Availability of Maternal and Newborn Drugs and Supplies in Health Facilities in Kano, Nigeria January-March 2013

Evidence for Action Research Report

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List of acronyms and abbreviations

BEmOC	Basic Emergency Obstetric Care
BGH	Bichi General Hospital

CEmOC	Comprehensive Emergency Obstetric Care
DMU	Drug Management Unit
DRF	Drug Revolving Fund
E4A	Evidence for Action
HMB	Hospital Management Board
IPT (SP)	Intermittent Preventive Therapy (Sulphadoxine Prymethamine)
LGA	Local Governing Authorities
KADMCSA	Kano State Drugs and Medical Consumables and Supply Agency
MAWSH	Muhammad Abdullahi Wase Specialist Hospital
MCH	Maternal and Child Health
MMSH	Murtala Muhammad Specialist Hospital
MNCH	Maternal, Newborn, and Child Health
MNH	Maternal and Newborn Health
MSS	Midwifery Service Scheme
NBMH	Nuhu Bammali Maternity Hospital
RGH	Rano General Hospital
SMJGH	Sheikh Muhammad Jidda Genera Hospital
SMOH	Kano State's Ministry of Health
SMSSH	Sir Muhammad Sunusi Specialist Hospital
WGH	Wudil General Hospital
WSGGH	Waziri Shehu Gidado General Hospital

Recommended Citation:

Evidence for Action. (2015). *E4A Research Report: Availability of Maternal and Newborn Drugs and Supplies in Health Facilities in Kano, Nigeria, January – March 2013*. London & Abuja: Evidence for Action.

Summary of Key Findings

- This study aimed to evaluate the availability of lifesaving commodities to treat the major causes of maternal and newborn mortality including magnesium sulphate for eclampsia and oxytocin for haemorrhage, injectable antibiotics for newborn sepsis, resuscitation devises for newborn asphyxia, chlorhexidine for newborn cord care and key family planning commodities.

- Almost all facilities assessed did not have sufficient quantities of lifesaving drugs and supplies available. 78% of health facilities assessed did not have the required amount of magnesium sulphate, two-thirds did not have sufficient supplies of chlorhexidine and at least two facilities out of nine reported having zero neonatal resuscitation supplies or devices available at the time of data collection.

- Five facilities experienced stock-outs of lifesaving drugs during the month prior to data collection, often reported during the last week of the month before replenishment of supplies. Two facilities identified that a stock-out had occurred at some point during the last six months. Only one facility reported no stock outs over the last 6 months, although this facility did not participate in the free MNCH drugs scheme. One facility did not have data on the level of stock of essential MNCH drugs. One third of facilities reported more frequent stock outs of the free MNCH drugs than other drugs, due to higher utilisation and demand.

- The majority of facilities (67%) reported that drugs were supplied by the drug management agency to pharmacies in the correct dosage, and that this was not a challenge to delivering lifesaving commodities. In addition, almost all facilities indicated that receiving out-of-date drugs or the availability of skilled staff was not a challenge, as high utilisation and turnover of commodities is experienced.

- The Kano State Drugs and Medical Consumables and Supply Agency (KADMCSA) is the primary source of drugs and medical supplies to hospitals and primary health care facilities, to improve quality and price of commodities. Procurement is made by KADMCSA directly from pharmaceutical companies. Facilities procure supplies from the state supply agency through the Drug Revolving Fund program, a process where an initial purchased

stock of commodities are sold and continuously replenished, ensuring quality, effective, affordable and available supplies.

- Challenges with the supply chain identified by the majority of facilities (7 out 9) included delays experienced in receiving supplies after making requests, although one facility did not have data available. Five out of nine facilities identified funding as a constraint to supply and ordering. Bureaucracy, delays in sending requests for supplies to the drug management agency, lack of available human resources or poor availability of a doctor, were issues each reported by one facility.

- Stock-outs and insufficient quantities of lifesaving commodities in health facilities threaten the ability to deliver quality basic and comprehensive emergency obstetric care to women in Kano State.

Introduction & Background

The Presidents of Nigeria and Norway are co-chairs for the global UN Commission on Life-Saving Commodities for Women and Children. This initiative aims to improve access to and use of essential medicines, medical devices and health supplies which address key causes of death during pregnancy and childbirth. Nigeria has committed to saving the lives of one million women and children through increased access to quality cost-effective health services and commodities by 2015. Throughout the country, shortages of essential medication are prevalent. Studies in Kano note that lack of medication is a key reason why individuals refuse to access health services[*]. In Kano, eclampsia is a leading cause of maternal death and is reported to contribute to 46.3% of maternal deaths in the state[1]. The Kano State government provides free maternal and child health services (see Kano facilities in Annex 1), covering drugs during antenatal and delivery and post-partum. However, the free services have not been incorporated into law and there are challenges in financing this initiative.

In line with the broader goal of safe facilities for all mothers and their newborns, Evidence for Action (E4A) seeks to improve quality of care by ensuring critical resources are in place, appropriate to the level of facility. A strategic focus has been placed on certain components within the quality of care cycle, which will track progress in key MNH areas related to human resources, supplies and equipment. A key goal of E4A is to ensure facilities are fully-stocked with essential medication to treat the major causes of maternal and newborn mortality including magnesium sulphate for eclampsia and oxytocin for haemorrhage, injectable antibiotics for newborn sepsis, resuscitation devises for newborn asphyxia, chlorhexidine for newborn cord care and key family planning commodities.

This study aimed to investigate resources in health facilities, including the availability of drugs and drug stock outs. Specific research areas included the availability of maternal, newborn and child health (MNCH) commodities at facility level; procurement, distribution and financing process for MNCH commodities at facility and state levels; and constraints beyond and influencing stock-outs.

[*] Internal communication with Partnership for Transforming Health Systems in Nigeria (PATHS), 2011.

Methodology

Health facilities assessed on the availability of drugs were selected by listing all secondary health facilities in Kano State (as obtained from Hospital Management Board). Out of the 34 health facilities, these were categorized into two groups based on those providing maternity services (29 facilities) and those that do not (5 facilities). A simple random sampling technique by balloting was used to select nine health facilities out of 29 facilities providing maternity services. Five facilities selected were urban, one semi-urban and three facilities were based in rural settings. This represents a sample size of larger than 25% of health facilities in the State providing maternity care.

This research involved qualitative interviews based on a topic guide developed by E4A, and were conducted in January-April 2013. Selection of respondents was due to their position in the health facility and their role in distributing drugs. Interviews were conducted with the facilities' head of pharmacy department and the matrons for the maternity wards in all selected facilities. At the State level, a key informant interview was also conducted with the Director of the Kano State Drug Management Agency to inform the state level financing and procurement process (see Table 1).

