

# **Existing and Potential Procurement Mechanisms in the MOH, RMS, UNRWA, JUH, and JAFPP**

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by  
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## *Abbreviations*

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FEFO	First expiry, first out
FP	Family planning
GMP	Good manufacturing practice
GSD	Government Supplies Department
JAFPP	Jordan Association for Family Planning and Protection
JD	Jordanian dinars
JUH	Jordan University Hospital
MCH	Maternal and child health
MOF	Ministry of Finance
MOH	Ministry of Health
RMS	Royal Medical Services
UN	United Nations
UNFPA	United Nations Population Fund
UNRWA	United Nations Relief and Works Agency
USAID	United States Agency for International Development
WHO	World Health Organization

## ***Introduction***

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The following study was prepared at the request of the POLICY Project to analyze the existing and potential procurement mechanisms in the Ministry of Health (MOH), Royal Medical Services (RMS), UN Relief and Works Agency (UNRWA), Jordan University Hospital (JUH), and Jordan Association for Family Planning and Protection (JAFPP), which are the main providers of contraceptives obtained through the USAID grant to the MOH in Jordan.

The scope of work for the study includes the following:

- Reviewing existing procurement personnel capacity, supporting infrastructure, government public sector procurement requirements and procedures, and government regulations and policies pertaining to procurement, tenders, quality assurance testing options, financing mechanisms, and so forth, for the MOH (Supplies Directorate), UNRWA, RMS, JUH, and JAFPP
- Identifying strengths and weaknesses of each system, including the ability to conduct international tenders
- Identifying options available for acquiring contraceptives
- Comparing identified options to the UNFPA external clients procurement program
- Reviewing the existing logistics (forecasting and distribution) system for essential drugs within the MOH

The study was based on field visits and interviews with the related personnel in each organization. A list of interviewed persons in each organization is shown in Annex A. The gathered information was based on the guideline questionnaire provided by the POLICY Project and shown in Annex B. The report includes a description of the procurement systems in each organization including forecasting and distribution mechanisms, and also includes a brief analysis of the strengths and weaknesses in each system.

## ***Ministry of Health (MOH)***

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The procurement function at the MOH is divided between two directorates: the Supply Directorate, which is responsible for storing (warehousing) and receiving drugs and releasing them to stores, health centers and health directorates; and the Purchasing Directorate, which is responsible for the purchase of all essential drugs and medical supplies through the General Supplies Department (GSD)/Ministry of Finance (MOF).

### **1. Procurement**

The government procures approximately 95 percent of all essential drugs through annual local tenders while the rest are procured through local purchasing. The percentage of local purchases is increasing as there are new drugs procured each year. Most drugs are normally procured using funds from the government's annual budget while a very small percentage are supplied by donors, including malaria and bilharzia drugs supplied by WHO and contraceptives supplied by a USAID grant.

The main body responsible for governmental procurement is the GSD, which follows the Supplies Act No. 32 of 1993 and its amendments. The MOH annually sends lists of all drugs and supplies needed for the following year to start the tendering procedures as described below.

The procurement procedure starts with the issuance of a purchase order, which is sent to the GSD specifying the items needed and is accompanied by an approved financial document confirming availability of funds. The GSD issues a local tender with a deadline not exceeding one month, and offers are received and opened formally by the Central Committee at the GSD, which makes sure of satisfying tender requirements in terms of times of submission, inclusion of required documents/information, and financial bonds (if required). The offers are studied by a technical committee that "recommends" a preliminary award to the selected supplier. This is checked by the Internal Audit Department and, if approved, a "decision" of preliminary award is made and displayed for objections and claims within four days. All claims received are studied by the technical committees, which will send them again to the Internal Audit Department for final approval. Once approved, a decision of "final" award is made, and the contractor is informed. The above procedure requires approximately two to three months, and the delivery of goods is completed between two to six months from the date of award.

The Purchasing Department at the MOH conducts local purchasing for drugs that are almost out of stock and other drugs with low demand, which contractors did not quote due to the small amount. The Purchasing Department at the MOH has the authority to purchase items up to JD 10,000 per episode.

The persons responsible for purchasing at the GSD are qualified and have received essential training on procurement methods and procedures. They are aware of all local agents that represent international pharmaceutical companies. Some have received training on purchasing and logistics at the General Training Institute. Coordination seems to exist between purchasing and logistics staff both at the MOH and GSD.

The government procures approximately 500 items annually. Procurement is based mainly on inventory levels, losses, and adjustments—not on updated forecasts or lead times. Procurement is based on immediate needs and requirements of essential drugs and also on newly developed drugs requested by specialized physicians.

As described earlier, procurement is based on issuing annual local tenders through the GSD, evaluation of the received offers, selection of the contractor, and finally the tender award. All this is done formally by

special committees formed for evaluating bids based on type of drugs/supplies and is recorded in the minutes of meetings, which makes procurement procedures transparent to all stakeholders.

No products were procured to address forecasted needs; however, some products were purchased directly by the Purchasing Department/MOH up to JD 10,000 per purchase to prevent stock-outs, particularly for cancer, kidney, and HIV drugs.

Product quality is assured by purchase from preapproved suppliers, efficient storage systems, and good inventory control by the Supply Directorate at the MOH. Drugs are tested (once received) by the Drug Control Directorate of the MOH.

## **2. Forecasting**

Essential drug needs are not forecasted two to three years in advance. Procurement is annual and based mainly on the allocated amount in the annual government budget. The forecast for next year's drug requirement is based on stock levels, consumption trends, the population growth rate, and the expected increase in demand for certain drugs.

