months (excluding on-the-job training that may be received during discussions with supervisors), the facility is defined as providing routine staff development activities. During the past 12 months, at least half of the interviewed delivery service providers had received in-service training related to delivery services in 15 percent of facilities (Table 6.8), similar to findings in 2002. Topics and timing of the most recent in-service training received by delivery service providers are presented in Figure 6.14.

Figure 6.14 In-service training received by interviewed delivery service providers, by topic and timing of most recent training (N=371)



PMTCT = Prevention of mother-to-child transmission

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If at least half of the interviewed delivery service providers in a facility have been personally supervised in the past six months, the facility is defined as providing routine staff supervision. More than half of the interviewed delivery service providers in 88 percent of facilities had been personally supervised during the past six months (Table 6.8). Although the percentage of staff receiving supervision is higher in Upper Egypt (94 percent), the frequency of supervision is much higher for providers working in facilities in the Urban Governorates (median number of 19 times during the past six months) than for providers in facilities in Lower Egypt and Upper Egypt (a median of 7 times for each) (Appendix Table A-6.49).

Key Findings

Slightly more than half of facilities have up-to-date delivery registers.

One-third of facilities have documents showing that they monitor community coverage of delivery services, a large increase over 11 percent, found in 2002.

Routine supervision of delivery service providers is almost universal (88 percent of facilities); however routine provision of in-service training is not common (15 percent of facilities).