

S1 Table - Characteristics of the participating hospitals and maternity wards before the COVID-19 pandemic

Abbreviation/Acronym	GUINEA		NIGERIA	TANZANIA	UGANDA	
	HNID	HRM	LUTH	MNH	KNRH	MSWNH
Hospital name	<i>Hôpital National Ignace Deen (Ignace Deen National Hospital)</i>	<i>Hôpital Regional de Mamou (Mamou Regional Hospital)</i>	<i>Lagos University Teaching Hospital</i>	<i>Muhimbili National Hospital</i>	<i>Kawempe National Referral Hospital</i>	<i>Mulago Specialised Women's and Neonatal Hospital</i>
Hospital						
Owner/Operating authority	Ministry of Health of Guinea	Ministry of Health of Guinea	Federal Government of Nigeria	Government of Tanzania	Government of Uganda	Government of Uganda
Year of establishment	1892	1908	1961	1910	1962 [^]	2019
Total number of beds	467	90	761	1500	170	425
Hospital designation	Tertiary teaching hospital	Regional hospital	Tertiary teaching hospital	Tertiary teaching hospital	Maternity/women's care and neonatal care	Maternity/women's care and neonatal care
Catchment population	Receives referrals from all of Guinea (approximately 12.7 million population)	Receives referrals from Mamou regions and also neighbouring towns (approximately 400,000)	Serves all communities in Lagos State and nearby states such as Ogun State; total of approximately 25 million	Dar es Salaam Region (especially Amana, Temeke, Mwananyamala Regional Referral Hospitals; Sinza, Mbagala Rangitatu, Vijibweni, Mnazimoja - Upgraded Health Centres). Population of 6 million; Coastal Region (Bagamoyo, Kisarawe, Tumbi-Kibaha, Mkuranga District Hospitals). Population 1.2 million; But can receive women referred from all over Tanzania. Population 60 million.	Kampala District, surrounding Wakiso, Mpigi and Mukono districts (5-6 million) but also referrals from all over the country (44 million)	Kampala District, surrounding Wakiso, Mpigi and Mukono districts (5-6 million) but also referrals from all over the country (44 million)
Financing	Mainly governmental funding, supported by funding from partner institutions	50% from central administration and 50% from district administration	Mix of user fees and federal government subsidies	Government financing of staff salaries; running costs mostly come from user fee and health insurance reimbursements	Mainly central government and user fees, some performance-based financing	Predominantly user fees (98%) and central government for patients referred from KNRH who are unable to pay
Private services offered	No	No	Yes	Yes	Yes	Yes (charges for all patients, and also Silver and Gold private services)
Blood bank	Not available (have emergency blood kits; blood obtained from blood bank external to hospital)	Not available (have emergency blood kits; blood obtained from blood bank external to hospital)	Yes	Yes	Yes	Yes
Maternity services and infrastructure						
Routine outpatient ANC	Not provided (only consultations for complicated cases)	Yes	Yes	Yes	Yes	Yes
Childbirth care	Yes	Yes	Yes	Yes	Yes	Yes
Routine outpatient PNC	No	No	Yes	Yes	Yes	Yes
Caesarean sections	Yes	Yes	Yes	Yes	Yes	Yes

