

WHO 2005 Global Survey for Maternal and Perinatal Health

The Case of Mexico and Nigeria

José Villar

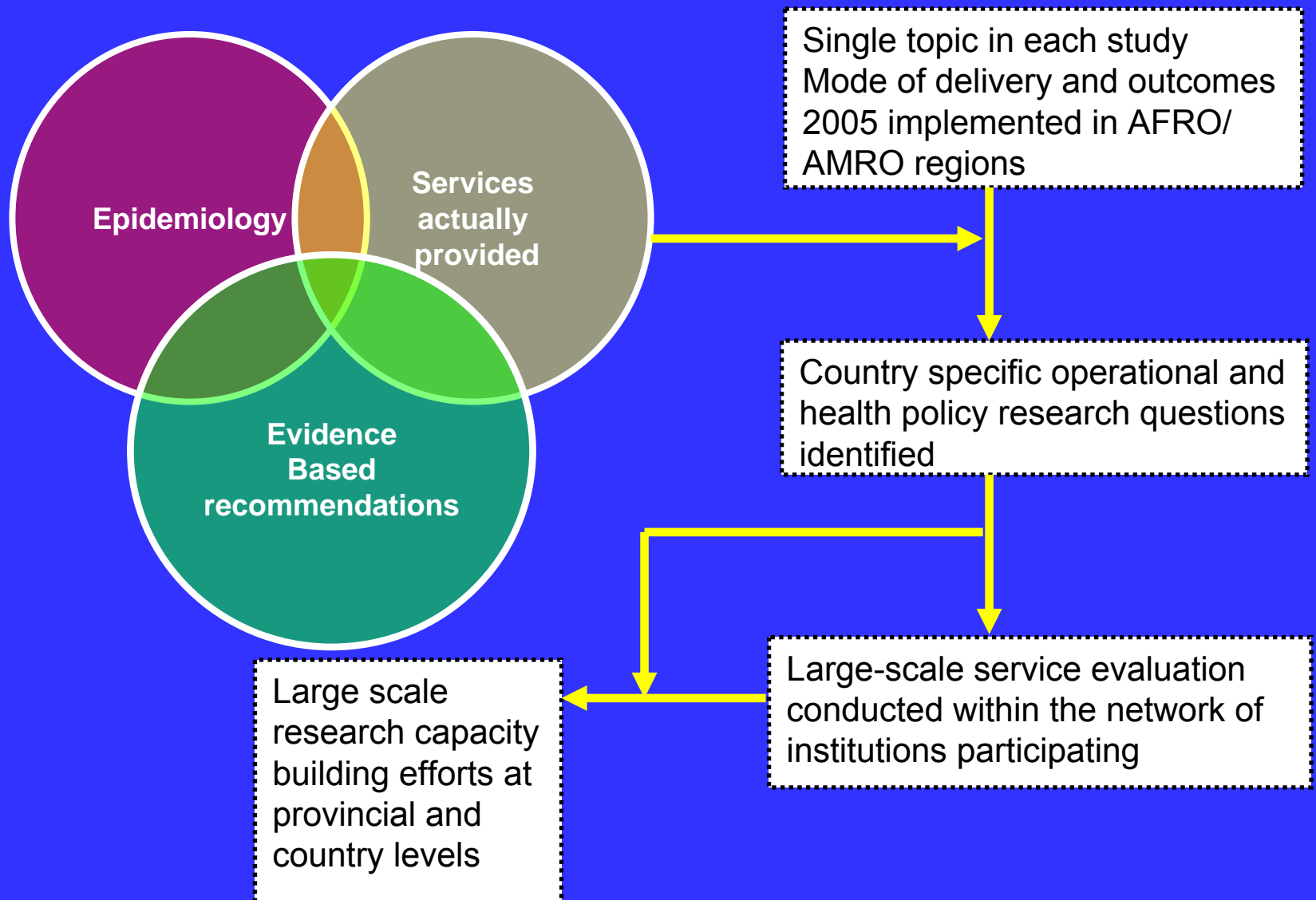
**WHO Maternal and Perinatal
Research Network**

**UNDP/UNFPA/WHO/WORLD BANK
Special Programme of Research,
Development and Research Training in
Human Reproduction
Department of Reproductive Health and
Research**

Maternal and Perinatal Health Research

**Second Programme of Work
2004 - 2009**

WHO Global Survey for Maternal and Perinatal Health



Main Objective

To collect up to date, focused information on the epidemiology of maternal and perinatal conditions, the services actually provided and how the evidence based recommendations are being implemented

Specific Objectives

- **To study the relationship between mode of delivery, intrapartum care and maternal and perinatal health outcomes.**
- **To obtain regional estimation of different mode of deliveries, and maternal and perinatal outcomes.**
- **To develop a network and strengthen capacity of health facilities worldwide that would participate in future studies including cluster randomised trials.**
- **To test a technologically simple on-line data entry and management system for a large dataset in developing countries.**