The data used can be considered as reasonably reliable (80%), and sometimes multiple sources of data are used for comparisons. However, in general, forecasting the next year's drug requirements is not done by using a systematic and rigorous methodology. Instead, it is based mainly on personal judgments and utilization-based projections as described above.

Forecasting is performed and updated once a year at an official meeting involving the Director of the Supply Directorate, the Director of the Purchasing Directorate, the Head of Stores, and a specialist related to any special drug being ordered. No training was given to these people on forecasting, but they are all pharmacists. Donor assistance in forecasting is performed only in the case of contraceptives, for which USAID has provided software for forecasting for each type of contraception.

The Maternal and Child Health (MCH) Directorate/MOH deals with contraceptive forecasting, and the staff have qualifications in estimation, storage, and use of contraceptives. Forecast data is not used for resource mobilization because, again, this is closely related to the funds allocated in the annual government budget.

## **3. Distribution**

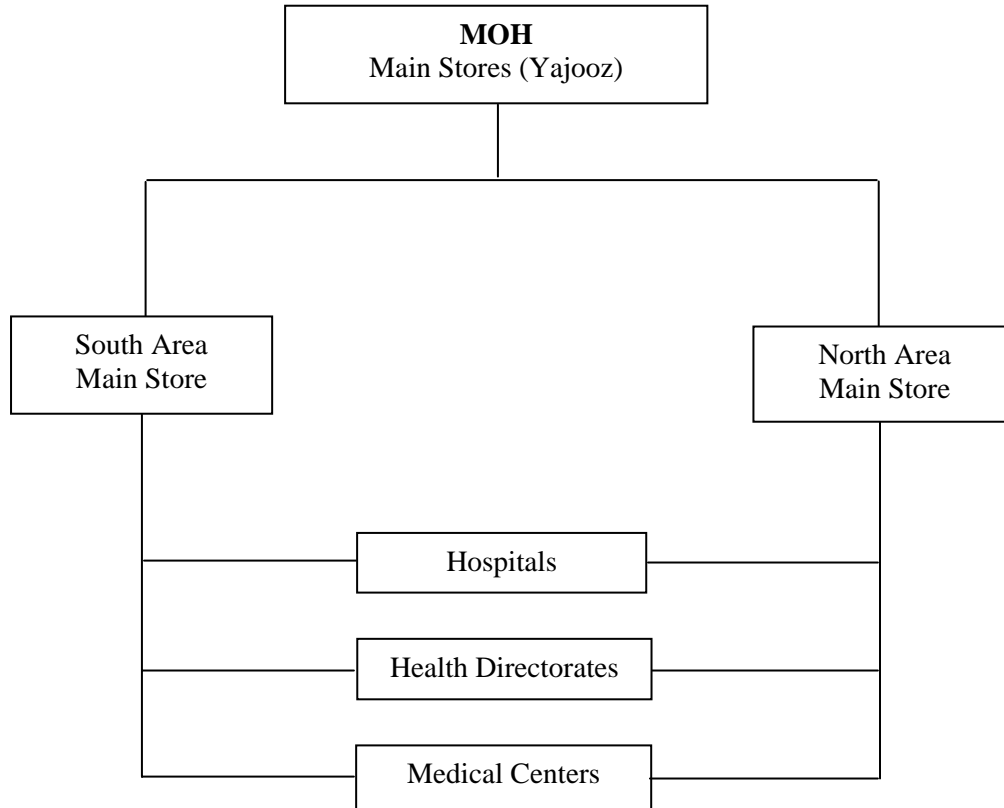
Stock-outs of certain essential drugs occurred in the last year (2002) mainly in cardiovascular drugs, multiple sclerosis drugs, kidney drugs, antibiotics, central nervous drugs, cancer drugs, and thyroid drugs. Cardiovascular and blood pressure drugs stocked out for the longest period. The stock-out occurred in the MOH main stores. In case of any stock-out, patients are instructed to go to the private sector to buy the drug, or physicians try to provide alternative drugs, if available.

Some amounts (not significant) of specific drugs expired within the last year. These include antacids and old drugs that are not currently prescribed by physicians. However, as mentioned earlier, these represent small quantities and occur at all levels. Expired products are destroyed. The main reason for drug expiration is the existence of a new generation of drugs or new alternative drugs that have a higher demand. Occasionally, it is due to improper distribution.

The supply chain at the MOH currently has four levels, as shown in Figure 1.



**Figure 1. Supply Chain at the MOH**



The north and south main stores are new and will be operational mid-year 2004. All stores will be connected to the MOH main stores through a computer network. Each government hospital and health directorate submits a monthly order to the MOH main store one week before delivery. This is done using a special order form indicating the name of the drug, quantity needed, and current inventory level of the drug.

The MOH main store in Yajooz is adequate in size, and the two intermediate stores under construction are adequate to manage the expected load. Storage conditions are adequate in the MOH main stores (cooling ventilation and alarm system in case of no cooling).

Transportation is performed by MOH vehicles and through a subcontractor, which is contracted each year for government transportation. Certain diabetes drugs (insulin) and vaccines are placed in small coolers/refrigerators during delivery. The cold chain is not documented. There is no planned delivery schedule, and as mentioned earlier, delivery is based on monthly orders received by the government hospitals and health directorates.

Sometimes data on available stock and consumption are collected and used for ordering and shipping, usually when ordering large quantities of a specific drug. Staff are trained in logistics, particularly at the upper level MOH stores.