Table 1: Description of Respondents

Government Level	Individuals Interviewed, Position & Sex
Facility Level	Nine (9) matrons for maternity wards in all facilities; all women Nine (9) heads of pharmacy departments; 8 males, 1 female
State Level	Director of the Kano State Drug Management Agency

The findings in this paper have been presented in a way that simply highlights the key findings from the study, and therefore does not separate the individual voices of respondents or sources included in the study. This study was intended as operational research to provide a snapshot of drug procurement and availability in Kano State and to inform the direction of the E4A programme. Although not all facilities in the state were assessed, the sampling technique was

robust and ensured adequate geographic spread of the facilities, thus improving generalisability of the study findings.

Findings

The procurement and financing process overall, at state level and specific facility experiences are outlined. The availability of drugs and stock outs, procurement process and challenges are outlined by each facility.

Overall Financing, Procurement and Distribution of Drugs

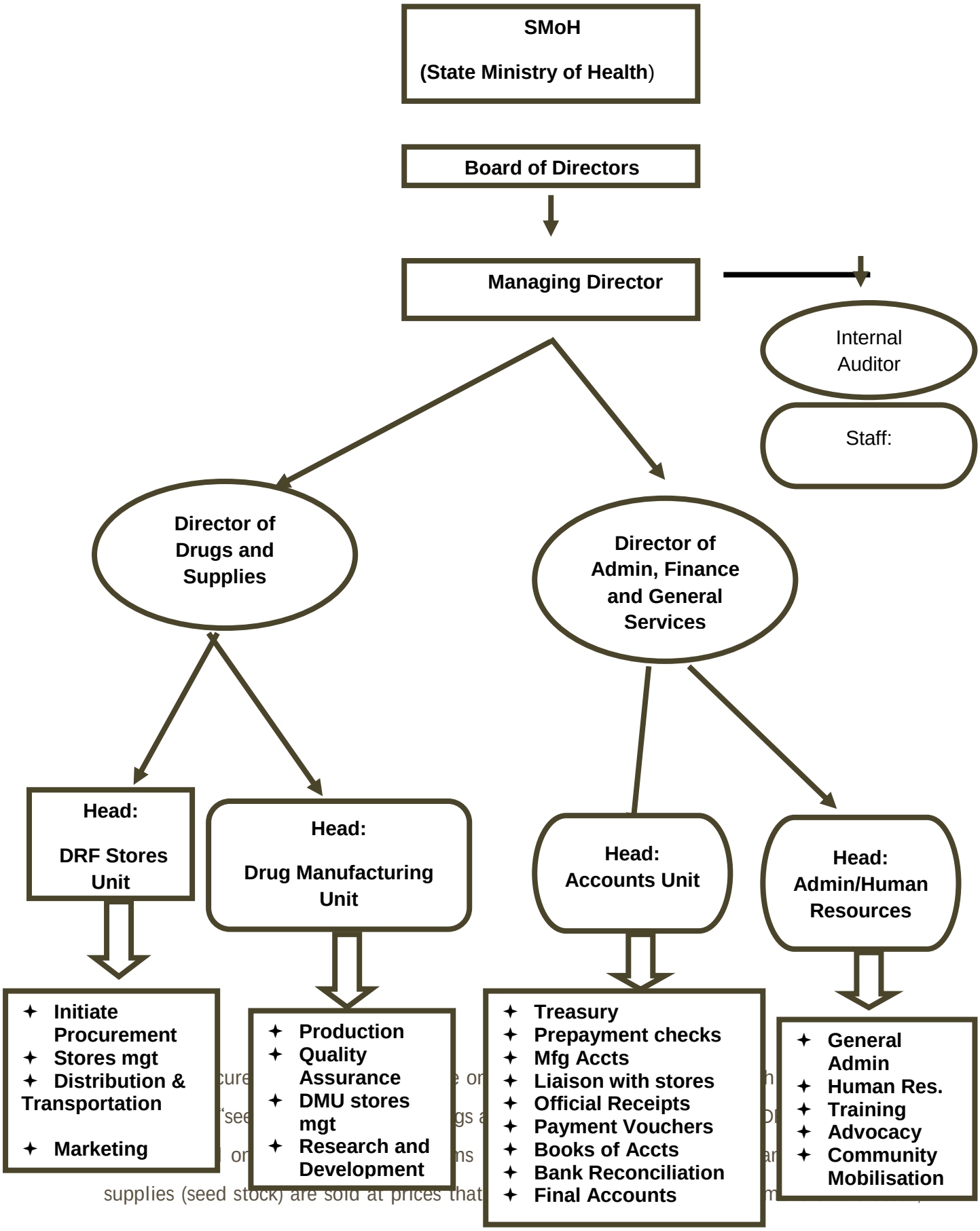
The Kano State Drugs and Medical Consumables and Supply Agency (KADMCSA) was established to serve as an assured source of supply of quality drugs and medical consumables to all hospitals and PHC facilities in the state whether public, or private as well as pharmacies, through procurement by the individual facilities[*]. It is expected that this will reduce the incidence of counterfeit drugs and the possibility of their circulation into health facilities. KADMCSA was empowered with necessary equipment and personnel to conduct quality assurance tests on all Drug Revolving Fund (DRF) items and raw materials procured before selling them or using them for production.

With KADMCSA operating as a partially autonomous entity under the State Ministry of Health and sourcing its products directly from the companies, the drugs and medical consumables are expected to be affordable and highly competitive when compared with retail prices obtainable in the open market. The reason for this is that KADMCSA benefit from economies of scale when compared to the open market. It is currently adding only 6% mark-up to provide for inflation and legitimate expenses, although this percentage may change from time to time. The mark-up percentage may be adjusted downwards in the near future when volume of sales increases. Again the salaries of the staff are being paid by government as well as some level of other overheads. This is not added to the cost of drugs

The KADMCSA oversees the day to day running of the Agency while KADMCSA Board provides strategic direction for the management. The KADMCSA solely procures stores, manages and sells all required DRF items in the state. It also manufactures some syrup and suspension according to the installed capacities at the Drugs Manufacturing Unit (DMU) of the Agency. The KADMCSA is accountable to the State Ministry of Health (SMOH) through the board. The SMOH provides the overall policy framework for drugs circulation in the state while the KADMCSA executes the policy. The schematic diagram below provides a flowchart representation of the descriptions above.

