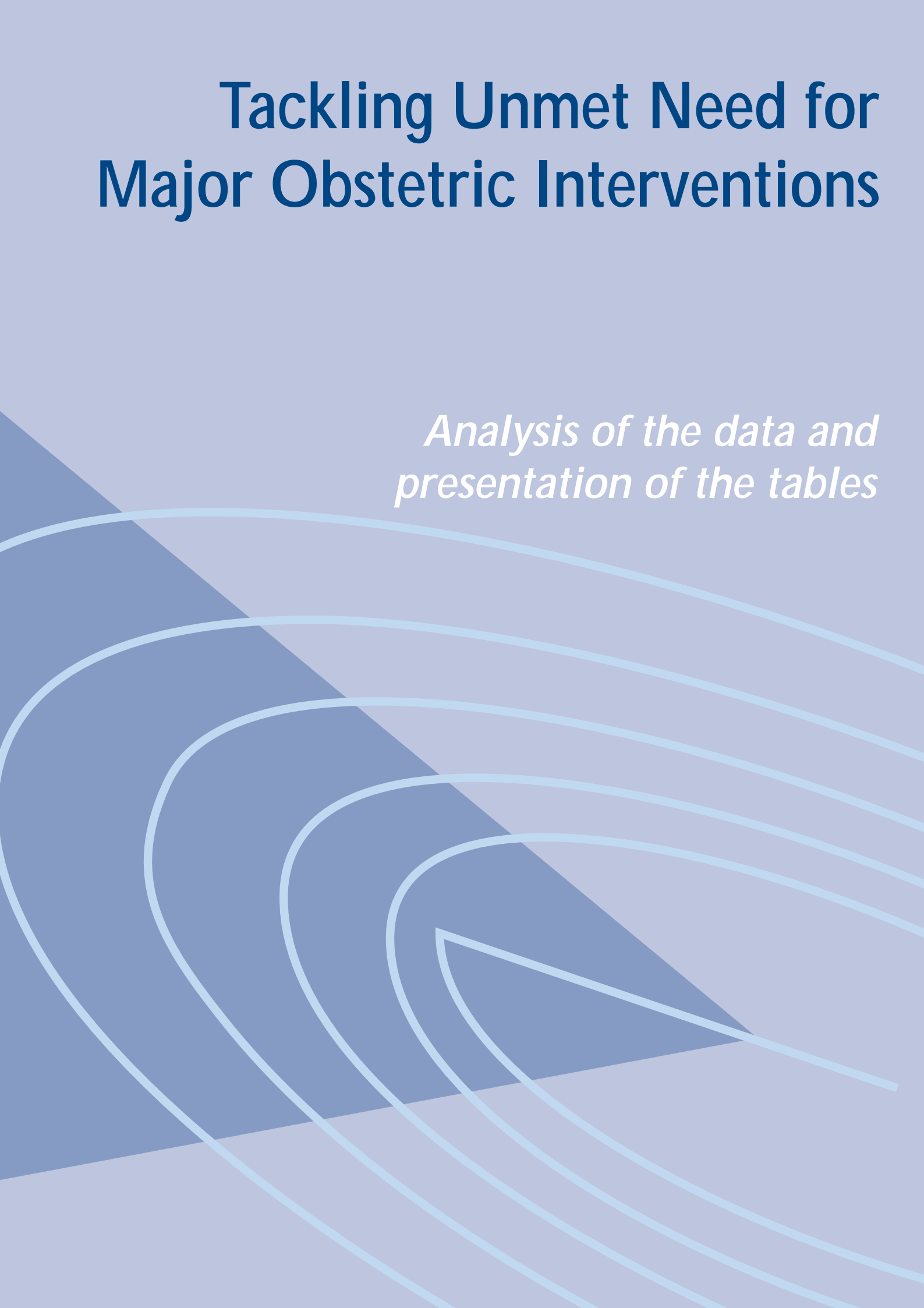


# Tackling Unmet Need for Major Obstetric Interventions

*Analysis of the data and presentation of the tables*

The background features a light blue gradient with several overlapping, curved white lines that create a sense of movement and depth. A dark blue triangle is positioned on the left side, pointing towards the center of the page.

# Tackling Unmet Need for Major Obstetric Interventions

*Part 3*  
*Analysis of the data and*  
*presentation of the tables*

Strengthening Essential Obstetric Care, basic and comprehensive, is the key strategy to obtain rapid improvements in safe motherhood. Essential Obstetric Care encompasses a wide range of interventions. These include a set of major surgical and technical interventions that may be required to treat a number of conditions that directly threaten the life of the mother during labour.