The distribution infrastructure is improving, and new modern stores have been established in the north and south to accommodate an expected increase in demand on the public sector system. Weaknesses in the distribution infrastructure limit the availability of private sector products, especially in remote areas, which only receive supplies through the public sector. The commercial distribution network has the potential to expand; however, limited financial resources are available.

#### **4. Contraceptive Procurement**

It is worth mentioning that all previous procedures described do not currently apply to contraceptives, which are supplied by USAID and handled by the MCH at the MOH and not through the GSD/MOF. Four staff members are trained, some in the United States, and are working with the forecasting, procurement, and delivery of contraceptives.

Forecasting for contraceptives is performed for three years and adjusted every year. Forecasting is done through a special computer program and is based on actual consumption from service delivery points and the growth rate based on trends in the last three years.

An upper limit of 17 months and lower limit of nine months stock level exists, and when reaching the lower stock level, an order is made. A procurement table is prepared and sent to USAID, which is based on scheduled purchasing. Once the order is received, it is sent to the Supply Directorate at the MOH to be entered officially in the MOH records and sent to quality control for testing. After ensuring that received quantities match those ordered, the shipment enters the stores.

Contraceptive distribution is based on monthly consumption reports received from service delivery points and is entered into the computer to determine the orders. A list of the quantities to be delivered is sent to the storekeeper at the MOH main store on a monthly basis.

Goods are delivered to 23 stores at service delivery points (20 in the MOH directorate, one at JAFPP, one at RMS, and one at UNRWA). Stock-outs in service delivery points occur only occasionally (3–4%). Norplant is not commonly used and was reaching its expiration date, thus it was sent to Egypt, and no orders have been placed for Norplant for the past two years.

Good storage conditions exist and are documented and followed at the MOH main store and final stores. First expiry, first out (FEFO) is used for all methods.

#### **5. Strengths and Weaknesses**

The procurement system at the MOH has many strengths. However, it also contains many weaknesses. The main strengths include the following:

- There is a clear and transparent procurement system (through the GSD) that is based on local tendering, proper evaluation, and award processes.
- A large amount of essential drugs is procured through an annual tender based on an allocated budget and in close coordination with the Supply and Purchasing directorates. Thus, there is adequate capacity for tendering, developing specifications, evaluating bids, and negotiating delivery terms.
- The annual tender is divided into subtenders based on groups of similar products to facilitate technical evaluation and award.
- The storage capacity is adequate and storage conditions are maintained including cold rooms and air conditioning to maintain appropriate temperature.

- Main stores are divided based on the type of drugs (tablets and capsules, alcohol, intravenous solutions, etc.) to facilitate inventory control, product identification and traceability, and delivery. A storekeeper manages each store.
- New intermediate stores are being established, one in the north and one in the south, to save transportation costs and reduce waste and losses due to long-distance distribution.
- The distribution system covers almost all locations in Jordan.

The main weaknesses include the following:

- The lack of systematic and rigorous forecasting techniques leads to stock-outs of certain essential drugs.
- There is a long pipeline between issuing the purchase orders and receiving the goods due to lengthy and complicated procedures, which work but are inefficient and very expensive.
- The dependence on the annual government budget, which once issued cannot be changed, leads to stock-outs in certain drugs, which are solved through local direct purchasing by the MOH.
- The current supplies system implemented by the GSD requires penalties on delivery delays, which take a long time to be issued, leading to delays in payment to contractors and other complications that can be avoided. This discourages good vendors from bidding because, in case of any unexpected delay due to production or logistics problems, penalties are applied, and no payment is released before processing and approving these penalties.
- There is a lack of human resources in the purchasing department and warehousing.
- There are no refrigerated vehicles for transportation of drugs that require cool temperatures; instead, they are placed in small coolers during transport.
- The stock-out of certain essential drugs indicates an inadequate budget for drugs, which may lead to giving priorities to purchasing essential drugs over contraceptives.

## ***Royal Medical Services (RMS)***

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Procurement at the RMS is performed by four separate departments: the Supply Directorate, Pharmacy and Drug Directorate, Purchasing Division, and Medical Warehousing. These entities are mainly responsible for forecasting, procurement, and distribution of all drugs, medical supplies, and medical equipment in all RMS hospitals (fixed and mobile) in Jordan.

### **1. Procurement**

The RMS procures almost 100 percent of its total essential drug needs although some vaccines and contraceptives are supplied by the MOH and USAID. The quantity procured each year is increasing due to increased demand; the total value of essential drugs increased from JD 7.5 million to JD 9 million this year. Essential drugs are procured using RMS funds.

The overall procurement cycle at RMS is handled by the four directorates and departments listed above as follows:

- The Supply Directorate is responsible for developing specifications for purchased products, conditions, quantities, delivery, and payment terms in coordination with the Pharmacy and Drug Directorate (in case of drugs). It is also responsible for following up on the shipping and clearance of purchased items.
- The Pharmacy and Drug Directorate is responsible for forecasting and procurement of drugs only.
- The Purchasing Division is responsible for procurement of medical supplies and other materials and for purchasing either directly from manufacturers or through a tendering procedure, as will be described later.
- The Warehousing Department is responsible for receiving, storage, and distribution of drugs and medical supplies.

Thus, the Pharmacy and Drug Directorate is mainly responsible for procurement of drugs, while medical supplies and other materials are handled by the Purchasing Division. However, it should be noted that both the director of Pharmacy and Drug and the head of Purchasing work under the supervision of the director of Supply to ensure that coordination exists between logistics and procurement staff—all of whom are qualified and experienced.