[*]The original name was the Drug Medical Agency, DMA, however the name changed to Drug Medical Consumable and Supply Agency (DMCSA) when the agency was registered. The Kano State-specific name is KADMCSA.

Figure 1: Flowchart of KADMCSA showing lines/flow of authority



supplies (seed stock) are sold at prices that

whilst ensuring that the drugs remain affordable to those who need them. The aim of the DRF scheme is to provide the health facilities and by extension, the entire communities in which they operate with drugs that are of high quality, effective, affordable, continuously available and accessible. There is no separate budget line for commodities, but all facilities have separate accounts for DRF that is independent of the Kano state Ministry of Health.

At facility levels patients pay for drugs and other medical consumables as well as services provided to them in the form of user fees. The hospitals providing free MNCH services exempt all children under-five and pregnant women from paying for both drugs and other medical consumables (see Annex 1). All fees collected at facilities for the purchase of drugs are deposited in the facilities DRF account to be used for the purchase of drugs and other medical consumables only.

State-level procurement

All drug procurement in Kano state is made by the KADMCSA, directly from pharmaceutical companies. Drug representatives of these companies supply to the store department of the agency. KADMCSA does procurement quarterly and occasionally in emergency situations, such as during outbreak of diseases or any disaster that requires utilisation of drugs or commodities in large quantities, to replenish stocks that are getting exhausted. Procurement plans are produced at both state and facility levels. The state level plan is for the whole state, while the facility plans are specific to the consumptions patterns and needs of the facilities.

Lack of funding is an issue for KADMCSA. Ideally, procurement should be based on consumption or utilisation data as supplied from facilities. However, in practice the amount of drugs and medical consumables procured is based on amount of money available at any time, rather than the consumption patterns of either the individual hospital or the state. No funds are allocated for specific drugs. The Essential Medicines List guides procurement, supply and use of medicines agreed upon to be used at the state level according to the national guidelines on essential drugs list. It also helps to reduce drugs wastage and improve rational drugs use.

Table 2: Essential Medicines in Primary, Secondary & Tertiary Facilities

Primary Health Facilities	Secondary and Tertiary Health Facilities
• Cotrimozole suspension	• Cotrimozole suspension

• Metronidazole suspension • Oral rehydration salts • Ampicilin cloxacillin caps • Ascorbic acid tab	• Metronidazole suspension, ascorbic acid tab • Ampicillin Cloxacilin Caps • Other Antibiotics • Parenteral antibiotics • Iron supplement • Oral rehydration salts • Sulfadaxine/pyrimethamine (SP) • Intravenous fluids • Oxytocin and ergometrine • Magnesium sulphate

As a matter of both policy and practice, some MNCH drugs such as magnesium sulphate are only provided to secondary and tertiary health facilities, as qualified staff such as midwives and doctors are expected to administer this drug.

Stock Management & Stock Outs

KADMCSA ensures that proper stock management processes are in place through a paper-based system using tally cards indicating the maximum and minimum stock and re-order levels and lead time to ensure availability of stock at all times. There is no electronic system of management both at the KADMCSA and the facilities level.

The main reasons cited for frequent drugs stock outs:

1. Inadequate funding at the health facilities
2. Wrong forecasting and quantification
3. Logistic of transportation of drugs
4. Poor documentation (i.e. movement of stock)

Storage and Distribution

The Kano State Drugs and Medical Consumables Supply Agency (KADMCSA) is responsible for state level procurement, storage and distribution of all products to the health facilities.

Storage

Drugs are stored at KADMCSA, in five warehouses from where they are distributed to the facilities across the state. Presently there is only one drug store in Kano state with five big warehouses and very soon there will be additional four zonal stores across the state. Drugs are stored at KADMCSA stores with adequate space and ideal temperature and humidity are maintained. Leakages are prevented as all supplies are inspected by the state inspection committee, an independent body and before distribution, the store officers must crosscheck all supplies.

Distribution

Drugs are distributed to health facilities on demand by the facilities (the "pull" system). The distribution is on a daily basis as the store is currently serving over 380 facilities. Each facility makes their purchase individually based on their drug utilisation. However, some facilities do not follow their minimum stock and re-order levels, thus leading to stock out at facilities. Facilities make personal arrangement to transport their drugs and sometimes they make use of the agency vehicles, however neither method of transport maintains the cold chain. At the time of data collection, the security situation in Kano State was relatively peaceful and did not disrupt drug distribution in Kano state.

Facility-based findings

The nine facilities selected to for in-depth investigation of the availability of MNCH commodities in Kano State, included:

1. Murtala Mohammad Specialist Hospital
2. Muhammad Abdullahi Wase Specialist Hospital
3. Bichi General Hospital
4. Wudil General Hospital
5. Nuhu Bamalli Maternity Hospital
6. Sheikh Muhammad Jidda General Hospital
7. Waziri Gidado General Hospital
8. Sir Muhammad Sunusi General Hopsital
9. Rano General Hospital

1) **Murtala Muhammad Specialist Hospital (MMSH):** A 1,110 bed capacity specialist hospital providing comprehensive emergency obstetric care (CEmOC), located in the State capital, in the ancient city of Kano (municipal LGA).

Table 3: Murtala Muhammad Specialist Hospital MNCH drug procurement (January to March 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		300	1000	300	1000	300	1000
Misoprostol		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Oxytocin		200	400	200	400	200	400
Chlorhexidine		N/A	N/A	N/A	N/A	N/A	N/A
Surgical Gloves		50	1000	50	1000	50	1000
Injectable Antibiotics	Ampiclox	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons
	Flagyl	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons
	Gentamycin	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons	2 cartons
Haematinics		N/A† ANC	N/A†	N/A†	N/A†	N/A†	N/A†
IPT (SP)		N/A†	N/A†	N/A†	N/A†	N/A†	N/A†
Neonatal Resuscitation Devices: Sucking Machine Ambu bag		 1 1	 2 2	 1 1	 2 2	 1 1	 2 2
IVFs		10 cartons	1000 cartons	10 cartons	1000 cartons	10 cartons	1000 cartons

Table 3 demonstrates the availability of some MNCH drugs in Murtala Muhammad Specialist Hospital for the first quarter of 2013 captured in both the quantity made available by the Hospital Management Board (HMB) and the required amount the facility needs to be sufficient. Although, during the course of the research at MMSH, informants outlined that haematinics and Intermittent Preventive Therapy (IPT) using sulphadoxine prymethamine (SP) were not given to the maternity unit, they are only given to the ANC clinic. The exact quantities of drugs were not available.