For a number of these interventions, the "major obstetric interventions for absolute maternal indications"<sup>1</sup> it is possible to map under-utilisation: the unmet need for this type of care.

In countries with high levels of maternal mortality policy makers and health care providers are often unaware of the extent of the unmet need for essential obstetric care – and of the often very real possibilities to improve things. Mapping unmet need for these "major obstetric interventions for absolute maternal indications" does not measure all the unmet need for basic or comprehensive essential obstetric care. It can however be useful to trigger the interest of a wide range of actors, lay and professional, in improving maternal health policies and services.

The UON network brings together ministries of health, development organisations, scientific institutions and practitioners who want to map unmet need for "major obstetric interventions for absolute maternal indications" as a starting point – not just to improve maternal health but also the overall functioning of their health care system. The UON-network provides technical support for national teams involved in this kind of work, as well as opportunities to learn from each other.

*List of Major Obstetric Interventions* : caesarean section, laparotomy for uterine breach, hysterectomy, internal version, symphysiotomy, craniotomy.

*List of Absolute Maternal Indications* : severe antepartum haemorrhage (placenta praevia and abruptio placentae), severe postpartum haemorrhage, foeto-pelvic dystocia, malpresentation (transverse lie and brow presentation).



UON Network – Unmet Need for Major Obstetric Interventions

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## ABBREVIATIONS

<b>MOI</b>	Major Obstetric Interventions
<b>AMI</b>	Absolute Maternal Indications
<b>Non AMI</b>	non Absolute Maternal Indications
<b>EB</b>	Number of expected Births
<b>MSGs</b>	Medical staff with gynaecological and obstetric skills
<b>QM</b>	Qualified midwife
<b>UOS</b>	Unqualified obstetric staff

## DEFINITIONS:

**Zone:** In this document we refer to the zone as a geographical unit of analysis of about 100.000 - 150.000 inhabitants. It corresponds to a health district: the "Cercle" in Mali, a sub-department or a sub-district in Pakistan.

**Study Zone:** The study zone corresponds to the geographical area where the study takes place. It can be a group of zones or the entire country in a national survey.

**Hospital level:** This level corresponds to the health structure where the major obstetric interventions are performed. It is not necessarily a hospital.

## 1. INTRODUCTION

This third document follows the two earlier papers which set out and explained the general concepts of the approach based on the study of unmet obstetric needs<sup>1</sup> and described a protocol on the collection of data for such a study<sup>2</sup>.

The main object of the paper is to put forward a structure for the presentation of the data of the study in the form of tables. These tables are concerned with the obstetric needs of patients from the geographical areas covered by the study and the resources allotted to the various health formations for which data on obstetric interventions was collected.

The tables can be adapted in accordance with the context and the specific characteristics of the particular countries and regions where the study of unmet obstetric needs has been carried out. The suggestions put forward in this document make possible the achievement of the uniformity required for international understanding of the results of studies carried out within the unmet obstetric needs network.

The presentation of data precedes the analysis of it which will follow. This analysis will be discussed in a further document specifically concerned with the essential questions involved in action for the reduction of maternal mortality and the development of health systems. This document, to be entitled **Module 3b**, will be the subject of wide-ranging discussions between study teams.

The construction of the tables can be carried out with the help of the EPI-INFO programme: indeed we recommend programming the use of this programme from the early stage of preparing the questionnaire. The team responsible for coordinating the network on the study of unmet obstetric needs is able at any time to supply any information necessary for adapting the programme to the study carried out in each particular context.

It is essential to secure the collaboration of persons with experience of data processing and of the anticipation necessary to ensure a programmed utilisation of the data. The “cleaning up” of erroneous data is a stage which should also be provided for.

It is necessary to be reminded that the study is population based and is not an analysis of the geographical coverage of the hospital. The UON approach offers a possibility to study the coverage by the health system of the needs in a population, taking into consideration the origin of the patients and their referral in case of problems during the delivery.