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Dedicated caesarean section theatre	Yes	Yes	Yes	Yes	Yes (There is one theatre with 2 theatre beds for emergency obstetrics; 98% caesarean sections and other emergencies such as surgical management of post-partum haemorrhage, there is other theatre with 3 beds that is used for elective caesarean sections and other ob/gyn operations)	Yes (There are two theatre beds for emergency obstetrics; 98% caesarean sections and other emergencies such as surgical management of post-partum haemorrhage, there are other theatres that are for all other ob/gyn operations)
HDU or ICU for women	No (referred to HNID intensive care unit)	No (referred to HNID)	Yes (hospital ICU admits obstetric patients)	Yes (both) + pre-eclampsia room	Yes (HDU with 7 beds), those who need ICU are referred	Yes (ICU), Yes (HDU with 11 beds)
NICU	No	No	Yes (2 NICUs, total of 24 functional incubators)	Yes	Yes (28 incubators of which 22 functioning)	Yes (22 incubators in total)
Dedicated phone line in maternity ward	No	No	No	Yes,	Yes, dedicated mobile but sometimes there is no airtime	Yes, dedicated mobile
Private maternity services offered	No	No	Yes	Yes	Yes	Yes
Maternity ward						
Number of outpatient ANC visits (2019)	--	1,148	5,860	23,048	35,169	5,216
Number of deliveries (2019)	5,927	3,468	933	7,385	21,778	1,163
Number of caesarean sections (2019)	2,835	1,093	564	4,018	7,614	673
Number of beds in labour/delivery room(s)	4 beds for first stage of labour and 4 beds for second stage of labour	2 beds for first stage of labour and 4 beds for second stage of labour	9	4 rooms with 18 beds in total	36 (32 public, 4 private)	50 rooms (of which Gold: 4)
How often does the number of women exceed the number of delivery beds?	A few times per year	About once per week	About once per month	Very rarely	Everyday	Never
Staff: Medical doctors* (total) Of which: Consultant obstetricians/gynaecologists	35 12	16 2	103 14	154 25	176 25	161 41
Staff: Midwives/nurse-midwives (including enrolled)	16	14	16	126	203	249
Shift composition: Weekday daytime	Midwives 2 Professor (on call) 1 Assistant head of clinic 2 Residents 3-4 Interns 2 Anaesthetists 1 Cleaners 3	Midwives 4 Matron 1 Medical doctor 1 Intern 2	2 midwives, 3 senior registrars, 2 registrars and 2 – 4 intern medical officers, health assistant – 1, cleaners – 2	6 Midwives, 1 Obstetrician, 6 Theatre staff, 4 Anaesthetists, 2 Resident doctors, 4 Interns doctors	Midwives (in labour ward) 7 Obstetrician 1 Theatre staff 4 Anaesthetists 2 Neonatologists/Paediatricians 2 Residents 4 Intern medical officer 3 Cleaners at least 10 for (labour ward, theatre,	Midwives (in labour ward) 10 Obstetrician 2 Theatre staff 4 Anaesthetists 2 Neonatologists/Paediatricians 2 Residents 4 Intern medical officer 0 Cleaners at least 10 for (labour ward, theatre, immediate post op and post-natal ward)

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					immediate post op and post-natal ward)	
Shift composition: Weekend night time	Midwives 2 Professor (on call) 1 Assistant head of clinic 2 Residents 3-4 Interns 2 Anaesthetists 1 Cleaners 3	Midwives 4 Matron 1 Medical doctor 1 Intern 2	2 midwives, 3 senior registrars, 2 registrars and 2 – 4 intern medical officers, health assistant – 1, cleaners – 2	6 Midwives, 1 Obstetrician, 6 Theatre staff, 4 Anaesthetists, 2 Resident doctors, 4 Intern doctors,	Midwives (in labour ward) 6 Obstetrician 1 Theatre staff 3 Anaesthetists 2 Neonatologists/Paediatricians - available for consult Residents 4 Intern medical officer 2 Cleaners at least 10 for (labour ward, theatre, immediate post op and post-natal ward)	Midwives (in labour ward) 8 Obstetrician 1 Theatre staff 3 Anaesthetists 1 Neonatologists/Paediatricians - available for consult Residents 4 Intern medical officer 0 Cleaners at least 10 for (labour ward, theatre, immediate post op and post-natal ward)
LOS after uncomplicated vaginal birth as per usual practice	6 hours	6 hours	Day 2 (24-48 hours)	24 hours	12-24 hours	12-24 hours
LOS (minimum) after caesarean section as per usual practice	78 hours	6 days (some exceptions because of the lack of space)	Day 3 - 5	Minimum 48 hours	72 hours	72 hours
Companions during labour and childbirth allowed?	No (visitors allowed in the postnatal ward)	Yes (Family members, neighbours, healthcare workers)	No (visitors allowed in postnatal ward)	No. Companions are not allowed in the labour ward, but visitors are allowed in postnatal ward.	No (only starting with immediate postnatal period)	Yes, at every stage
Main source of incoming referrals	Receive referrals from a large number of facilities. CMC is the most frequent referring entity.	18 Health centres (5 urban health centers and 13 rural health centers)	One Federal Medical Centre, 26 General Hospitals (secondary health facility), 256 public health centres (primary), 2,886 private hospitals/specialist clinics/laboratories/diagnostic centres, and 160 medical centres, all within Lagos State. Occasional referrals from Lagos State University Teaching Hospital (LASUTH) – the second teaching hospital within Lagos State.	Dar es Salaam Region public hospitals including Amana, Temeke, Mwananyamala Regional Referral Hospitals; Sinza, Mbagala Rangitatu, Vijibweni, Mnazi mmoja hospitals; Coastal Region hospitals including Bagamoyo, Kisarawe, Tumbi-Kibaha, Mkuranga District Hospitals;	Main source of referrals are health centre IVs and IIIs in Kampala and surrounding districts	Kawempe National referral hospital Private facilities around Kampala and surrounding districts