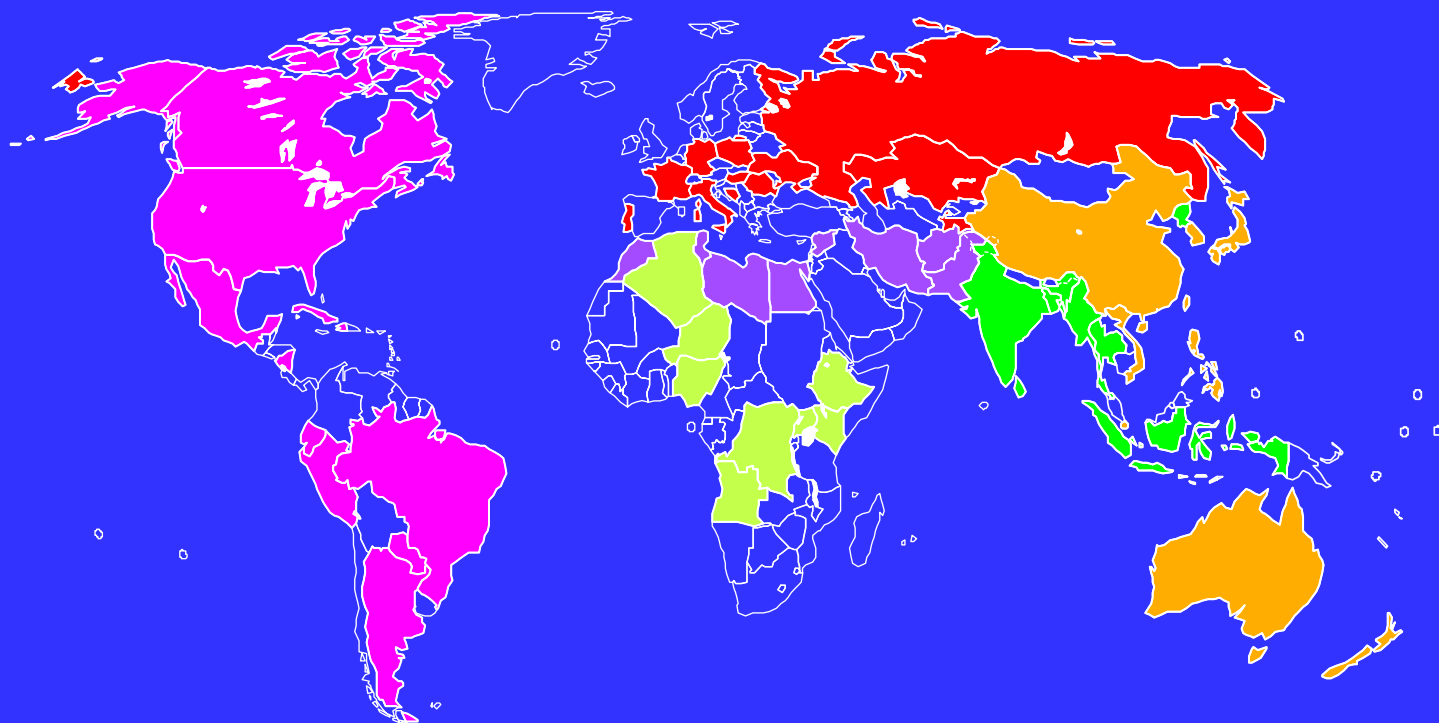
Sampling Selection

- 14 sub-regions based on levels of child and adult mortality for WHO Member States
- In Latin América 9 and Africa 8 countries were randomly selected with probability proportional to population . EEUU and Canada were also selected.
- The capital was always included plus 2 provinces randomly selected with probability proportional to population.

Sampling Selection

- If the capital or province was very large a sample of political subdivisions was randomly taken based on their population size .
- Census of all facilities with more than 1000 births / year .
- A random sample of 7 facilities was taken with probability proportional to the number of births for each geographic area .

Countries Randomly Selected by Region



- AFRO region
- AMRO region
- EMRO region
- EURO region
- SEARO region
- WPRO region



Mexico

Cuba

Nicaragua

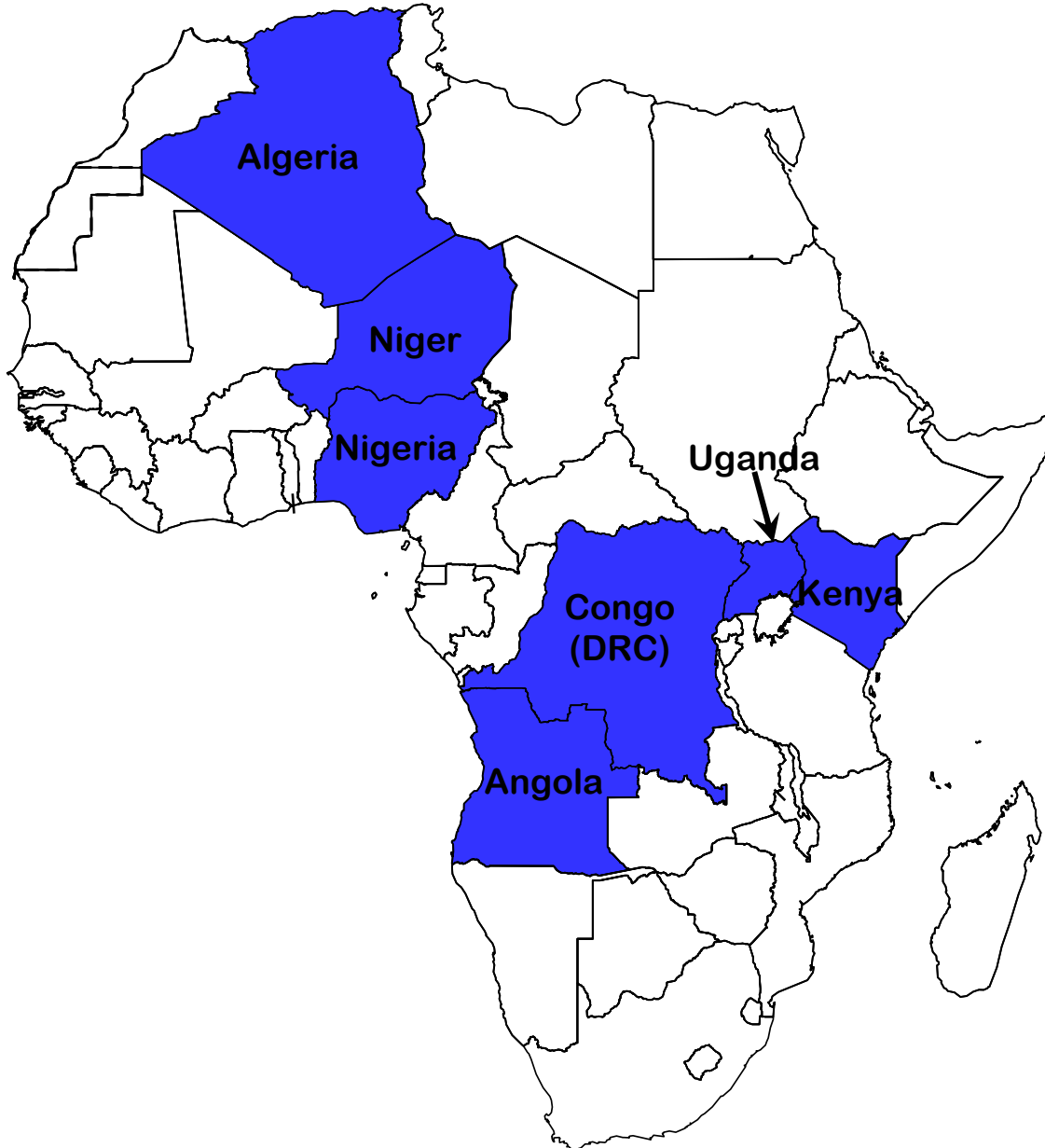
Ecuador

Peru

Brazil

Paraguay

Argentina



Elegible Women

- All women admitted for delivery during study period (3 months)
- Facilities with < 6000 births collected data 3 months ; those with > 6000 births collected data 2 months
- Survey Period : 15/09/04 to 15/03/05