* *Oxytocin is provided instead of Misoprostol at Murtala Muhammad Specialist Hospital. Misoprostol is provided at other centres*

† *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

Drug stock-outs, dosage, expiry and sale of drugs:

- Usually there were no drugs stock out in the first 1-2 weeks of every month, but there was a stock out of free drugs in the last week of the month. This is primarily due to logistic challenges regarding the supply at the beginning of every month and prolonged drug stock out is experienced in the last quarter of the year especially for maternal health drugs. Usually when drugs stock outs occur, orders are placed.
- Free drugs ran out more often than other drugs because of the level of its utilisation and demand is higher. However the stock out do not last long, usually between one to two weeks
- Drugs are always available in the right dosage because there are qualified and experienced pharmacists in the pharmacy department.
- MMSH has never had any drugs that expire soon after delivery. This is because there is high turnover of patients and thus consumption is high.
- The free MNCH drugs have never been sold to any patient or client. All women interviewed have been attending the hospital in their catchment area. The "Free MNCH" drugs are given to patients free of charge at the Hospital. Such drugs are dispensed "free" to children under the age of five or to pregnant women and the accumulated bills are reimbursed to the health facility at the end of the month by the SMOH through the free MCH Committee. The funds are from the funds that the state government is making available for such purpose.
- Other factors contributing to drug stock outs: MMSH has had challenges with the supply chain, as sometimes the supply is delayed by five to ten days after making a request, as the hospital uses a 'pull method' after reaching a minimum-stock level. However, it has never experienced any challenges from lack of skill to administer drugs. The hospital is a training centre for cadre of health workers. The DRF acts as a pool through which everybody draws drug requirements in the facility, both for sale and for "free" and there are more people for the "free" services (under-five and pregnant mothers), it was reported that there will be drug stock outs if free drugs financial claims are not reimbursed in a timely manner.

2) **Muhammad Abdullahi Wase Specialist Hospital (MAWSH):** A 226-bed capacity CEmOC, located in Nassarawa (LGA Kano State)

Table 4: Muhammad Abdullahi Wase Specialist Hospital MNCH drug procurement (January-February 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		5 cartons	10 cartons	5 cartons	10 cartons	5 cartons	10 cartons
Misoprostol		None	Buy on request	None	Buy on request	None	Buy on request
Oxytocin		100	150	100	150	100	150
Chlorhexidine		None	20	None	20	None	20
Surgical gloves		Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Injectable Antibiotics	Ampiclox	None	Buy on request	None	Buy on request	None	Buy on request
	Flagyl	None	Buy on request	None	Buy on request	None	Buy on request
	Gentamycin	None	Buy on request	None	Buy on request	None	Buy on request
Haematinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
IPT (SP)		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Neonatal Resuscitation Devices		2 cartons	5 cartons	2 cartons	5 cartons	2 cartons	5 cartons
Weighing Scale		1	2	1	2	1	2
Suction machine		1	2	1	2	1	2
IVFs		5 cartons	5 cartons	5 cartons	5 cartons	5 cartons	5 cartons

Table 4 shows the availability of some MNCH drugs in Muhammad Abdullahi Wase Specialist Hospital for the first quarter of 2013, captured in both the quantity made available by the HMB and the amount required by the facility to provide services.

Drug stock-outs, dosage, expiry and sale of drugs:

- No drugs stock outs were experienced during the last month. Although, during the course of the research, we were told that Haematinics and IPT (SP) were not given to

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

the maternity unit they only give those drugs at the ANC clinic. The actual quantity was unavailable.

- There was no drugs stock out throughout the period, usually when drugs stock out do occur, orders are placed immediately. But there was no available information on whether or not there was any stock out of free drugs in the last one month, because the Hospital does not provide free MNCH drugs.
- Drugs are always available in the right dosage because there are pharmacists in the pharmacy unit of the hospital and KADMCSA itself procures its drugs through carefully selected prequalified pharmaceuticals companies.
- MAWSH has never had challenges with drugs that expire soon after delivery.
- There are no "free MNCH" drugs supplied/stored at MAWSH. It is also from the DRF that drugs are sold to those that are not eligible for exemption i.e. children above five years and to other women that are not pregnant and to all other patients. The hospital does not provide free drugs and services, thus all patients eligible for exemption are referred to another hospital.
- Other factors contributing to drug stock outs: MAWSH has never had challenges with the supply chain and it is not faced with the challenge of lack of skills.

3) **Sir Muhammad Sunusi Specialist Hospital:** A 170-bed capacity CEmOC, located in Nassarawa, LGA Kano State

Table 5: Sir Muhammad Sunusi Special Hospital MNCH drug procurement (January to March 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		10 packets	30 packets	10 packets	30 packets	10 packets	30 packets
Misoprostol		None	100 packets	None	100 packets	None	100 packets
Oxytocin		10 packets	50 packets	10 packets	50 packets	10 packets	50 packets
Chlorhexidine		None	None	None	None	None	None
Surgical Gloves		Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Injectable	Ampiclox	20 ampules	50 ampules	20 ampules	50 ampules	20 ampules	50 ampules

Antibiotics	Flagyl	20 ampules	50 ampules	20 ampules	50 ampules	20 ampules	50 ampules
	Gentamycin	20 ampules	50 ampules	20 ampules	50 ampules	20 ampules	50 ampules
Heamatinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
IPT (SP)		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Neonatal Resuscitation Devices Ambu Bag		1	2	1	2	1	2
Suction Machine		1	2	1	2	1	2
		None	2	None	2	None	2
Incubator		None	2	None	2	None	2
IVFs		9 cartons	20 cartons	9 cartons	20 cartons	9 cartons	20 cartons

Table 5 shows the availability of some MNCH drugs in Sir Muhammad Sanusi Specialist Hospital for the first quarter of 2013 captured in both the quantity made available by the HMB and the required amount the facility needs to provide sufficient services.

Drug stock-outs, dosage, expiry and sale of drugs:

- There was a drug stock out at a certain point during the last one month and at a certain point in the last six months. The stock-outs were mainly due to logistic problems such as transportation. Although no stock out of free drugs was recorded during the last one month, the matron in charge of maternity unit however mentioned that there is need for a suction machine, extra ambu bag, incubator and a paediatric section for the hospital. She also mentioned lack of manpower especially the availability of doctors as a major challenge.
- There was drug stock out at a certain point during the last one month and at a certain point in the last six months. During this time patients have to source their drugs from private pharmacy shops outside the hospital
- There was no stock out of free drugs recorded during the last one month.
- Drugs are always available in the right dosage because there is pharmacist in the pharmacy unit, who send requisitions of the drugs that are needed after reaching the minimum stock level. The stock out is usually due to logistic of supply from the Drug Management Agency (KADMCSA).