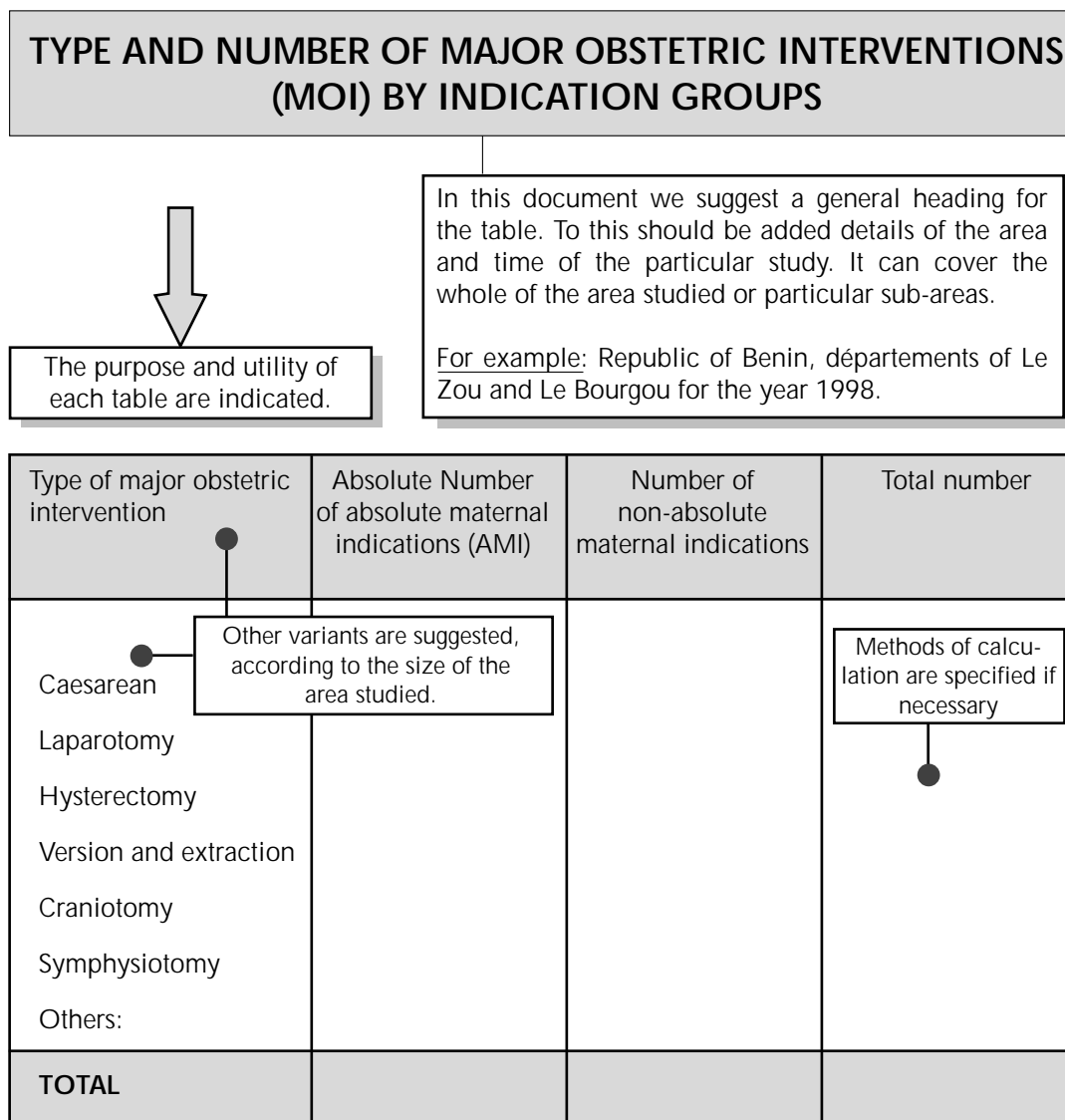
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1. **Tackling Unmet Needs for Major Obstetric Interventions:** Concepts, General Principles and International Network.  
2. **Tackling Unmet Needs for Major Obstetric Interventions:** Establishment of the protocol on the Collection of Data.

## 2. GENERAL CONCEPTION OF THE DOCUMENT

Fifteen tables for the presentation of data are suggested. The purpose and the method of construction of the tables are explained in table 1.

**TABLE 1. PRÉSENTATION OF THE TABLE**





### 3. TABLES PRESENTING UON STUDY DATA FROM THE QUESTIONNAIRE FOR WOMEN

**TABLE 1A.** TYPE AND NUMBER OF MAJOR OBSTETRIC INTERVENTIONS (MOI) BY INDICATION GROUP, FOR THE YEAR AND FOR ALL AREAS STUDIED

Tables 1a et 1b are a synthesis of the collection of data. They will provide a basis for the construction of the tables and for later analyses

Type of major obstetric intervention (MOI)	Number of absolute maternal indications	Number of non-absolute maternal indications	Total number
Caesarean			
Laparotomy			
Hysterectomy			
Version and extraction			
Craniotomy			
Symphysiotomy			
Others:			
<b>TOTAL</b>			

The collection of data covers all indications. The clinical criteria established before the study make it possible to differentiate between absolute and non-absolute indications.