Characteristics of the Survey

- **Specific objectives change as needed**
- **Short , specific , detailed data collection form**
- **Institutions randomly selected**
- **Sampling unit: cluster**
- **Prospective data collection**
- **Very short period of recruitment**
- **Sample close to 100.000 births by region**
- **Recent information : 2005**

Characteristics of the Survey

- **Online data management**
- **Extensive network of collaborators (>600 per region)**
- **Included institutions not previously collaborating with WHO**
- **Strengthening WHO Research network and that of local institutions**

2005 Global Survey: Data Management



Data Entry
Country Level



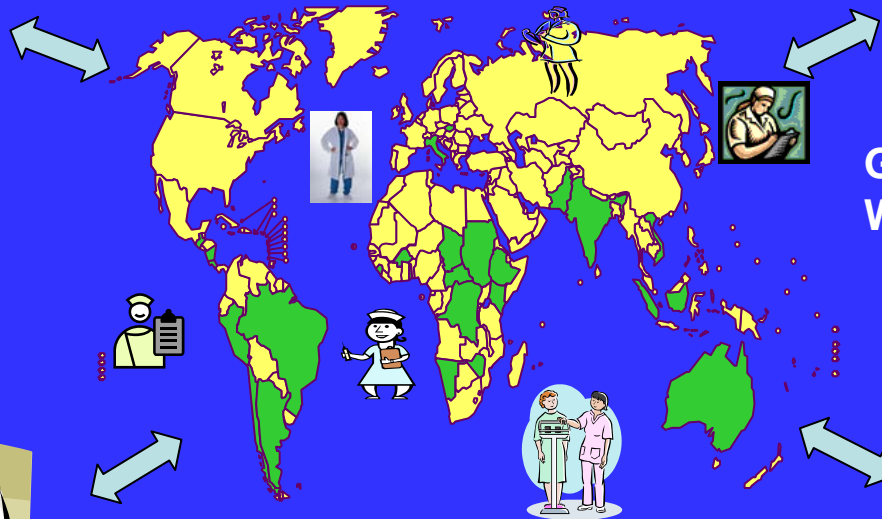
General Coordination:
WHO/Geneva



Regional
coordination: CREP



Regional
Coordination: África



World Health Organization



Department of Reproductive Health and Research WHO Global Survey on Maternal and Perinatal Health



Login form for all regions

Please login here if your favorite language is English. After logging in, you will have access to the WHO survey database. All information will be presented in the language you were registered in by your regional coordinator.

Login

Entrez ici s'il vous plait si votre langue préférée est le français. Vous aurez acces a la banque de données sur l'enquete de l'O.M.S. Toutes les informations vous seront présentées dans la langue à laquelle vous avez été enregistré par votre coordonnateur régional.

Entrez

Por favor, registrese aqui si su idioma de preferencia es el espanol. Luego de registrarse, tendra acceso a la base de datos de la encuesta de la OMS. Toda la información estara en el idioma en el que Ud. fue registrado por su coordinador.

Entre

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User: Archana Shah(Shaha) [Global Admin]

Start page

Message to the users

Dear All,

Today a total number of records in the system amounts to more than 165,000.

It is time that we all concentrate in the cleaning the data. As we have just experienced with the Latin American countries that it is going to be long and exciting process, which is still ongoing.

African colleagues will have to start producing:

- 1- A list of counterparts at the health facility level (a list of all the people involved in the survey) with their accurate names and positions they were involved in the survey.
- 2- A table that is being sent to you all should be completed. Completion of that table for comparing the number of records entered at the health facilities with the numbers in the log book will provide us with a bigger picture.

More I will contact all of you individually.

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Search/List

Patient No.	Registered	Facility	Province	Country	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Filter"/>
Patient No. ▾	Registered ▾	Facility ▾	Province ▾	Country ▾	
00001	17/09/2004	UGA11	UGA1	UGA	
00002	17/09/2004	UGA11	UGA1	UGA	
00003	17/09/2004	UGA11	UGA1	UGA	
00004	17/09/2004	UGA11	UGA1	UGA	
00005	17/09/2004	UGA11	UGA1	UGA	
00006	17/09/2004	UGA11	UGA1	UGA	
00007	17/09/2004	UGA11	UGA1	UGA	
00008	17/09/2004	UGA11	UGA1	UGA	
00009	17/09/2004	UGA11	UGA1	UGA	
00010	17/09/2004	UGA11	UGA1	UGA	
00011	17/09/2004	UGA11	UGA1	UGA	
00012	17/09/2004	UGA11	UGA1	UGA	
00013	17/09/2004	UGA11	UGA1	UGA	
00014	17/09/2004	UGA11	UGA1	UGA	
00015	17/09/2004	UGA11	UGA1	UGA	
00016	17/09/2004	UGA11	UGA1	UGA	
00017	17/09/2004	UGA11	UGA1	UGA	
00018	17/09/2004	UGA11	UGA1	UGA	
00019	17/09/2004	UGA11	UGA1	UGA	
00020	17/09/2004	UGA11	UGA1	UGA	
Total number of records: 173482					Go to page: 1 2 3 4 5 6 7 8 9 10 ... 8675

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Top Searches -> Fun -> Practical

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User: Archana Shah(Shaha) [Global Admin]