Procurement plans are based on annual actual consumption, updated forecasts, inventory levels, losses, and adjustments. Procurement occurs mainly through a local tendering process, which is announced in the local newspapers. Bids are evaluated by a Purchasing Committee formed from procurement and technical specialists. The committee selects the contractor and sends the recommendation to the RMS director for approval. The Supply Directorate then finalizes the supply agreement with the contractor. However, it should be noted that the RMS has the authority to procure only up to JD 50,000. Any amount above that requires the approval of the director of Procurement at army headquarters and the president of the armed forces. If the amount is above JD 100,000, it also requires the approval of the Prime Minister and the Minister of Defense.

Any purchase between JD 2,000 and 5,000 requires only the approval of the RMS director and can be carried out either directly or by acquiring three offers. Any purchase up to JD 2,000 can be carried out by the director of Supply without further approval. Thus, purchases of up to JD 5,000 are used for small emergency drug orders and for low-cost items. These mechanisms are also used to backup existing inventory in case of emergency situations.

As indicated above, drug procurement through local tenders occurs every two years and requires the approval of the director of RMS, the director of Procurement at army headquarters, the president of the armed forces, and the Prime Minister, as it usually exceeds JD 100,000. The procurement process requires six to nine months.

Procurement procedures are clear and transparent and are documented according to the Army Supplies System of 1995 rule and its amendments. The system is currently under a new amendment/modification to improve.

Products are usually procured to address forecasted needs and to prevent stock-outs. A minimum stock level of six months should always be available. However, for safety purposes, it is recommended that a 12-month stock be available.

The products (drugs) are received by a Receiving Committee, which compares received quantity and specifications with that ordered. Also, samples are sent to the Drug Control Labs at MOH for testing.

## **2. Forecasting**

Essential drug requirements used to be forecast for one year. However, currently they are forecast for two years. Procurement is also conducted for two-year periods, and delivery takes place in two to three shipments during the two-year period.

Inventory levels, consumption, losses, and adjustments are all taken into consideration when forecasting. Demographic data is not considered because service is only provided to armed forces personnel and their families.

Forecasts are updated continuously until placing the order. Forecasting is performed by the Pharmacy and Drug Directorate, whose entire staff is well trained. It is worth mentioning that all staff working in procurement and forecasting are placed in “Procurement and Supplies Residency” for four years after receiving their B.Sc. and joining the RMS, after which they can get their M.Sc. in procurement and related functions. Contacts are currently taking place with accredited bodies to provide the certificates for graduates. During the “Procurement and Supplies Residency,” staff are exposed to all stages, including forecasting and developing specifications, acquiring bids, evaluating bids, receipt of ordered products, and logistics. Contraceptive forecasting is not a major part of this training, as this service is provided by the MOH through the USAID grant. As such, no emphasis is placed on this issue by RMS.

Forecast data is used for resource mobilization, as RMS staff, hospitals, and stores are always in a mobile situation based on the political situation in the region. At times this requires additional staff, mobile hospitals, and drug stores in various locations, as is the situation now due to the mobile hospital in Iraq.

## **3. Distribution**

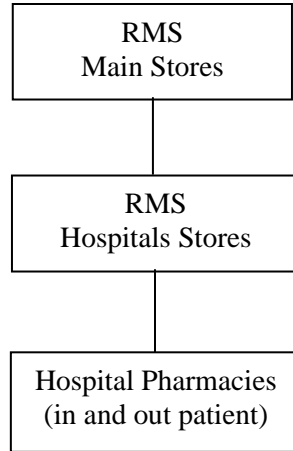
Stock-outs did not occur for any essential drug in the last three years at the main stores but did occur at the hospital and pharmacy levels.

There was no significant expiration of essential drugs within the last year. This is due to the computerized inventory control system. Any drug reaching expiration is given to doctors to prescribe more frequently. In addition, large quantities of a drug reaching expiration, are loaned to the government in coordination with the MOH. However, some drugs expired in previous years due to an “Alert” received on a specific

drug or overestimation of need due to a fluid political situation (expectation of war). In such cases, drugs are disposed of by a special committee formed by the president of the armed forces.

The supply chain contains three levels as shown in Figure 2.

**Figure 2. RMS Supply Chain**



A computerized inventory control system monitors stock levels at all stores and levels.

Delivery is scheduled and conducted every two months. At a minimum, a two-month safety stock level should be available in hospitals, where adjustments can be supplied within three weeks. Storage conditions are adequate at all levels. Cold rooms and air conditioning maintain the temperature below 21 degrees Celsius.

Current storage capacity is inadequate and requires expansion to accommodate future drug requirements. Transportation is carried out by army vehicles. Refrigerated vehicles are available. Transportation is adequate with an appropriate distribution schedule; however, stock-outs do occur rarely in certain hospitals due to delays in delivery.

Data on available stock and consumption are collected and used for ordering and shipping at all levels. Staff are well trained in logistics at all levels of the system.

The distribution infrastructure is improving. A five-year improvement plan has been prepared that includes an expansion in storage capacity and an upgrade of the distribution system. The storage expansion is based on a three-year schedule, which is currently under implementation, and is expected to increase storage capacity by 30 percent.

Bad roads limit the availability of the private sector in certain remote locations, but army hospitals and clinics cover all geographical locations in Jordan and can be reached by armed forces vehicles and planes as needed.