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit*

- There were no drugs that expire soon after delivery because KADMCSA always buys drugs with long shelf life from the various companies.
- Health workers described that the free MNCH drugs are kept separately and closely monitored in the units (Pharmacy, Labour Room, ANC clinic etc). Therefore, drugs are not sold to client.
- The major factor responsible for the stock out is the logistics of supply chain, as delays are experienced in the supply of drugs to the hospital from the KADMCSA following the request made by the hospital.

4) **Sheikh Muhammad Jidda General Hospital (SMJGH)**: A 120-bed capacity CEmOC, located in Fagge LGA Kano State

Table 6: Sheika Muhammad Jidda General Hospital MNCH drug procurement (January to March 2014)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		50 packets	100 packets	50 packets	100 packets	50 packets	100 packets
Misoprostol		None	10 packets	None	10 packets	None	10 packets
Oxytocin		300	500	300	500	300	500
Chlorhexidine		6 packets	10 packets	6 packets	10 packets	6 packets	10 packets
Surgical Gloves		1 carton	2 cartons	1 carton	2 cartons	1 carton	2 cartons
Injectable Antibiotics	Ampiclox	1 packet	3 packets	1 packet	3 packets	1 packet	3 packets
	Flagyl	1 packet	3 packets	1 packet	3 packets	1 packet	3 packets
	Gentamycin	1 packet	3 packets	1 packet	3 packets	1 packet	3 packets
Heamatinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
IPT (SP)		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Neonatal resuscitation devices		30	30	30	30	30	30
IVFs		1 carton	3 cartons	1 carton	3 cartons	1 carton	3 cartons

Table 6 gives the availability of some MNCH drugs in Sheikh Muhammad Jidda General Hospital for the first quarter of 2013 captured in both the quantity made available by the HMB and the required amount the facility needs to be sufficient.

Drug stock-outs, dosage, expiry and sale of drugs:

- There was a drug stock out at a certain point during the last month and at a certain point in the last six months. However, stock outs during the last month were primarily for drugs not supplied free for MNCH. The hospitals in the state uses a full system of drug management, which means hospital are only provided with drugs and

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

consumables requested. However, sometimes the Pharmacist does not send request on time (i.e. when the minimum stock level has been reached). There is also usually delay in the supply of the drugs from the KADMCSA after requesting both because of bureaucracy and transportation. Together these factors led to stock-outs of drugs in hospitals.

- There was drug stock out at a certain point during the last one month and at a certain point in the last six months. However this involves other drugs and less of the free MNCH drugs
- There was stock out of free drugs recorded during the last one month.
- Drugs are always available in the right dosage.
- SMJGH has never had any drugs that expire soon after delivery. This is because there is high turnover of patients and thus consumption is high.
- "Free MNCH" drugs have never been sold to clients because the "free MNCH" drugs are part of the general DRF drug of the facility. Such drugs are dispensed "free" of charge.
- Several challenges with the supply chain have been experienced, in terms of logistic from the KADMCSA, i.e. bureaucracy and delayed transportation of drugs to health facilities. No challenges with skills administering drugs were identified.

5) **Nuhu Bamalli Maternity Hospital:** A 55-bed capacity CEmOC, located in Kano State

Table 7: Nuhu Bamalli Maternity Hospital MNCH drug procurement (January to March 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		70	200	70	200	70	200
Misoprostol[1]		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Oxytocin		50	500	50	500	50	500
Chlorhexidine		2 litres	24 litres	2 litres	24 litres	2 litres	24 litres
Surgical Gloves		2 cartons	4 cartons	2 cartons	4 cartons	2 cartons	4 cartons
Injectable Antibiotics	Ampiclox	20 MG	40 MG	20 MG	40 MG	20 MG	40 MG
	Flagyl	20 MG	40 MG	20 MG	40 MG	20 MG	40 MG

* *Oxytocin is provided instead of Misoprostol at Nuhu Bamalli Maternity Hospital. Misoprostol is provided at other centres.*

	Gentamycin	20 MG	40 MG	20 MG	40 MG	20 MG	40 MG
Haematinics		N/A*	N/A†	N/A†	N/A†	N/A†	N/A†
IPT (SP)		N/A†	N/A†	N/A†	N/A†	N/A†	N/A†
Neonatal Resuscitation Devices		None	2	None	2	None	2
IVFs		3 cartons	5 cartons	3 cartons	5 cartons	3 cartons	5 cartons

Table 7 gives the availability of some MNCH drugs in Nuhu Bamalli Maternity Hospital for the first quarter of 2013 captured in both quantity of the drugs made available at the hospital and the actual amount needed at present.

Drug stock-outs, dosage, expiry and sale of drugs:

- There was no stock out during the last month before the data collection but there was stock out of free drugs in the last month and also drugs stock out in the last six months.
- There was no drug stock out experienced during the past one month, although there was drug stock out during the past six months.
- Free drugs do run out more often than other drugs because of the level of its utilisation and demand is higher. Free drugs are supplied directly to the maternity section instead of through the Pharmacy, leading to a lack of proper records for these drugs.
- Occasionally drugs are not provided in the right dosage.
- The hospital has never experienced having drugs that expire soon after delivery.
- Free MNCH drugs are never sold to clients. The "free MNCH" drugs are part of the general DRF drugs of the facility. Such drugs are dispensed "free" to children under the age of five and pregnant women.
- The hospital has had some challenges with the supply chain, due to but it has never had any challenges with the skill to administer.

6) **Wudil General Hospital –** A 150-bed capacity CEmOC, located in Wudi LGA of Kano State

Table 8: Wudil General Hospital MNCH drug procurement (January to March 2013)

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		50 ampules	200 ampule	50 ampules	200 ampules	50 ampules	200 ampule
Misoprostol		None	1000	None	1000	None	1000
Oxytocin		100	500	100	500	100	500
Chlorhexidine		2 gallons	10 gallons	2 gallons	10 gallons	2 gallons	10 gallons
Surgical Gloves		None	10 packets	None	10 packets	None	10 packets
Injectable Antibiotics	Ampiclox	30	100	30	100	30	100
	Flagyl	30	100	30	100	30	100
	Gentamycin	30	100	30	100	30	100
Haematinics		200	200	200	200	200	200
IPT (SP)		2800 doses per week	2800 doses per week	2800 doses per week	2800 doses per week	2800 doses per week	2800 doses per week
Neonatal resuscitation devices: Suction Machine		None	3	None	3	None	3
Oxygen Concentrator		None	3	None	3	None	3
Manual Suction Machine		None	3	None	3	None	3
Disposable Mucus Extractor		None	3	None	3	None	3
Ambu Bag		None	3	None	3	None	3
IVFs		3 cartons	4 cartons	3 cartons	4 cartons	3 cartons	4 cartons

Table 8 shows the availability of some MNCH drugs in Wudil General Hospital, Kano for the first quarter of 2013 captured in both the actual quantity provided and the expected quantity required for the drugs.