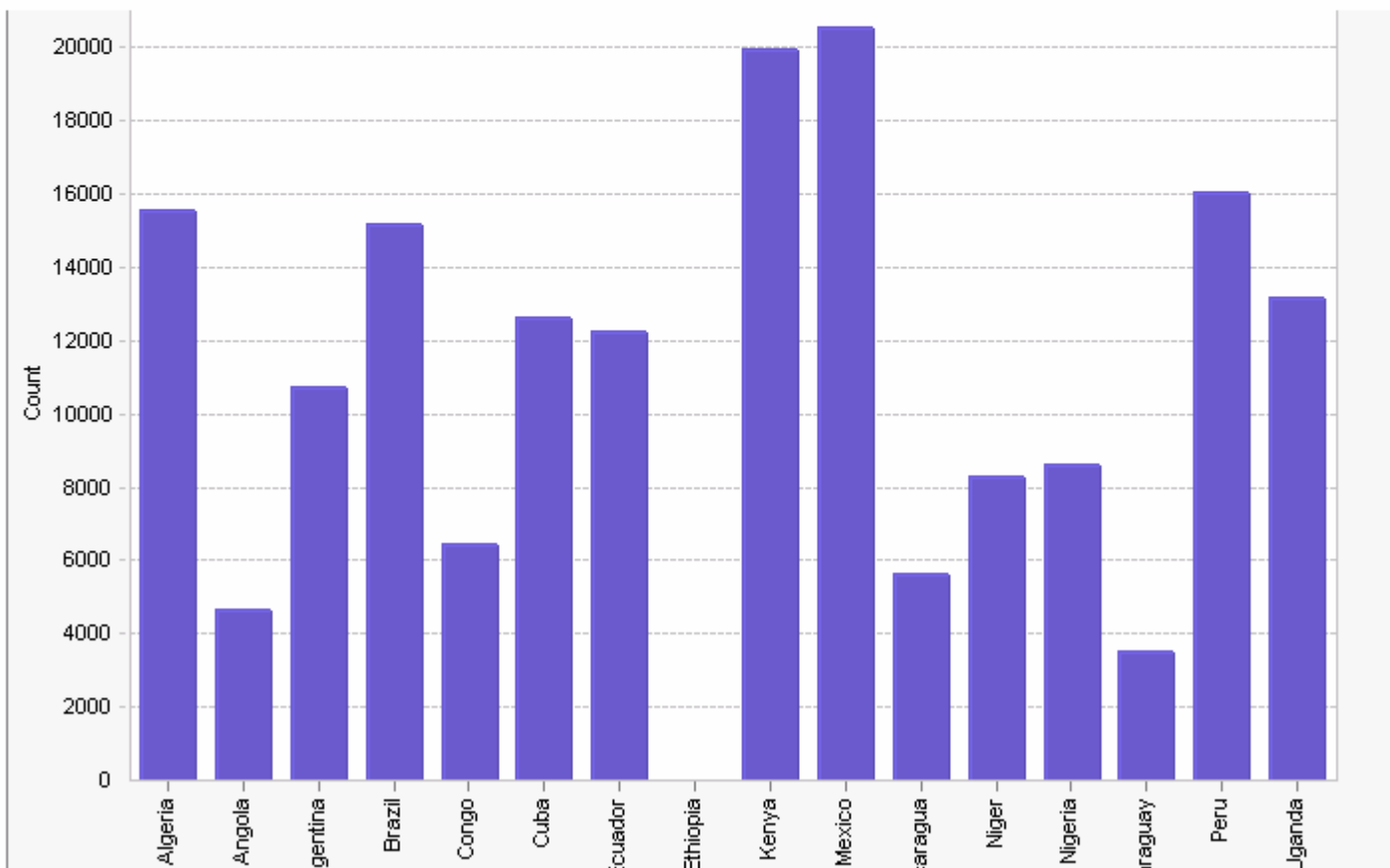
Statistics

1. Patients with missing/incomplete forms by country
2. Patients with missing/incomplete forms by facility
3. Patients with missing data ("9") by country
4. Patients with missing data ("9") by facility
5. Number of registered patients per country
6. Number of registered patients per facility
7. Number of deliveries for all countries
8. Number of deliveries for all facilities

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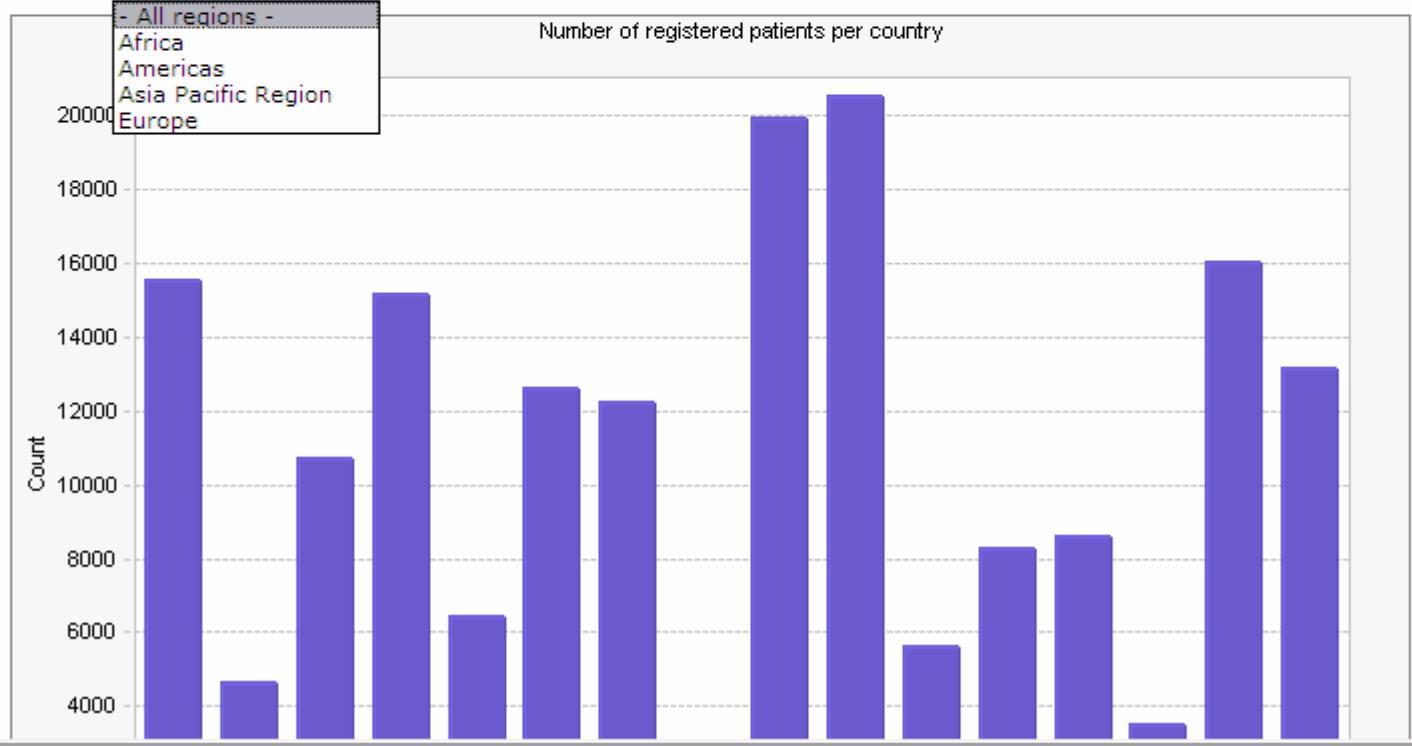


Number of registered patients per country

[Table view]

Region: - All regions -

- All regions -
- Africa
- Americas
- Asia Pacific Region
- Europe



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websearch [Search] [Screensavers] [Cursor Mania] [PopSwatter] [Games] [My Info] [Customize] [My Button 1]