#### 4. Strengths and Weaknesses

The strengths in the RMS procurement system include the following:

- Forecasting is performed two years in advance.
- No stock-outs or expiration of any essential drug occurred in the last few years.
- Procurement and logistics staff are qualified and well trained and are subject to a four-year qualification program at RMS.
- There is a clear and transparent supply system, which is currently under amendment and is strictly followed.
- RMS has the ability to conduct international and local tenders.
- The existing system is flexible and allows for emergency orders.
- There is a good inventory control system, including safety stock levels (minimum order quantity).
- Storage and distribution is expanding and is currently included in the five-year improvement plan.
- Distribution is scheduled and can reach all locations of Jordan.

The weaknesses in the RMS procurement system include the following:

- The procurement timeline (minimum of six months) is long due to the need for many approvals.
- Forecasting is based only on demand, actual consumption, inventory levels, and expected emergency situations because hospitals can move outside Jordan.
- High value purchases require the approval of the president of armed forces and the Prime Minister (as Minister of Defense), which may delay the process.
- Storage capacity is not adequate and requires expansion.
- The transportation system requires upgrading.
- There is no computer network among hospitals, main directorates, and main stores.
- There are limited financial resources (allocated in the government's annual budget).

## ***United Nations Relief and Works Agency (UNRWA)***

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UNRWA started operations on May 1, 1950. It is unique in terms of its longstanding commitment to one group of refugees and its contributions to the welfare and human development of four generations of Palestinian refugees. Originally envisaged as a temporary organization, the agency has gradually adjusted its programs to meet the changing needs of the refugees. Today, UNRWA is the main provider of basic services—education, health, relief, and social services—to over 4.1 million registered Palestinian refugees in the Middle East.

### **1. Procurement**

UNRWA procures all of its essential drug needs with the exception of children’s vaccines, which are being provided free by UNICEF, and contraceptives, which are being provided free by the MOH through a USAID grant. UNRWA is continuously adding new drugs to its essential drug list.

Procurement is conducted by the Inventory Control manager, who is responsible for purchasing and distribution of drugs, and the head of the Pharmaceuticals Section, who is responsible for forecasting and determining needed quantities. In addition, a quality control coordinator is responsible for implementing and monitoring storage and distribution standards. These staff members are well trained and have the experience needed to manage activities related to procurement, storage, and stock levels. In addition, there is extensive coordination between logistics and procurement staff.

Procurement plans are based on monthly consumption reports for each center, number of clients, forecasts related to increase/decrease in number of clients, and inventory levels, which should be enough for 12 months in the main store and two to three months in clinic stores.

Losses are not taken into consideration as these are negligible because all drugs are organized and stored based on expiration date. Adjustments are taken into consideration in procurement plans based on greater/lesser demand for a certain drug and the lead times. In the event of a drop in inventory levels below the minimum requirement, an emergency order is placed. Delivery occurs within one week to the main store and within 48 hours to clinics’ stores.

Procurement policies and procedures are based on issuing tenders regardless of value or quantity to be purchased, evaluating the bids, and making a tender award. The tendering process is conducted either through local newspapers or by “invitations to bid” sent to approved suppliers, which is the most frequently used method. The invitations to bid can be performed regardless of the value or quantity of the purchase. The Supply Directorate maintains a list of approved suppliers that is updated every five years through a public announcement for registration. Procurement is divided into two types:

1. Direct Purchasing. This mechanism is used for items that have only one supplier (importer, distributor, or producer). In this case, the Supply Directorate has the authority to purchase up to US\$5,000. Any value above that requires the approval of the UNRWA headquarters outside Jordan.
2. Tenders. In this case, items up to US\$15,000 can be purchased with the approval of the Supply Directorate at UNRWA headquarters. For amounts greater than US\$15,000 but less than US\$100,000, purchasing can be performed through local tenders. If the amount exceeds US\$100,000, authority for purchasing is transferred to UNRWA headquarters, which can procure through local or international tenders.



A Tendering and Purchasing Committee opens the bids and evaluates them based on prices and conformance to specifications. The selected bidder is then informed, and the procurement process begins.

Procurement is done annually and takes into consideration the necessary lead times so that the goods are received at the UNRWA stores in a timely manner. Any stock-out is covered by local purchasing for small quantities and value. Procurement procedures are clear, well documented, and performed in a transparent manner. Products are procured to address forecast needs and to prevent stock-outs.

Quality assurance is the responsibility of the Procurement Department, which is responsible for ensuring that all suppliers maintain good manufacturing practice (GMP) and that at least two-thirds of the shelf life remain before the expiration date for all drugs. Products are sent to the MOH labs for testing, except contraceptives, which are received from the MOH already tested. The UNRWA staff is responsible for double-checking expiration dates to make sure that they are at least six months away from the date the contraceptives enter the UNRWA stores.

## **2. Forecasting**

Forecasting of essential drugs is performed for only one year and is based on inventory levels for each type of drug, consumption reports received from each clinic/center, number of clients, demographic data, and development reports issued by the UN relating to plans and budgets. These reports are considered to have high reliability and are comprehensive, thus the data are not compared with other sources of information.

The head of the Pharmaceutical Section is responsible for forecasting each year including adding or eliminating drugs based on demand. This person is qualified and trained in forecasting techniques and is also skilled in estimating contraceptive requirements.

Forecasts are used as the basis for resource mobilization, both human and financial, along with the number of clients and type of services, which are also factors in determining resource requirements.

## **3. Distribution**

Stock-out of some drugs has occurred in the last year. Stock-outs are corrected through the use of local emergency orders for not more than two-months' stock. However, no stock-out of contraceptives occurred at any level.

Products stocked out include such drugs as adrenaline, which occurred for only a short period of time and only at the main pharmacy store. In such cases, clients are given an alternative drug if possible. If there is no alternative, the client is required to purchase the drug from the private sector with his own funds unless it is an essential drug approved by the World Health Organization (WHO); then it is purchased using UNRWA's account.