Drug stock-outs, dosage, expiry and sale of drugs:

- At the time of data collection, a drug stock out was experienced within the quarter and the past six months in the Hospital.
- No prolonged drug stock out was experienced at any point in the year for maternal health drugs. When drugs stock outs occur, orders are placed to the KADMCSA, but it

usually takes time before the drugs are supplied, so if the request was not made early there are high chance that drug stock out would occur.

- Free drugs do run out more often than other drugs because of the level of its utilisation and demand is higher, so also because the supply of free drugs is monthly, in the first week of every month.
- Occasionally drugs are not made available in the right dosage.
- The hospital has never experienced having drugs that expire soon after delivery.
- Free MNCH drugs were never sold to clients. The "free MNCH" drugs are part of the general DRF drugs of the facility. Such drugs are dispensed "free" to children under the age of five and pregnant women.
- The hospital has never had any challenges with the supply chain or with the skill to administer.

7) **Bichi General Hospital (BGH) –** A 200-bed capacity CEmOC, located in Bichi LGA, Kano State.

Table 9: Bichi General Hospital MNCH drug procurement (January to March 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		3 packets	10 packets	3 packets	10 packets	3 packets	10 packets
Misoprostol		None	1 carton	None	1 Carton	None	1 Carton
Oxytocin		3 packets	10 packets	3 packets	10 packets	3 packets	10 packets
Chlorhexidine		6	10	6	10	6	10
Surgical Gloves		Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Injectable Antibiotics	Ampiclox	1 packet	1 packet	1 packet	1 packet	1 packet	1 packet
	Flagyl	1 packet	1 packet	1 packet	1 packet	1 packet	1 packet
	Gentamycin	1 packet	1 packet	1 packet	1 packet	1 packet	1 packet
Haematinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

IPT (SP)	1000	1000	1000	1000	1000	1000
Neonatal resuscitation devices	None	1	None	1	None	1
Suction Machine	None	1	None	1	None	1
Incubators	None	1	None	1	None	1
Oxygen concentrators	None	1	None	1	None	1
IVFs	4 cartons	6 cartons	4 cartons	6 cartons	4 cartons	6 cartons

Table 9 shows the availability of some MNCH drugs in Bichi General Hospital for the first quarter of 2013 captured in both the quantity made available by the HMB and the required amount the facility needs to provide sufficient services.

Drug stock-outs, dosage, expiry and sale of drugs:

- There was a drug stock out during the last month and last six months, before data collection. It is a common problem and facilities can make request any time they wish. Although no stock out of free drugs was recorded during the last month.
- Drugs were occasionally provided in the wrong dosage. These have to be returned to the KADMCSA or sometimes adjustments are done by the pharmacist in-charge.
- BGH has never had any drugs that expire soon after delivery. This is because there is high turnover of clients, thus drugs get exhausted even before the supply of next batch
- "Free MNCH" drugs have never been sold to clients because they are part of the general DRF drug of the facility. Such drugs are dispensed free of charge.
- BGH has faced challenges with the supply chain, due to logistic problems, including drugs finished before receiving another supply from KADMCSA, even though the pharmacist in charge used to request drugs after reaching the minimum stock level. However, the facility has adequate skill to administer drugs.

8) **Waziri Shehu Gidado General Hospital (WSGGH):** A 90-bed capacity CEmOC, located in Dala LGA, Kano State

Table 10: Waziri Shehu Gidado General Hospital MNCH drug procurement (January to March 2013)

Drug	January Quantity	Required Quantity	February Quantity	Required Quantity	March Quantity	Required Quantity

		Available		Available		Available	
Magnesium Sulphate		Data not available	10 packets	Data not available	10 packets	Data not available	10 packets
Misoprostol		Data not available	1 carton	Data not available	1 carton	Data not available	1 carton
Oxytocin		Data not available	10 packets	Data not available	10 packets	Data not available	10 packets
Chlorhexidine		N/A	10	N/A	10	N/A	10
Surgical Gloves		Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Injectable Antibiotics	Ampiclox	Data not available	1 packet	Data not available	1 Packet	1 Packet	Data not available
	Flagyl	Data not available	1 packet	Data not available	1 packet	1 packet	Data not available
	Gentamycin	Data not available	1 packet	Data not available	1 packet	1 packet	Data not available
Haematinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
IPT (SP)		N/A*	1000	N/A*	1000	N/A*	1000
Neonatal resuscitation devices		Data not available	1	Data not available	1	Data not available	1
IVFs		Data not available	6 cartons	Data not available	6 cartons	Data not available	6 cartons

[1]*Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit.*

Table 10 shows that there were no figures available on the actual number of MNCH drugs due to the fact that WSGGH maternity unit has not been functioning for the past two years as a result of renovation on-going in the unit. The maternity unit of the hospital then was located upstairs and there were no basic amenities put in place to ensure a very safe delivery at the time. Most of the time women gave birth downstairs before they can be convened to the labour ward upstairs. There was also a shortage of midwives and for the past two years, there were no surgeons at the clinic. At present all maternity patients are being referred to Mariya Sunusi General Hospital because it is very close to the SWGGH. Even at Mariya Sunusi General Hospital there was no obstetrician and gynaecologist. The doctor attending to women is a general practitioner. But at the time of data collection, the maternity unit at WSGGH has under gone very serious repairs and will soon start working.