In the analysis of results (**module 3b**) comparisons will be made between different regions or countries. Disparities revealed may show to what extent serious cases are being treated in proportion to all obstetric situations

**Table 1b** then details the major obstetric interventions and absolute maternal indications

**TABLE 1B.** PRINCIPAL INDICATIONS FOR MAJOR OBSTETRIC INTERVENTIONS (MOI), FOR ABSOLUTE MATERNAL INDICATIONS (AMI), FOR THE YEAR AND FOR ALL AREAS STUDIED

**Table 1b** concentrates on the hard core of obstetric interventions: absolute maternal indications

IMA \ IOM	CAESAREAN	LAPAROTOMY	HYSTERECTOMY	VERSION AND EXTRACTION	CRANIOTOMY	OTHER(S)	TOTAL
UTERINE RUPTURE							
TRANSVERSE PRESENTATION							
FRONTAL PRESENTATION							
FOETO-PELVIC DISPROPORTION							
ANTE-PARTUM HAEMORRHAGE							
POST-PARTUM HAEMORRHAGE							
OTHER(S)							
<b>TOTAL</b>							

Major obstetric interventions

Absolute maternal indications (including when there are several indications for a type of intervention)

**TABLE 2. NUMBER OF MAJOR OBSTETRIC INTERVENTIONS (MOI) PERFORMED, BY AREA OF ORIGIN OF PATIENTS**

Table 2 presents the data according to the area of origin of the patients. The “populational” approach is one of the essential bases of the UON approach. The object is to discover how many women in a particular area (district, region, province) did have access to an appropriate service for their major obstetric problem.

*The number of inhabitants is one of the essential bases of the approach based on unmet obstetric needs. What is required is the TOTAL number of inhabitants (and not merely those who have visited the hospitals in the area !)*

The zone of origin is determined on the basis of previously established definitions applied to the situations of pregnant women. It may be either a health area or an administrative area. The “language” remains the same throughout the presentation of the results.

The definition of these areas was established before the study began and applies to the whole of the area studied.

Zone of origin	Number of inhabitants	BE	Urban area		Rural area		Area unknown		Total MOI
			AMI	Non AMI	AMI	Non AMI	AMI	Non AMI	
Zone 1	<div style="border: 1px solid black; padding: 2px; display: inline-block;">On the basis of the most generally accepted birth rate</div>								
Zone 2									
Zone 3									
Zone 4									
.....									
Zone unknown	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Number of major obstetric interventions for patients in each zone, even if the intervention took place outside their zone of residence.</div>								
<b>TOTAL</b>									

This total is consistent with the totals in Tables 1A and 1B.

➔

Table 2 gives a good idea of the number of interventions. This prepares the way for the construction of **Table 3** (ratios) and **Table 4** (deficits in MOI/AMI).

**TABLE 3. RATIOS OF MAJOR OBSTETRIC INTERVENTIONS (MOI) FOR ABSOLUTE MATERNAL INDICATIONS (AMI) PER 100 EXPECTED BIRTHS AND BY AREA OF ORIGIN**

The expression of these ratios will make it possible at a later stage to carry out very useful **analyses** of differences between areas. The calculation of ratios of interventions to expected births is the final stage before the calculation of DEFICITS in major obstetric interventions for absolute maternal indications.

Zone	EB	IMA Total	Urban area		Rural area		MOI/AMI ratios per 100 EB TOTALS (includes the unknown areas)
			MOI for AMI ratios 100 EB	MOI for non AMI ratios 100 EB	MOI for AMI ratios 100 EB	MOI for non AMI ratios 100 EB	
Zone 1							
Zone 2							
Zone 3							
Zone 4							
.....							
Zone n							
<b>TOTAL</b>							

Table 3 is constructed on the basis of the data in Table 2 (number of interventions).

$$\text{MOI/AMI ratios per 100 EB} = \frac{\text{No. of MOI / MAI performed on women from zone x, urban, rural or unknown area}}{100 \text{ expected births in zone (urban, rural or unknown area)}}$$

→ The expression of ratios of major obstetric interventions for maternal indications (absolute and non-absolute) permits comparisons between areas, between regions.

**TABLE 4. DEFICITS IN MAJOR OBSTETRIC INTERVENTIONS (MOI) FOR ABSOLUTE MATERNAL INDICATIONS (AMI) ON PATIENTS FROM EACH ZONE AND FOR THE PERIOD STUDIED**

Table 4 presents a synthesis of deficits in major obstetric interventions for absolute maternal indications, in absolute figures (number of women who have not had interventions) and in ratios (to expected births which is an approximation of the number of woman who deliver). In this table the standard national MOI/AMI ratio is used to calculate the expected number of MOI/AMI.