Reasons for stock-outs include the delay of suppliers in providing the products, delays in conducting quality control tests by governmental agencies, or a sudden and unexpected increase in demand. No essential drugs have expired in the last year at any level. In addition, storage procedures ensure the use of drugs before expiration.

The supply chain contains three levels: A main backup pharmacy/store located in Syria, the central pharmacy/main store in Jordan, and 23 pharmacies/stores as part of clinics. All stores maintain storage

conditions as required by pharmaceutical standards. Storage capacity is inadequate to manage the current product load due to increasing demand for essential drugs. Due to budget constraints, there are no current plans to overcome inadequate storage capacity.

Transportation is adequate at all levels. A distribution schedule exists that is based on monthly deliveries; however, distribution from the main stores to clinics occurs daily—one delivery to each clinic per month. The cycle to cover all clinics requires eight to 12 days per month. Emergency orders are delivered within 48 hours. The order forms contain information on stock on hand and consumption and are used for ordering and shipping at all levels.

The current distribution system requires improvement to accommodate the increase in demand. There are no plans to improve the storage infrastructure due to budget constraints. The current distribution network has the potential to expand, but the main barrier is financial constraint.

#### **4. Strengths and Weaknesses**

The strengths in the current procurement system at UNRWA include the following:

- Ability to conduct local and international tenders successfully
- Clear, transparent, and documented procedures
- Well-trained staff in procurement and storage
- Coordination between logistics and procurement
- Inventory control system with minimum and maximum stock levels
- Good procurement planning based on forecasts, inventory levels, losses, and lead times
- Good forecasting techniques based on stock levels, consumption reports, number of clients, and demographic data
- Organized and scheduled distribution to cover all UNRWA clinics
- Potential for distribution and storage expansion

The weaknesses in the current system include the following:

- Limited resources (human and financial)
- Decreasing budget and increasing demand each year
- Stock-outs in certain essential drugs
- Main backup store supplying Jordan is in Syria
- Long procurement process, which takes six months from time of order until goods are received

## ***Jordan University Hospital (JUH)***

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The Jordan University Hospital (JUH) was established officially in 1973 as part of the University of Jordan. It contains all specialties and is considered the main training organization for medical students, nurses, and other medical support staff.

### **1. Procurement**

The JUH procures all of its essential drug needs, which are increasing each year due to increased demand. Drugs are procured from hospital revenues as the hospital is considered an “income-generating entity.” This does not include contraceptives, which are supplied free through a USAID grant to the MOH. Contraceptive consumption is also increasing as a result of increased demand.

Procurement is performed by a Supply and Procurement Division in close coordination with warehousing. The staff working in procurement are qualified and were all trained at the University of Jordan Training Center on procurement, storage, and inventory control. In addition, they were also trained on family planning (FP) procurement, storage, and use, and they all have a minimum of 10 years experience in procurement and related functions.

Supply, purchasing, and warehousing staff work together to determine drug requirements and to ensure that proper procedures for drug receipt, storage, and release are followed.

Procurement plans are theoretically based on weekly inventory counts, consumption reports from all sections, procurement reports, number of clients, and projected demand. However, in general, drugs are procured based on the previous year’s consumption, adding 10–15 percent to cover the projected increase in demand.

Procurement procedures are based mainly on issuing local tenders. The tender has two types, based on value, and are as follows:

1. Subtenders. Subtenders have a value of JD 5,001–10,000 and are announced in the local newspapers. Offers are received within a deadline of one month, opened formally, and studied by the Tenders and Purchasing Committee to select the contractor. Products are delivered within a period of two months, including shipping, clearance, and transportation to JUH stores. This type of tender is used to cover any current or expected stock-out in any drug.
2. Central tenders. Central tenders have a value exceeding JD 10,000 and are also announced in local newspapers. Offers are received within a deadline of one month, opened formally, and studied by the Tenders and Purchasing Committee to select the contractor. Products are delivered within a period of six to 12 months, including shipping, clearance, and transportation to JUH stores. This type of tender is performed only once a year.

Direct purchasing is also performed by the Purchasing Committee without tendering at a maximum value of JD 5,000. This type of purchasing is used for emergency orders for small amounts covering short periods. Normally, goods are delivered in a maximum of five days.

The above indicates that procurement of essential drugs is performed annually. All projected stock-outs are covered through subtenders or direct purchasing, depending on the value. It is worth noting that when evaluating bids, conformance to specifications and quality of products rather than price are the main

factors for selection. Suppliers' performance is monitored by the Receiving Committee, which is formed each year.

The procurement procedures are clear and transparent according to the guidelines in the Supply and Purchasing System, which is being implemented and audited internally. Products are procured to address forecasted needs and to prevent stock-outs so that all drugs are available at all times.

Quality assurance for contraceptives is performed by the FP Clinic Supervisor, who receives the contraceptives and checks package condition and expiration dates to ensure that they contain no defects. Quality assurance for other drugs is the responsibility of the Receiving Committee, which is formed each year. The committee inspects received drugs to ensure that they meet specifications and order quantities and makes sure that drugs are tested at the Drug Control Labs at the MOH. The committee also checks expiration dates, which should not be before at least two-thirds of the shelf life of the drug. Contraceptives should have at least six months before their expiration dates.