*

9) **Rano General Hospital (RGH):** A 55-bed capacity CEmOC, located in Rano LGA, Kano

Table 11: Rano General Hospital MNCH drug procurement (January to March 2013)

Drug		January Quantity Available	Required Quantity	February Quantity Available	Required Quantity	March Quantity Available	Required Quantity
Magnesium Sulphate		750 packets	750 packets	750 packets	750 packets	750 packets	750 packets
Misoprostol		None	100 packets	None	100 packets	None	100 packets
Oxytocin		750 packets	750 packets	750 packets	750 packets	750 packets	750 packets
Chlorhexidine		10 bottles	30 bottles	10 bottles	30 bottles	10 bottles	30 bottles
Surgical Gloves		Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Injectable Antibiotics	Ampiclox	30 packets	60 packets	30 packets	60 packets	30 packets	60 packets
	Flagyl	30 packets	60 packets	30 packets	60 packets	30 packets	60 packets
	Gentamycin	30 packets	60 packets	30 packets	60 packets	30 packets	60 packets
Haematinics		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
IPT (SP)		N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Neonatal resuscitation devices		50 packets	50 packets	50 packets	50 packets	50 packets	50 packets
Incubators		None	3 sets	None	3 sets	None	3 sets
IVFs		5 Cartons	10 Cartons	5 Cartons	10 Cartons	5 Cartons	10 Cartons

Table 11 shows the availability of some MNCH drugs in Rano General Hospital for the first quarter of 2013, captured in both the quantity made available by the HMB and the required amount the facility needs to be sufficient.

Drug stock-outs, dosage, expiry and sale of drugs:

- There was stock out of both general and free drugs recorded during the last one month in the hospital. Drug stock outs were mainly a result of logistic of transportation from the KADMCSA.

* *Antenatal care drugs are supplied only to the ANC clinic and not the maternity unit*

- Drugs were occasionally provided in the wrong dosage. These are sometimes returned or the pharmacist does some adjustments. There was a time when drugs meant for other hospitals were brought, by mistake.
- At RGH, there have been cases of drugs that expire soon after delivery. These were returned back to the KADMCSA for destruction. This is because the drugs have spent long time in the KADMCSA, thus the expiry date was very close at the time when they were supplied to the hospital.
- "Free MNCH" drugs have never been sold to clients because the "free MNCH" drugs are part of the general DRF drug of the facility. Such drugs are dispensed "free" of charge.
- RGH has faced challenges with the supply chain, this because sometimes request for drugs are sent to the KADMCSA, but it takes time be supplied. However, the hospital do not have problem with the skill to administer.

Facility procurement

All facilities were identified as responsible for planning and managing the facility's drug stocks and procurement. Since 2012, the State government introduced a policy that all facilities must buy their drugs only from the KADMCSA. This was to regulate the drug supply in the state and to prevent importation of fake and sub-standard drugs. The role of the Drug Revolving Fund (DRF) was highlighted to ensure the availability of essential medicines at affordable cost and they are also cost effective.

Assessing commodity-related constraints beyond stock-outs

Other commodity related constraints were investigated including capacity, human resources and quality of drugs. Respondents did not identify a lack of training in health providers in the proper use of drugs as a serious issue because series of trainings were carried out by supporting partners, on the use of drugs and medical consumables. Patients that require drugs that can only be administered by highly skilled health providers that may not be available are usually referred to places where the medication can be distributed. Before drugs are supplied, storage conditions are assessed to ensure proper storage conditions at the levels of the health facilities.

Table 12: Summary of Procurement Process by Facility

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
1) Muhammad Abdullahi Wase Specialist Hospital	MAWSH is not obliged to procure all drugs on the essential medicine list. The formula used is the 'Minimum-Maximum' stock levels.	• The amount of free drugs allocated to each facility by the KADMCSA is determined by the population of the surrounding catchment area. • Irrespective of utilisation all facilities receive free drugs supply on monthly basis. However, if facilities exhaust supplies of free drugs before the end of the month, supplementary orders can be made. • Drug orders are based on the consumption and utilisation rates. The State level has no role in the decision to distribute drugs. • Consumption-based orders are sent to KADMCSA.	• Payments are made by cheque from the DRF account, however this only applies to drugs and consumables that are for sale (e.g. not the Free MNCH drugs). • Greater funding would improve procurement levels. • MNH drugs are **not** free at MAWSH. This facility has been designated by the State as a specialist hospital for state civil servants and other medium- and high-level individuals in the state. It was established as a 'revenue generating facility', it the only state-owned secondary health facility providing no free services.	*Leakages:* • Stock-taking at the end of each shift and at the end of the month by pharmacist in-charge of unit is done. • Specific cupboards and drawers for specific staff or particular shifts, enables accountability of drugs by all staff working in unit. *Stock outs:* • Stock outs are compiled and forwarded to the DMCSA in a timely manner, based on minimum level consumption.
2) Murtala Muhammad Specialist Hospital	The facility is obliged to procure all drugs on the Essential medicines List, according to a minimum stock level of 1 months and	• Previously orders were made quarterly, but due to a surge in patients, ordering is now made monthly. Facility-specific projection and procurement is done based on past utilisation	• Facility drug orders are made on request and payment is done on a cash and carry basis. • Lack of funding remains a constraint to drug supply and ordering. • MNH drugs are free of charge for	*Leakage* • Monitoring of issue stock and supervision are two methods this facility uses to prevent drug leakage.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
	maximum stock of 3 months.		the user.	*Stock outs* • Stock cards and legers are used to monitor and record drug levels and stock outs.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
3) Sir Muhammad Sunusi Specialist Hospital	Facilities are supplied with drugs centrally from the KADMCSA.	• Facilities make orders based on specific projections, looking at past utilization levels by the pharmacist in-charge. Minimum stock level is considered for the timing for ordering of drugs. • Orders are made as needed, by the pharmacist in charge of the main pharmacy store.	• Drug orders are paid through the PATHS and DRF account. The DRF is the main source of funds for procurement in the facility. • Funding is not considered to be a constraint for procuring sufficient commodities. This facility is the only facility where funding is not a concern, due to its size (it is the largest in the state), and receives significant attention from the State government. • MNH drugs are provided free of charge, in policy.	*Leakages* • Proper documentation through the use of stock cards, ledgers and requisition forms are systems in place to prevent drug leakages at this facility. *Stock outs* • Stocks are managed by checking consumption through stock counts. Stock outs are automatically recorded by the use of a stock out register.
4) Nuhu Bamalli Maternity Hospital	The facility is obliged to procure all drugs on the essential medicines list.	BNMH makes drug orders based on need, through consumption data to KADMCSA.	• Payment is via cheque from the DRF account. • Antenatal drugs (e.g. fersolate and folic acid) are free to patients including ampiclox capsule. Lack of funding was a constraint for procuring sufficient commodities.	*Leakage* • Expiries are prevented via forecasting and damages prevented by rodent control. *Stock outs:* BNMH makes forecasts as a guide to prevent stock outs.
5) Sheik Muhammad Jidda General Hospital	The facility is obliged to procure all drugs on the essential medicines list, based	• Drug orders are made using specific projections based on demographic level.	• SMJGH write cheques after costing through requisition with the KADMCSA. • Lack of funding was identified as a	*Leakage:* • SMJGH has good storage facilities.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
	on consumption rate.	• Orders are made as needed.	constraint for procuring sufficient commodities. • Free MNH drugs is a government policy and they should be provided free across selected stated-owned health facilities.	*Stock outs:* • Stocks are managed through 'high order' level, which means ordering a quantity of drugs beyond the amount needed for a particular month. However, this system has a potential for drug wastage. • The DRF was identified as a way to prevent drug stock out in the hospital. • No record or data is available on stock outs in this facility.
6) Wudil General Hospital	The facility is obliged to procure all drugs on the essential medicines list, using quantification software.	• WGH is supported by some donor partners providing HIV/AIDS services. The pharmacist has been trained on how to use the software for drugs logistic management. At the time of data collection WGH was the only facility in the State to use this software. • Drug orders are made based on facility-specific projections on past utilisation levels every 3	• Orders are made from the facility and paid by cheque to the facility. • Lack of funding was not identified as a constraint for procurement of commodities. • MNH drugs are free, but stock outs are frequent as there only small supply is provided compared with the volume of women. There is no record of consumption of the free MNCH drugs, but the pharmacist stated that all free drugs are finished before the end of the month.	*Leakage:* • The stores are usually under lock and key and proper inventory is done when handling and taking over. *Stock out:* • Monthly inventory of all commodities are done to manage stock using the quantification software. There is no record of consumption for Free MNCH drugs and stock outs occur frequently, towards the end of the