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Text on start page

Text

Date	Text	Deleted
29/04/2005	Dear All,Today a total number of records in the system amounts to more than 165,000. It is time that we all concentrate in the cleaning the data. As we have just experienced with t	
16/03/2005	Just to tell to all our friends that are working so hard in the countries : 150000 women studied , 85000 women in latin America where the file is almost ready.We had	
08/02/2005	More than 120,000 cases studied, the largest, fastest , most focussed , soonest available results of a study of perinatal events in developing countries ever, and pe	
21/01/2005	We have now more than 100,000 records in the file with 2004 perinatal data, that has never ever done before. We can say, that you are part of the history&n	
10/01/2005	Hallo Dear Friends,We would just like to appreciate the progress made so far and particularly congratulate Congo for the great progress made in the data entry. Our best regards to	
31/12/2004	first , good new year o all , it has been an honor working with you this year , second many of you have compiled data collection , we must know now which countries have completed d	
22/12/2004	Dear Friends,I would like to request you to share the problems that took place with the system during the data entering process to many of you.Please kindly let me know soon.My ver	
16/12/2004	Dear Friends, Some points : Good news, Cuba is back in action and has now more that 1,000 records, well done; Peru is almost over with the data entry; Arc	
13/12/2004	DEAR ALL,WE HAVE ONE GREAT NEWS TO SHARE WITH YOU ALL.WE WOULD LIKE TO CONGRATULATE PERU FOR COMPLETING THE DATA COLLECTION. PERU IS THE FIRST COUNTRY TO COMPLETE.CONGRATES NELLY!!	
09/12/2004	Dear Friends, This is to let you all know that you are all making an excellent progress. We were looking at the data and we feel a couple issues should be concentrated upon.&n	
07/12/2004	Dear Friends, Today we have reached 50,300 records in the data base, this is extraordinary and the first time ever such updated data set has been collected, you have to be con	

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ss <https://www.medscinet.com/who/app/forms/main.aspx?formid=62&objectid=1&layout=m>

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Administration

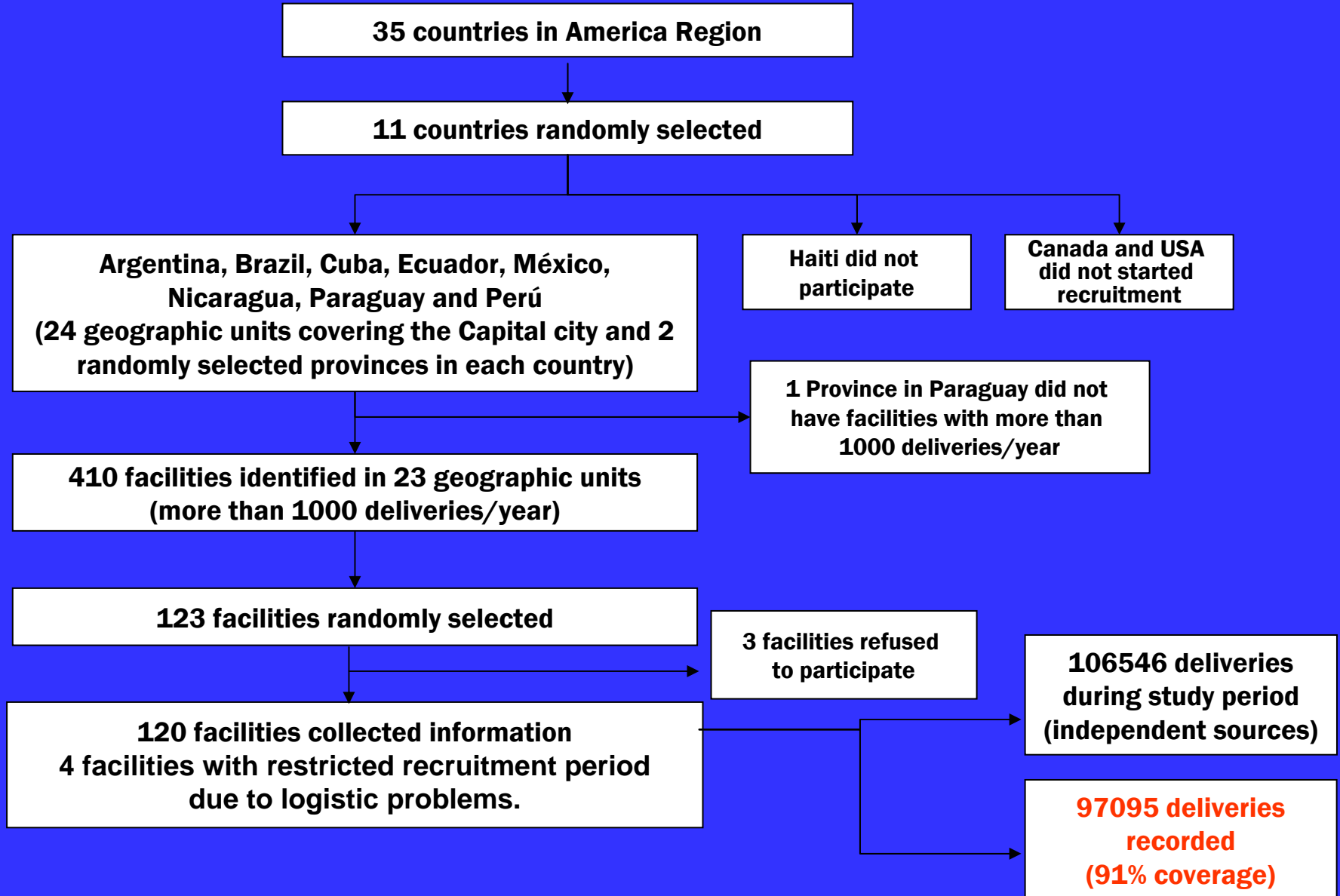
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Health facilities