Zone	Standard national MOI/AMI ratio per 100 expected births x number of expected births (EB)						Expected no. of MOI/AMI - actual no. of MOI/AMI 100 expected births (EB)								
	No. of EB			Number of MOI/AMI expected			Actual number of MOI/AMI			Deficit in MOI/AMI urban area		Deficit in MOI/AMI rural area		Deficit in MOI/AMI TOTAL	
	U	R	T	U	R	T	U	R	T	No.	Ratio	No.	Ratio	No.	Ratio
Zone 1															
Zone 2															
Zone 3															
Zone 4															
.....															
Zone n															
<b>TOTAL</b>															

U= urban area  
R= rural area  
T= total

No.= number d' MOI / MAI expected - actual number of MOI/MAI

From Table 5 onward the data are presented by health formation (structure)

**TABLE 5. DISTRIBUTION OF MAJOR OBSTETRIC INTERVENTIONS BY HEALTH FORMATION**

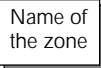
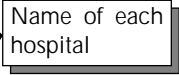
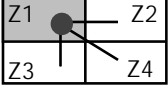
Table 5 shows the hospital structures in which major obstetric interventions have been performed and the principal 'results' for the mother and child (shown by the negative index of deaths).

This table differs from tables 1 to 4 in that it shows interventions performed in each health formation, regardless of the origin of the patients. Tables 1 to 4 was concerned with interventions for women from a particular district, whatever the hospital they went to.

Hospital	Sector	No. of MOI/AMI	No. of MOI for non-AMI	No. of IOM			No. of maternal deaths	No. of perinatal deaths
				AMI	non AMI	AMI/nonAMI		
<u>Zone 1</u>								
	Hospital 1							
	Hospital 2							
	Hospital 3							
	Hospital 4							
	.....							
	<u>Zone n</u>							
<b>TOTAL</b>								

A hospital structure (hospital) must have an operating suite and a surgical team able to perform major obstetric interventions. All structures meeting this technological requirement are included. This is what differentiates hospital structures from primary level structures (health centres, dispensaries, plying clinics, etc.) In this analysis no distinction is made between different types of hospitals. This is a **functional** approach. Seen from the patients' point of view, the essential feature is the hospital's ability to deal with any obstetric emergency and perform major obstetric interventions. It is necessary to recall the total number of maternal deaths registered in the hospital during the study period, even if no major obstetric intervention has been performed. Similarly, it is necessary to register the number of perinatal deaths (still born + infants deceased in the first week after birth).

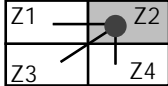
**TABLE 6.** ORIGIN OF PATIENTS WHO HAVE HAD A MAJOR OBSTETRIC INTERVENTION FOR AN ABSOLUTE MATERNAL INDICATION

Hospital level	No. of patients from <b>Zone 1</b>	No. of women from other zones				
		Z2	Z3	Z4	Z5	Zn
Hospital 1.1 Hospital 1.2 Hospital 1.3 .... Hospital 1.n						
<b>TOTAL :</b>						

**Table 6** shows the attractive power of different hospitals and shows up movements of patients between zones. These movements are of significant importance, since they concern life-saving interventions.

**Table 6** is constructed for each of the zones studied.



Hospital level	No. of patients from <b>Zone 2</b>	No. of women from other zones				
		Z1	Z3	Z4	Z5	Zn
Hospital 2.1 Hospital 2.2 Hospital 2.3 .... Hospital 2.n						
<b>TOTAL :</b>						

The total number of patients from a district matches the totals in the last column of table 2.

#### 4. TABLES PRESENTING UON STUDY DATA FROM THE QUESTIONNAIRE FOR HEALTH FORMATIONS

**TABLE 7.** NUMBER OF HOSPITAL STRUCTURES WITH SURGICAL AND OBSTETRIC CAPABILITY, BY ZONE AND BY SECTOR

**Table 7** presents the hospital structures in the area studied. The different sectors are not always represented. The table thus also reveals the absence of certain facilities in the area. If other sectors (communal, commercial, etc.) are represented to a significant extent this should be noted.

A table can be constructed for each region (province, prefecture, département, etc.). The presentation in the first column can also be subdivided "horizontally" to show sub-totals per zone.