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
		months.		month.
7) Bichi General Hospital	The facility is obliged to procure all drugs on the essential medicines list, according to consumption using a 3 months' maximum stock.	• Orders are made on basis of consumption levels, monthly with occasional emergency orders. Orders are made by writing a request with the corresponding value of a cheque.	• Lack of funding was identified as a constraint for procuring sufficient commodities at the facility-level.	*Leakage* • Proper documentation and inspection *Stock out* • Stocks are managed by operating within minimum and maximum stock levels. • Stock outs are recorded manually using bin cards.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
8) Waziri Shehu Gidado General Hospital	The facility is obliged to procure all drugs on the essential medicines list.	Procurement is based on the maximum stock level, which is calculated by the minimum level plus requisition. Orders are based on consumption rates and made monthly, with supplementary orders when some items run out of stock.	• Facility level orders are paid through cheques. • Lack of funding was not identified as a constraint for procurement of commodities. • MNH drugs are provided for free whenever they are available in the facility.	*Leakage:* • Drugs are packed in packets and then later packets are place inside cartons. *Stock management & Stock Outs* WSGGH managed stock levels using inventory management control by calculating: 1) Maximum stock level: the highest amount of drugs required to reach next supply date based on consumption rate from the previous month 2) Minimum stock level: the lowest amount of drugs which indicate the need for request in order to avoid stock out 3) Lead time: the duration of time between ordering of drugs and actual arrivals of the drugs to the facility 4) Buffer stock: amount of drugs made available as reserve from time to time, to increase the minimum stock level. Paper documentation is used, including bin cards and ledgers for record keeping.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
9) Rano General Hospital	The facility is obliged to procure all drugs on the essential medicines list, based	• Facility specific projections are made based on past utilisation levels, as needed. RGH	• Facility orders are paid for by using cheques. RGH has enough funds for procuring as a result of the	*Leakage* • Buying good brands, keeping in upright position and using a first-in-first-out process.

Facility	Procurement of Essential Medicines List & Quantities	Logistics of Facility-level Ordering	Funding or payment of drugs	Systems to prevent drug leakages & record stock outs
	on a consumption rate formula.	procures drugs for 2 months of consumption.	DRF. • Free MNCH drugs are provided free of charge to the user, in policy.	*Stock outs* • Stock outs are recorded through the use of a tally card.

Conclusion & Recommendations

This report investigated the availability of drugs and outs in select facilities in Kano State. Ensuring that health facilities have lifesaving resources, including drugs and equipment, will help improve maternal and newborn health. Understanding the financing, procurement, storage and distribution processes as well as constraints beyond procurement, are critical to understanding challenges and overcoming barriers to ensure availability of lifesaving commodities. Recommendations to improve the availability of drugs include:

- Ensure sufficient quantities of lifesaving drugs and supplies in all health facilities, particularly those on the essential medicines list and/or provided through the free MNCH services.
- Improve facility forecasting to reduce frequency and duration of stock outs (particularly of MNH drugs).
- Reduce delays in distribution of supplies after requests, and improve availability of human resources.

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Annex 1: Hospitals currently operating free MNCH services

SNO	Name of Facility	Type of Facility	LGA
1	Murtala Muhammad Specialist Hospital	CEmOC	Municipal
2	Muhammad Abdullahi Wase Specialist Hospital	CEmOC	Nassarawa
3	Bichi General Hospital	CEmOC	Bichi
4	Wudil General Hospital	CEmOC	Wudil
5	Nuhu Bamalli Maternity Hospital	CEmOC	Municipal
6	Sheikh Muhammad Jidda General Hospital	CEmOC	Fagge
7	Waziri Gidado General Hospital	CEmOC	Dala
8	Sir Muhammad Sunusi General Hospital	CEmOC	Gezawa
9	Rano General Hospitals	CEmOC	Rano
10	Dambatta General Hospital	CEmOC	Dambatta
11	Gwarzo General Hospital	CEmOC	Gwarzo
12	Gaya General Hospital	CEmOC	Gaya
13	Minjibir General Hospital	CEmOC	Minjibir
14	Tudun Wada General Hospital	CEmOC	Tudun Wada
15	Gezawa General Hospital	CEmOC	Gezawa
16	Kura General Hospital	CEmOC	Kura
17	Tiga General Hospital	CEmOC	Bebeji
18	Jakara Maternity Hospital	CEmOC	Dala
19	Mariya Sanusi Maternity Hospital	CEmOC	Dala
20	Doguwa General Hospital	CEmOC	Doguwa
21	Sumaila General Hospital	BEmOC	Sumaila
22	Dawakin Tofa General Hospital	CEmOC	Dawakin Tofa
23	Yadakunya General Hospital	CEmOC	UNGOGO
24	Bebeji General Hospital	CEmOC	Bebeji
25	Dawakin Kudu General Hospital	CEmOC	Dawakin Kudu
26	Rogo General Hospital	CEmOC	Rogo