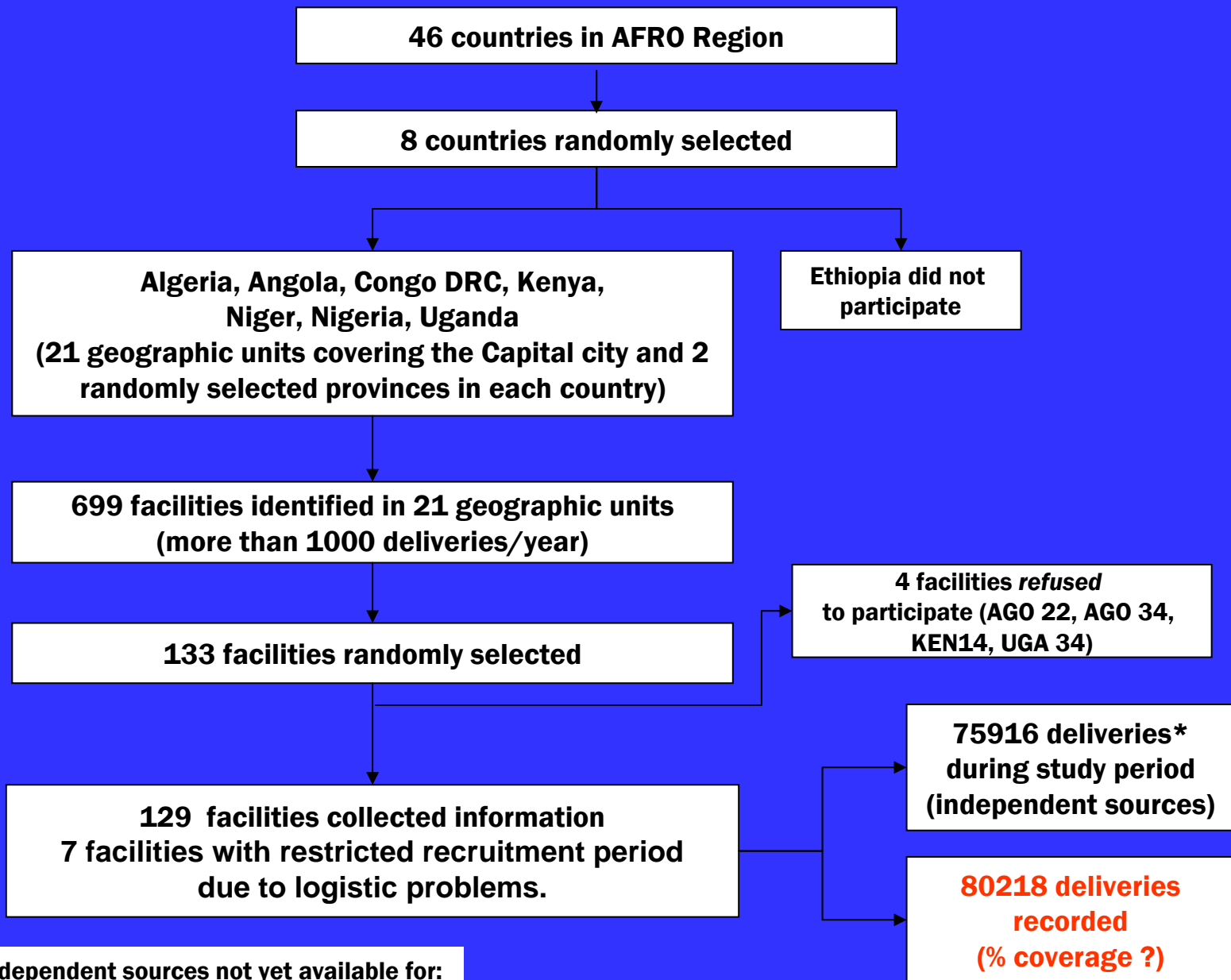
Code Name Province

Code	Name	Province	Deleted
DZA31	Maternité de l'hôpital de Ghriss	Algeria - Wilaya d' Mascara	
DZA32	Maternité de l'Hôpital de Mascara	Algeria - Wilaya d' Mascara	
DZA34	Maternité de l'Hôpital de Mohammadia	Algeria - Wilaya d' Mascara	
DZA35	Maternité de l'Hôpital de Sig, Sig	Algeria - Wilaya d' Mascara	
DZA36	Maternité de l'Hôpital de Tighennif	Algeria - Wilaya d' Mascara	
DZA33	Maternité de Sid Ali M'Hamed	Algeria - Wilaya d' Mascara	
DZA21	Maternité de l'Hôpital de Azzaba	Algeria - Wilaya d' Skikda	
DZA22	Maternité de l'Hôpital de Collo	Algeria - Wilaya d' Skikda	
DZA24	Maternité de l'Hôpital de Skikda	Algeria - Wilaya d' Skikda	
DZA23	Maternité de l'Hôpital d'El Harrouche	Algeria - Wilaya d' Skikda	
DZA25	Maternité de Tamalous, Tamalous	Algeria - Wilaya d' Skikda	
DZA17	Maternité de l'hôpital d'El Harrache	Algeria - Wilaya d'Alger	
DZA14	Maternité de l'hôpital de Bouloughine	Algeria - Wilaya d'Alger	
DZA15	Maternité de l'hôpital de Kouba	Algeria - Wilaya d'Alger	
DZA16	Maternité de l'hôpital de Sidi M'Hammed	Algeria - Wilaya d'Alger	
DZA12	Maternité du C.H.U C.H.U Parnet	Algeria - Wilaya d'Alger	
DZA13	Maternité du C.H.U C.H.U Bab El Oued	Algeria - Wilaya d'Alger	

America : Flow Chart



Africa: Flow Chart



* Independent sources not yet available for: Angola (20 facilities), 2 facilities in Nigeria

Distribution of Women by Country

Latin America

Africa

	Health Facilities Randomly Selected	Deliveries		Health Facilities Randomly Selected	Deliveries
Argentina	14	10748	Algeria	18	15587
Brazil	19	15197	Angola	18	5503
Cuba	17	12642	Congo, DRC	21	8326
Ecuador	18	12414	Kenya	20	20017
Mexico	21	20892	Niger	11	8278
Nicaragua	8	5636	Nigeria	21	8955
Paraguay	6	3525	Uganda	20	13552
Peru	17	16041			
Total	120	97095	Total	129	80218

Missing Values

Variable	AMRO		AFRO	
	Available for Analysis	% of Missing Values	Available for Analysis	% of Missing Values
Caesarean Section	97988	0.09	81594	0.11
Birth Weigth	97872	0.20	80922	0.93
Gestational Age	97488	0.60	79058	3.21
Newborn Status at Discharge	96931	0.09	78453	0.17
Maternal Status at Discharge	97035	0.06	79873	0.43