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Fee for routine ANC	Not offered (ANC for complicated cases is free of charge)	Free of charge	NGN 13,250 registration fee covering all routine ANC	Exempted according to policy for all referred attendees from public hospitals. Self-referrals and others granted user-fee exemptions with Hospital Social Welfare Department. National Health Insurance Fund and other health insurance accepted, private patients billed based on services provided.	No charge but women might be asked to contribute financially or purchase supplies	ANC visit is 14 USDs (50,000UGSHs) in Silver and 17USDs (62,500UGSHs) in Gold. - Package that includes consultation and all investigations throughout antenatal is about 165 USDs (600,000UGSHs) in Gold and about 85 USDs (300,000UGSHs) in Silver]
Fee for vaginal delivery	Free of charge	Free of charge	Public charge: N13,250 for booked patients and N26,500 for unbooked patients (referred in labour) for delivery alone, all parturients are billed additional N19,250 for vaginal delivery pack. Admission fee is charged separately. Beyond 3 days of inpatient stay, N13,250 is charged per week of stay. Private charge: Initial deposit in the private ward is N250,000 – N350,000 and bill is calculated after discharge.	Payment for public referred patients is done in cost sharing basis - 125,000 TZS, for private patients its 250,000 TZS. Women expected to bring a delivery kit. User fee exemptions granted with Hospital Social Welfare Department which assesses the financial status of the woman. National Health Insurance Fund and other health insurance accepted which cover delivery cost.	No charge but women might be asked to contribute financially or purchase supplies. Women expected to come with a delivery kit.	about 220 USDs(800,000 UGSHs) for delivery and hospital stay in Gold and corresponding fee in silver is 140USDs (500,000UGSHs). Referred women from Public facility pay a proportion of fee or whole fee waived
Fee for caesarean section	Free of charge	Free of charge	Public charge: N35,775 for surgery alone, while anaesthesia is billed separately – N53,000 for spinal, N66,250 for general anaesthesia, N86,125 for epidural and N88,775 for combined spinal epidural. The cost of anaesthesia covers the caesarean section pack. The cost of drugs and service charges, and admission fee where applicable are then added to these. Private charge: Initial deposit in the private ward is N350,000 and bill is calculated after discharge.	Payment for public referred patients is done in cost sharing basis by policy - 250,000 TZS, for private patients its 500,000 TZS. User fee exemptions granted with Hospital Social Welfare Department which assess the financial status of the woman to see if she needs to be exempted from fully or partially from the cost sharing amount. National Health Insurance Fund and other health insurance accepted which cover the cost for delivery.	Public: No charge but women might be asked to contribute financially or purchase supplies. Private: (PUT IN LOCAL CURRENCY?) 685USD (2,500,000UGSHs).	total bill 356USDs for silver (1,300,000UGX) after caesarean section and about USDs for 685USD (2,500,000UGSHs). Gold

Abbreviations: Antenatal care (ANC); Length of Stay (LoS); Postnatal care (PNC); High-Dependency Unit (HDU - defined as a clinical area with an enhanced nursing ratio of at least 1 staff per 4 patients where fluid balance, drug administration and continuous vital signs monitoring can be done); Intensive Care Unit (ICU - defined as a clinical area where ventilatory support can be provided)

^In 2016 the maternity department of New Mulago Hospital moved to Kawempe due to renovations in Mulago Hospital

*Medical doctors include cadres such as: anaesthetists, paediatricians, neonatologists, consultants, senior registrars, registrars, medical officers, residents, intern medical officers, fellows, clinical officers, specialist in training

Exchange rates to 1 USD (source: xe.com on April 29, 2021): **Guinean Franc** (GNF) = 9,918.6; **Nigerian Naira** (NGN) = 380.5; **Tanzania Shilling** (TZS) = 2,318.9; **Ugandan Shilling** (UGX) = 3,598.7