Zone	Number of inhabitants	Public sector	Religious sector	Private sector	Military sector	Other sectors
Zone 1						
Zone 2						
Zone 3						
Zone 4						
.....						
Zone n						
sub total						
<b>TOTAL</b>						

Number of hospital structures

Region, province, district, département, etc.

Communal, commercial, etc.



**TABLE 8A.** BED CAPACITY OF MATERNITY AND GYNAECOLOGICAL/OBSTETRIC DEPARTMENTS:  
DISTRIBUTION OF BEDS (TOTAL)

Tables 8a, b and c are concerned with the bed capacity in gynaecological and obstetric departments, by sector, by district and per 1000 expected births. They may also include bed capacity in general departments, as may be the case in certain hospitals. The data should be able to show the adequacy of the hospital structures for dealing with the obstetric needs to be met. The tables are constructed on the basis of the data yielded by the questionnaire for health formations.

Sector	Number of beds		Total
	Maternity	Gynaecology and obstetrics	
Public			
Religious			
Private			
Military			
Other			
<b>TOTAL</b>			

This column is only added for the larger hospitals

For the area of study on unmet obstetric needs

**TABLE 8B.** BED CAPACITY OF MATERNITY AND GYNAECOLOGICAL/OBSTETRIC DEPARTMENTS:  
DISTRIBUTION OF BEDS BY SECTOR AND BY ZONE

Zone	Number of inhabitants	Capacity of public sector	Capacity of religious sector	Capacity of private sector	Capacity of military sector	Capacity of other sectors
Zone 1						
Zone 2						
Zone 3						
Zone 4						
.....						
Zone n						
<b>TOTAL</b>						

Region, province, département, ...

Number of beds in gynaecology and obstetric departments. We can add the beds strictly reserved for the maternity ward to those of the gynaecology and obstetric departments.

**TABLE 8C.** BED CAPACITY OF MATERNITY AND GYNAECOLOGICAL/OBSTETRIC DEPARTMENTS:  
DISTRIBUTION OF BEDS PER 1000 EXPECTED BIRTHS AND BY ZONE

Zone	Number of inhabitants	Number of expected births (EB)	Number of maternity/ gynaecological/ obstetric beds	Number of maternity/ gynaecological/obstetric beds per 1000 EB
Zone 1	Region, province, district, departement, ...			Construction of an index permitting comparisons between zones and between regions
Zone 2				
Zone 3				
Zone 4				
.....				
Zone n				
<b>TOTAL</b>				

**TABLE 9A.** DISTRIBUTION OF EQUIPMENT AND BLOOD-TRANSFUSIONS BY ZONE, BY HOSPITAL AND SECTOR

**Table 9a** is constructed on the basis of data collected in the area studied on unmet obstetric needs (questionnaire for health formations). The use of the term "at least" provides an indication of the hospital structures' ability to undertake treatment of life-saving importance.

Hospital Level	Sector	Nbr of caesarean kits	Nbr of Forceps	Nbr of Vacuum extractor	Nbr of Functional Ambulances	Nbr. of blood-transfusions performed per week
<u>Zone 1</u>						
Hospital 1						
Hospital 2						
Hospital 3						
Hospital 4						
.....						
<u>Zone n</u>						
<b>TOTAL</b>						

**TABLE 9B.** RESULTS FOR MOTHER AND CHILD OF THE MAJOR OBSTETRIC INTERVENTIONS

Hospital Level	Sector	Nbr of caesarean sections	Nbr deMOI /AMI	Nbr of MOI Total	Maternal deaths after MOI	Maternal deaths Total	Perinatal deaths after MOI	Perinatal deaths Total
<u>Zone 1</u>								
Hospital 1								
Hospital 2								
Hospital 3								
Hospital 4								
.....								
<u>Zone n</u>								
<b>TOTAL</b>								

**TABLE 9C.** SUMMARY OF THE DISTRIBUTION OF THE EQUIPMENT AND OF THE TECHNICAL ACTS BY ZONE, BY HOSPITAL AND SECTOR

Minimum equipment and technical procedures	Number of zones	Number of hospitals (all sectors)	Number of hospitals in public sector (total of public hospitals in area studied)	Number of hospitals in non-public sectors (total of non-public hospitals in area studied)
At least one complete caesarean kit available				
At least one forceps available				
At least one functional vacuum extractor available	●	<b>Example :</b> number of zones in the area studied which have at least one functional vacuum extractor		
At least one blood transfusion performed per week				
At least one functional ambulance				
At least [Other technical procedure(s) - specify]				
At least [Other equipment - specify]				

One or more columns can be added if it is desired to show the resources of other sectors.