## **2. Forecasting**

Essential drug needs are forecasted for one year only. Forecasting is based on stock levels for each drug, expiration dates of stored items, and procurement and consumption reports from each section. An annual growth rate of 10–15 percent is usually added to accommodate for potential increase in demand. No statistics are used from outside sources. Forecasting depends on JUH data and information, which is considered highly reliable as it is based on actual consumption figures. Thus, no comparisons are made with other sources of information.

A special Drug Committee is responsible for forecasting. The head of stores is part of this committee. The committee reviews use of all drugs, adds new drugs, eliminates drugs that are not used, and adjusts drug quantities based on demand. The committee staff are qualified and were trained in forecasting techniques at the University of Jordan.

Contraceptive forecasting is carried out monthly, and a report containing consumption by type of drug, number of clients, and stock level of each drug is prepared and sent to the MOH. This is performed by the FP Clinic Supervisor, who was trained on the national FP supply system. Forecast data is not used for resource mobilization.

## **3. Distribution**

Stock-outs occur in certain products, such as insulin, cancer drugs, and surgical medical supplies. Stock-outs usually occur for a period of two weeks to one month and mainly at the main/central store level. In such cases, emergency direct purchasing is carried out in small amounts. Sometimes certain stocked-out products are acquired and received from the public sector (government). If a specific drug is out of stock, an alternative drug is prescribed, if possible. If alternatives are not available, the prescription is stamped by the financial department, and the client buys it from the private sector, where 90 percent is covered by JUH and ten percent by the client. No stock-outs of contraceptives occur at any level.

Reasons for stock-outs include scarce financial resources, which limit the purchased quantity of expensive drugs (cancer drugs), or unexpected increase in demand. Sometimes, stock-outs occur because of new treatment agreements with new organizations leading to higher demand. Other reasons for stock-outs include the delay in delivery by the contractor because of production problems by manufacturers and the delay in conducting quality control tests, and accordingly, the release of products for use.

Certain essential drugs have expired within the last year, mainly cancer drugs and special medical solutions. These occurred at the main store level and the pharmacies in various sections. The main reason for expiration is the fast development of cancer drugs, which makes some drugs obsolete. It is worth mentioning that JUH includes a clause in the delivery agreement with the selected contractor requiring the contractor to replace drugs that reach three months before their expiration date with new quantities that have a longer expiration date. This policy has reduced the amounts destroyed because of expiration. Before this policy, drugs were disposed of by a special committee after the approval of the JUH Director. FP methods did not witness any expiration due to its use based on FEFO.

The supply chain for drugs consists of two levels: the main/central store at the first level and pharmacies in the various sections at the second level. All stores at the two levels have the required storage conditions. The storage capacity is inadequate to manage the product load, and there is a need for an intermediate store to supply to the pharmacies. The transportation of drugs from the main store to pharmacies is performed in a primitive way, using open carriages that are pushed through the same corridors and elevators that clients use.

Distribution is based on a schedule that is constantly interrupted by emergency orders from pharmacies so that the schedule is not properly followed. In certain cases, clients are referred to the main store to receive prescriptions, which creates problems for the main store as it is supposed to supply pharmacies and not end-users.

The storage capacity is constant due to limited resources although there is a need to upgrade storage capacity through establishing an intermediate store. There is also a need to improve and expand the distribution network due to increases in demand. The barriers are the capacity of the existing buildings and infrastructure. There is only one level of distribution for contraceptives, which is the FP pharmacy used for storage and delivery of contraceptives to users. The existing capacity is adequate and has no need for future expansion.

#### **4. Strengths and Weaknesses**

The strengths of the JUH system include the following:

- The ability to conduct tenders at the local level, including evaluation of bids and development of supply agreements
- Adequate qualified staff trained in logistics and procurement
- A clear, transparent, and documented supply and procurement system
- A system of subtenders and direct purchasing to accommodate stock-outs and emergency needs
- absence of stock-outs or expiration in contraceptives of any type in the last year
- A computerized inventory control system that allows for monitoring stock level of each type on monthly basis

The weaknesses of the JUH system include the following:

- Stock-outs in the last year of certain essential drugs (cancer and diabetes drugs)
- Limited storage and distribution capacity
- Limited financial resources, which may affect the procurement of contraceptives in the future
- Forecasting based on adding a fixed percentage to previous year consumption
- Forecasting performed for one year, thus, budget allocations for drug procurement on an annual basis

## ***Jordan Association For Family Planning & Protection (JAFPP)***

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JAFPP is a nonprofit organization that provides programs and services to Jordanian families in the fields of family planning and reproductive health. JAFPP activities include the following:

- assisting couples in family planning and child spacing
- providing medical advice to couples for improved health
- solving family problems resulting from high birth rates
- training human resources working in the field of FP
- establishing multiple clinics to provide contraceptives and medical advice
- conducting awareness-raising activities in the field of FP/RH

### **1. Procurement**

JAFPP has an individual responsible for procurement and distribution and another responsible for storage of contraceptives and medical supplies. JAFPP does not currently purchase contraceptives as they are supplied free through the MOH FP program, which receives contraceptives from a USAID grant. However, JAFPP has the capability to procure contraceptives in the future through its purchasing system. The staff working on procurement, distribution, and storage at JAFPP have the qualifications, capabilities, and required experience needed in this field. In addition, they were trained intensively on FP procurement.

The procurement plans are based on monthly reports of consumption at each clinic, in addition to new clients and projections of potential clients. Inventory levels are also taken into account to ensure that the minimum stock levels are at least six months' supply in the main store and three months' supply in clinic stores. Procurement of medical supplies at JAFPP is performed through either local tenders or invitations sent to specific suppliers. However, tenders are the main method used for procurement regardless of the value. A Purchasing Committee issues the tender based on current and forecasted demand for six months of medical supplies. The committee opens received bids and evaluates them based on the quality and value. Once a bidder is selected, he is informed, and delivery occurs three to six months from the award inclusive of the time needed for shipping, clearance, and transportation to the site. This is done on a biannual basis.