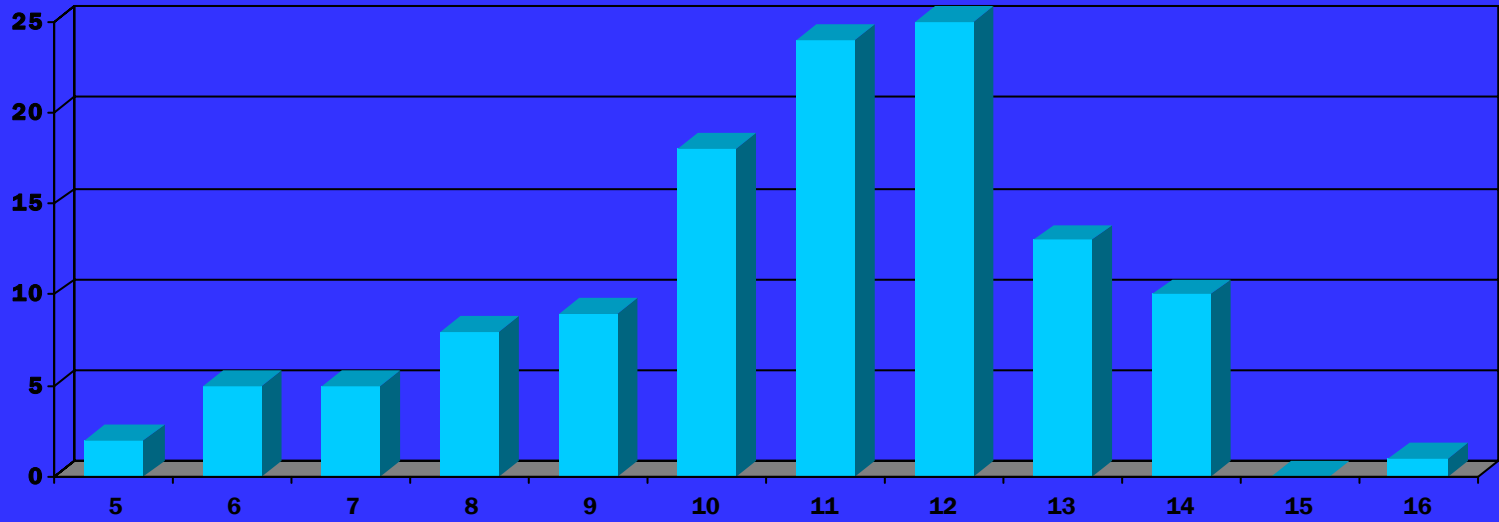
Complexity Index

Complexity Index	# of Facilities AMRO	# of Facilities AFRO*	Complexity	# of Facilities AMRO	# of Facilities AFRO*
5	2	17	Low	29 (24.2)	76 (70.4)
6	5	17			
7	5	9			
8	8	17			
9	9	16			
10	18	15	Medium	67 (55.8)	26 (24.1)
11	24	6			
12	25	5			
13	13	6	High	24 (20.0)	6 (5.6)
14	10	0			
15	0	0			
16	1	0			
Total	120	108	Total	120	108

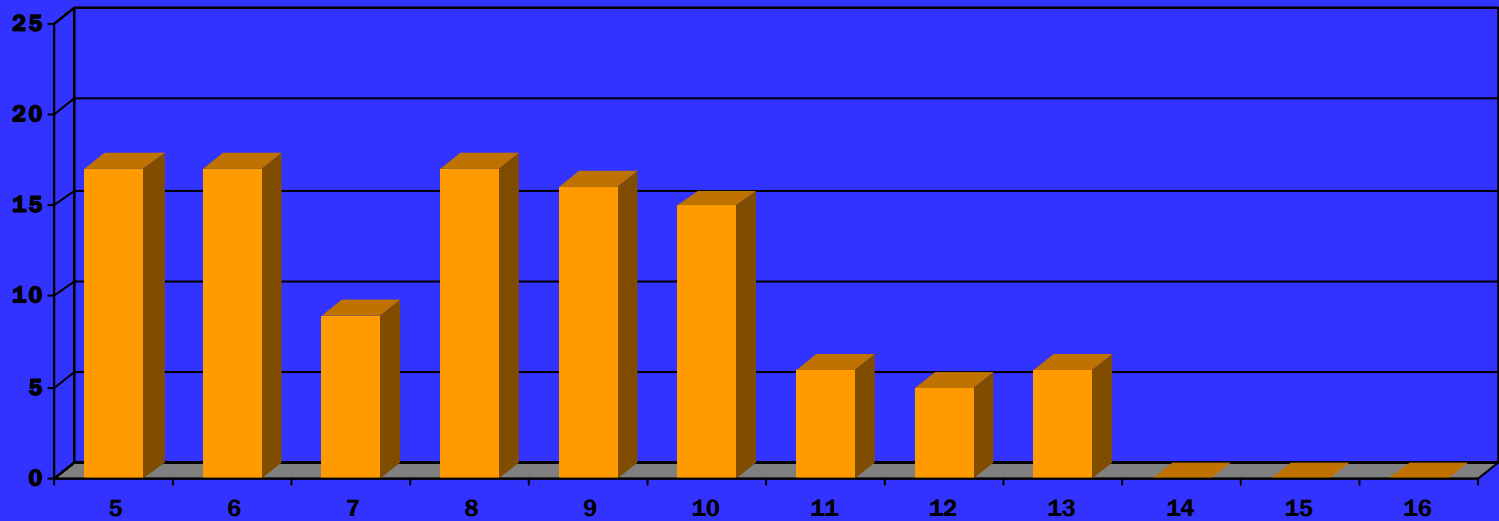
* Complexity index incomplete for 21 facilities
(20 in Angola, 2 in Congo DRC and 1 in Uganda)

Complexity Index

AMRO



AFRO



Distribution of Total Number of Women by Province

Mexico

Province	# of Health Facilities Randomly Selected	# of Deliveries Recorded
Distrito Federal	7	7995
Guanajuato	7	7113
Tamaulipas	7	5784
Total	21	20892

Nigeria

Province	# of Health Facilities Randomly Selected	# of Deliveries Recorded
Abuja	7	3582
Lagos	7	2217
Katsina	7	3156
Total	21	8955

Characteristics of Women

	Mexico		Nigeria	
	n	%	n	%
Marital Status: Single	2518	12.1	98	1.1
Age				
Mean, SD (years)	25.5	6.1	27.9	6.1
< 20 yo.	3585	16.9	853	9.5
≥ 40 yo.	347	1.7	343	3.8
Education : < 7 years	6594	31.6	3254	36.7
Maternal Height (cm)	157	7.4	159	8.6
Maternal Weight (kg)	70.3	12.6	70.9	16.2

Characteristics of Women: Medical History

	Mexico		Nigeria	
	n	%	n	%
HIV	86	0.4	154	1.7
Chronic Hypertension	157	0.7	45	0.5
Cardiac / Renal Disease	137	0.6	23	0.2
Chronic Respiratory Conditions	46	0.2	42	0.4
Diabetes Mellitus	173	0.8	77	0.8
Malaria	12	0.0	1814	20.2
Sickle Cell Anaemia	254	1.2	48	0.5
Severe Anaemia (Hb < 7g/l)	115	0.5	62	0.6