**TABLE 10. NUMBER OF GYNAECOLOGISTS AND MEDICAL STAFF WITH GYNAECOLOGICAL SKILLS (MSGs) BY ZONE, BY SECTOR AND PER 10,000 EXPECTED BIRTHS (EB)**

Table 10 shows the suitably qualified human resources available for dealing with serious cases (major obstetric interventions)

There are situations in which, in the absence of a gynaecologist, obstetric surgery is performed by general surgeons. In other cases - perhaps even commoner - surgical cases, including gynaecological surgery, are dealt with by generalist doctors. In such cases the generalists have had special technical training organised by the Ministry of Health in professional conditions which are entirely adequate. In this document we use the term **medical staff with gynaecological skills** to include in the human resources available not only gynaecologists/obstetricians but also surgeons and other doctors who are competent to perform major obstetric interventions. As in the case of hospitals (hospital structures) this is a functional approach to the matter.

Zone	Number of expected births (EB)	Number of gynaecologists and MSGs				Ratio gynaecologists and MSGs/ 10,000 EB
		Public	Religious	Military	Private	
Zone 1			●			●
Zone 2			Other sectors if relevant			●
Zone 3						●
.....	●					
Zone n						
<b>TOTAL</b>		●	●	●	●	

We can also analyse each zone by mentioning the number of gynaecologists and MSGC for each hospital of that zone. The ratios are calculated for the entire zone.

Revealing differences between sectors

Revealing differences between zones

**TABLE 11A.** DISTRIBUTION OF QUALIFIED MIDWIVES BY ZONE AND BY SECTOR

**Table 11a** presents data on qualified midwives (QM) taken from the health formation questionnaire used in the study of unmet obstetric needs. This data is essential for judging the level of professionalisation achieved in the follow-up of childbirth is regarded as an essential factor in the campaign to reduce maternal mortality (see Module 1 of the UON Network).

The term **qualified midwife** is used in this document to avoid possible confusion. It applies to obstetric staff who have had at least three years of specialised training, both theoretical and practical. In certain contexts, and sometimes in colloquial language, the term midwife can cover a wide range of skills, from the "wise woman" to the certificated midwife, with various intermediate categories - usually maternity staff who have had special training courses. Staff of this kind, even if they have been faced with the day-to-day realities of the obstetric clinic, are not included in the definition of qualified midwife.

The object here is to establish a global ratio which will show how far the follow-up of childbirth has been professionalised. For this purpose it is necessary to include data on the follow-up of childbirth in primary level structures.

Province, district region, ...	Zone	EB	Number of QM at primary level			Number of QM at hospital level			Total number of QM (primary level + hospitals)	Ratio QM/ 1000 EB
			public	private	others	public	private	others		
			Dispensaries, health centres, maternity homes			private clinics, home confinements				
	Zone 1								$\frac{\text{Total number of QM}}{\text{Number of EB} \times 1000}$	
	Zone 2									
	Zone 3									
	.....									
	Zone n									
	<b>TOTAL</b>									

We can also analyse each zone by mentioning the number of QM for each hospital of that zone. The ratios are calculated for the entire zone.

The totals show up disparities between districts and between sectors. The QM/1000 EB ratios can be compared with standards expected at national and international level.

**TABLE 11B.** DISTRIBUTION OF UNQUALIFIED OBSTETRIC STAFF BY ZONE AND BY SECTOR

Table 11b presents data on unqualified obstetric staff (UOS), obtained from the health formation questionnaire used in the study of unmet obstetric needs. It is a complement to Table 11a.

Province, district region, ...	Zone	EB	Number of UOS at primary level			Number of UOS at hospital level			Total number of UOS (primary level + hospitals)	Ratio UOS/1000 EB
			public	private	others	public	private	others		
			Dispensaries, health centres, maternity homes			Private clinics, home deliveries.				
	Zone 1									
	Zone 2									
	Zone 3									
	.....									
	Zone n									
	<b>TOTAL</b>									

We can also analyse each zone by mentioning the number of UOS for each hospital of that zone. The ratios are calculated for the entire zone.

**TABLE 12.** DISTRIBUTION OF THE NUMBER OF BIRTHS IN HOSPITAL STRUCTURES BY SECTOR

Still using the functional definition of hospital structures (see Table 5)

Table 12 is concerned with births in the hospital. It shows, of course, only part of the coverage of births in the area studied. The table makes it possible to compare sectoral totals of births, caesareans and beds available, and to differentiate between structures which can deal, in general, only with emergencies and those with greater potential.

Sector	Number of births in hospital	Number of caesareans			Number of maternity and gynaecological/obstetric beds available
		IMA	nonIMA	Total	
Public					
Religious					
Private					
Military					
Other(s)					
<b>TOTAL</b>					

Even if only one sector (the public sector, for example) is represented in the area studied the table is still useful, for it shows the human and material resources that have been invested.

We can also analyse the sector by listing the number of deliveries, caesarean sections (AMI/nonAMI) and the number of beds available for each of the hospitals of the study.

**TABLE 13.** NUMBER OF CAESAREANS PERFORMED BY GYNAECOLOGISTS OR MEDICAL STAFF WITH GYNAECOLOGICAL SKILLS (MSGS) PER YEAR

**Table 13** is concerned with qualified staff responsible for major obstetric interventions. Unlike midwives, they work solely in the hospital. The data on this staff therefore comes entirely from the health formation questionnaire used in the unmet obstetric needs study.

The concept of whole-time equivalent was introduced during the collection of data for the UON study - since, for a variety of reasons, gynaecologists and medical staff with gynaecological skills (MSGS) are not always operational on every day in the year. there is sometimes a shortage of such staff, and they cannot always be made available to hospitals at the time required.

If, for example, a gynaecologist has been available for 8 months of the year being studied, a surgeon for 10 months and a generalist with surgical skills for 6 months, the hospital cannot be reckoned as having three staff members with surgical and gynaecological skills on its strenght throughout the year. The total number of months of availability of these three operators (8+10+6=24 months) is divided by 12 to give the number of "person years" = 2; and the hospital will then be credited with two whole-time equivalents.

During the period of the UON study

Zone	Hospital level	Sector	Number of caesareans (year)	Number of whole-time gynaecologists and MSGS/hospital	Number of caesareans/ gynaecologist or MSGS (for 1 year)
Zone 1	Hospital 1 Hospital 2 Hospital 3				
Zone 2	Hospital 1 Hospital 2 Hospital 3				
Zone 3	Hospital 1 Hospital 2 Hospital 3				
Zone n	Hospital 1 Hospital 2 Hospital 3				
<b>TOTAL:</b>					

This permits a quantitative assesment of the work done in each of the hospitals studied.

Disparities between zones and the achievement or non-achievement of certain minimum requirements are revealed.



**TABLE 14. MATERNAL MORTALITY IN HOSPITAL**

Maternal mortality in hospital will be expressed for the year of study of unmet obstetric needs. This was not a specific objective of the UON study, but the data was recorded during the study. Account is taken only of direct causes: that is, causes in the field of obstetrics.

There are several possible tables of this type: for zone, sector or region (province, department)

During the year of the UON

Hospital Level	Number of deliveries	Maternal deaths in the hospital			Percentage of maternal deaths in hospital/ number of deliveries
		MOI/AMI	MOI/nonAMI	Others	
Zone 1					$\frac{\text{Number of maternal deaths}}{\text{Number of confinements}} \times 100$
Hospital 1					
Hospital 2					
Hospital 3					
.....					
Zone n					
<b>TOTAL</b>					

➔ The percentages of maternal deaths in hospital reflect differences between zones, between sectors or between regions, depending on the construction of the tables.

These differences are not only differences in quality of care: there may also be major problems resulting from late referrals, for example because of the costs of hospitalisation and obstetric interventions.

**TABLE 15. RESULTS FOR NEONATES, BY ZONE AND BY HOSPITAL STRUCTURE**

Table 15 is constructed from data collected in hospital structures during the study of unmet obstetric needs (questionnaire for women, line 'Results for child'). As for Table 14, this was not a specific objective of the study. The data collected make it possible to calculate indices which can be used to judge the quality of care in hospital or, in other contexts, to reveal the consequences of late referrals and consider their causes (distance, cost, acceptability of care, etc.).

The table relates to the period of the UON study (to be specified).  
The ratios (Rt) are calculated by dividing the number of neonates by the total number of deliveries in the hospital x 100

Zone	Hospital level	Number of births in hospital	Born alive		Born alive died < 24 hrs		Stillborn		Not recorded	
			no.	Rt	no.	Rt	no.	Rt	no.	Rt
Zone 1	Hospital 1 Hospital 2 Hospital 3	<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     Sub-totals can be shown for zones or regions (provinces, departements).                 </div>								
Zone 2	Hospital 1 Hospital 2 Hospital 3									
Zone 3	Hospital 1 Hospital 2 Hospital 3									
Zone n	Hospital 1 Hospital 2 Hospital 3									
<b>TOTAL:</b>										

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