Characteristics of Women: Reproductive History

	Mexico		Nigeria	
	n	%	n	%
Primigesta	7148	34.2	2417	27.1
Primiparous	7800	37.3	2490	29.1
Low Birth Weight in Last Birth	1097	8.5	271	7.7
Outcome of Previous Pregnancy				
Abortion / Miscarriage	1725	12.6	999	15.4
Neonatal Death	121	0.9	178	2.8
Stillbirth	130	1.0	323	5.0
Previous Surgery Uterus or Cervix	901	4.3	320	3.6
Caesarean Last Pregnancy	3310	15.9	427	4.8

Characteristics of Women: Current Pregnancy

	Mexico		Nigeria	
	n	%	n	%
Prelabour Rupture of Membranes	1750	8.3	482	5.3
Pregnancy Induced Hypertension	837	4.0	344	3.8
Pre-eclampsia	1526	7.3	267	2.9
Eclampsia	67	0.3	99	1.1
Vaginal Bleeding in 2nd Half of Pregnancy	904	4.3	179	2.0
Pyelonephritis or Urinary Infection	4282	20.5	99	1.1
Any Genital Ulcer Disease	135	0.6	51	0.5
Condyloma Acuminata	69	0.3	5	0.0

Characteristics of Deliveries

	Mexico		Nigeria	
	n	%	n	%
Onset of Labour				
Spontaneous	14910	71.4	8033	89.9
Induced	2467	11.8	556	6.2
No Labour	3511	16.8	350	3.9
Mode of Delivery				
Spontaneous	12605	60.3	7230	80.9
C-Section	7888	37.8	1287	14.4
Forceps	329	1.6	124	1.4
Vacuum	18	0.1	29	0.3
Other	51	0.2	264	3.0

Maternal Outcomes

	Mexico		Nigeria	
	n	%	n	%
Antibiotics Treatment	11911	57.0	6684	74.8
3th/4th Degree Perinal Laceration	104	0.5	109	1.2
Hysterectomy	40	0.2	18	0.2
Admission to Intensive Care Unit	161	0.8	424	4.8
Maternal Death	2	0.01	74	0.83

Characteristics of Newborns

	Mexico		Nigeria		
	n	%	n	%	
Gestational Age					
< 32 weeks	377	1.8	155	1.8	
32 – 36 weeks	1701	8.1	1043	11.8	
Birth Weight					
< 2500 g.	2031	9.7	669	7.6	
4500 g. or more	100	0.5	130	1.5	

Characteristics of Newborns

	Mexico		Nigeria	
	n	%	n	%
Stillbirths	176	0.8	623	7.0
Apgar score at 5 minutes				
0 – 3	68	0.3	170	2.1
Admission to Intensive Care Unit	1630	7.9	609	7.3
Newborn Status at Discharge				
Alive with Obstetric Trauma	254	1.2	48	0.6
Alive but Referred at Higher Level	128	0.6	39	0.5
Dead	113	0.6	66	0.8

Women Less than 20 years of age

Mexico

Province	# of Women less than 20 yrs	%
Distrito Federal	1298	16.2
Guanajuato	1206	17.0
Tamaulipas	1081	18.7
Total	3585	17.2

Nigeria

Province	# of Women less than 20 yrs	%
Abuja	108	3.0
Lagos	36	1.6
Katsina	709	22.5
Total	853	9.5

	Mexico		Nigeria	
	n	% < 20 y	n	% < 20 y
Marital Status				
Single	807	32.1	26	26.5
Not Single	2778	15.1	823	9.3
Years Attended School				
Less than 7	1157	17.6	670	20.6
7 or more	2428	17.0	150	2.7

	Mexico		Nigeria	
	n	% < 20 y	n	% < 20 y
Previous Surgery on Uterus and Cervix	50	5.6	2	0.6
No Surgery	3535	17.7	850	9.9
Caesarean Section at Last Pregnancy	195	19.3	846	10.0
No C-Section at Last Pregnancy	3390	5.9	3	0.7
Any Pathology Previous Pregnancy¹	97	10.6	270	12.7
No Pathology Previous Pregnancy	3488	17.5	583	8.6
Any Pathology During Current Pregnancy²	1127	18.4	95	7.3
No Pathology During Current Pregnancy	2457	14.9	758	9.9

¹ HIV positive status, chronic hypertension, cardiac/renal disease, chronic respiratory conditions, diabetes mellitus, malaria, sickle cell anaemia, severe anaemia.

² RPM, pregnancy induced hypertension, preclampsia, eclampsia, vaginal bleeding in 2nd half of pregnancy, pyelonephritis or urinary infection, any genital ulcer diseases, condyloma acuminata.

	Mexico		Nigeria	
	n	% < 20 y	n	% < 20 y
Primiparous	2676	37.4	697	28.8
Multiparous	908	6.6	153	2.4
Primigesta	2778	35.6	660	26.5
Multigesta	807	6.2	136	2.2
LBW Previous Pregnancy¹	89	8.1	7	2.6
Normal Weight in Previous Pregnancy¹	700	6.0	21	0.7
Outcome of Previous Pregnancy²				
Abortion / Miscarriage	153	8.9	57	5.7
Neonatal Death	15	12.4	2	1.1
Stillbirth	11	8.5	9	2.8
Alive at Discharge	728	6.2	84	1.7

¹ Computed in multiparous women

² Computed in multigesta women

	Maternal Age	Gestational Age at Birth				
			< 32 weeks	32 – 36 weeks	37 – 41 weeks	42 or more weeks
Mexico	< 20 years	n	72	295	3116	98
		%	2.0	8.2	87.0	2.7
	20 years or more	n	305	1406	15138	439
		%	1.8	8.1	87.6	2.5
Nigeria	< 20 years	n	22	130	685	6
		%	2.6	15.4	81.3	0.7
	20 years or more	n	133	911	6756	220
		%	1.7	11.4	84.2	2.7

	Mexico				Nigeria			
	< 20 years		20 years or more		< 20 years		20 years or more	
	n	%	n	%	n	%	n	%
Antibiotics Treatment	1888	52.7	10019	57.9	734	86.2	5944	73.6
3th/4th Degree Perineal Laceration	30	0.8	74	0.4	71	8.3	38	0.5
Hysterectomy	4	0.11	36	0.21	2	0.23	16	0.20
Admission to Intensive Care Unit	29	0.81	132	0.76	28	3.3	394	4.9
Maternal Death	0	0.00	2	0.01	7	0.82	67	0.83

	Maternal Age	Birth Weigth			
			< 2500 g.	2500 – 4499 g	4500 g or more
Mexico	< 20 years	n	384	3192	4
		%	10.7	89.2	0.1
	20 years or more	n	1647	15550	96
		%	9.5	89.9	0.6
Nigeria	< 20 years	n	123	690	5
		%	15.0	84.4	0.6
	20 years or more	n	545	7293	124
		%	6.9	91.6	1.6