No losses occurred due to expiration in the last year although some losses occurred as a result of contamination of IUDs during insertion. Adjustments for each method are taken into consideration when ordering contraceptives based on increased or decreased demand.

The procurement procedures at JAFPP are very clear and transparent. In addition, the quality of contraceptives received is assured through testing and inspecting expiration dates, which should not be less than six months from the date the contraceptives become available.

### **2. Forecasting**

Forecasts are made for one year only and are based on stock levels for each method, amounts received and consumed in the previous year by each clinic, number of clients, and demographic indicators produced by the Department of Statistics. Forecasts are reviewed every three months but are not used for resource mobilization as JAFPP does not pay for FP commodities. JAFPP provides a variety of FP/RH services, and its resource requirements are based on the number of clients and types of services demanded.

### **3. Distribution**

No stock-outs occurred in any contraceptive at any level, and no contraceptives expired at any level in the last year.

The supply chain consists of two levels. The main store supplies to all 21 clinics located throughout the country. Distribution to the clinics takes approximately three days from the date the order is received. Urgent orders are delivered to clinics within 24 hours through Aramex delivery service. Storage conditions and capacity are adequate at all levels.

The distribution and storage infrastructure is stable and based on clinic capacity and available resources. There are no immediate plans for improvements or renovation. It is worth noting that JAFPP's percentage of FP market share is decreasing due to the increase in public sector service providers, which provide services and commodities for free.

However, the actual number of JAFPP clients did not decrease. The loss in the percentage of market share is due to an increase in the overall size of the FP market resulting from increases in population growth and new users. Thus, there is potential for expansion, but this is unlikely due to financial constraints and JAFPP's focus on quality over quantity.

### **4. Strengths and Weaknesses**

JAFPP has many strengths as a leading provider of FP services. It has a strong and transparent procurement and distribution system and uses a systematic and rigorous forecasting methodology. As a result, JAFPP experiences zero losses due to expiration and no stock-outs at any level.

JAFPP's weakness is its lack of financial resources. If JAFPP has to purchase contraceptives, it will not be able to provide them to clients at the current low price. This may, in turn, affect future demand and long-term sustainability.

## ***United Nations Population Fund (UNFPA)***

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The UNFPA was the largest provider of FP/RH methods until 1997 when the existing five-year program came to an end. At that time, it was decided that all FP methods would be supplied by USAID as a grant to the government. UNFPA assistance in procurement is currently limited to medical equipment and lab instruments. To date, UNFPA has provided medical equipment at a total value of US\$250,000; advocacy equipment, TV, videos, and so forth, at a total value of US\$100,000; and office furniture at a value of US\$50,000.

### **1. Procurement**

UNFPA has not procured FP commodities since 1998 and procures medical equipment and instruments only as indicated earlier. UNFPA is reducing assistance to Jordan as indicated by the 2003–2007 budget, which is 50 percent of the 1998–2003 budget.

UNFPA conducts procurement only through UNFPA headquarters in New York. Because supplied items are transferred directly to the counter partner (beneficiary), UNFPA does not have any stores or distribution system in Jordan like that of UNRWA.

Procurement plans are based on a scheduled workplan that is reviewed quarterly to assess the time at which the supplied items need to be available for use. Thus, lead times are a major aspect of procurement planning.

Procurement is usually performed in agreement with the beneficiary (the MOH in most cases), which specifies needed items and specifications. Procurement follows UNFPA policies and is as follows:

1. International tenders. These are processed through the Procurement Department at UNFPA headquarters in New York by issuing an international tender, receiving and evaluating bids, classifying them, and presenting results to the Purchasing Committee for approval. The bidder with the lowest price and required specifications is selected. The time required from the beginning of the procurement procedure until receiving the purchased items is approximately six months and is taken into consideration in planning.
2. Local tenders. These are performed either through announcements in local newspapers, which is rare, or through direct acquisition of bids from agents and importers. A joint committee with UNFPA and the MOH is responsible for local tenders. The bid with the lowest price and required specifications is selected. If the purchase value exceeds US\$30,000, the approval of the Purchasing Committee at UNFPA headquarters in New York is needed. The time required for the procurement process from the beginning to receiving the items is approximately three months.

Thus, procurement is always based on either international or local tenders. Procurement procedures are transparent and well documented. They are also audited and reviewed on annual basis. The purchased items are received by a committee from UNFPA and the beneficiary (mainly the MOH) to compare specifications to the received items.

Forecasting is performed for five years through a five-year plan, which is reviewed and implemented quarterly. All staff operating in procurement in Jordan and New York are qualified and highly trained.



## **2. Strengths and Weaknesses**

The main strengths of the UNFPA system are the transparency, long- and short-term planning based on realistic assumptions, the ability and experience to conduct local and international tenders, and the annual review and updating of procurement plans and project implementation. Strengths also include the previous experience in procurement and supply of FP methods for developing countries.

The main weaknesses include delays in receiving the purchased items due to lengthy bureaucratic procedures, quality control testing performed prior to shipping, and the multiple committees that meet to make decisions. This is also the case in other U.N. organizations.

## **3. UNFPA External Clients Program**

The above system is similar to the UNFPA system used for external client procurement. In the external client program, all public sector entities, such as governments, NGOs, and other U.N. agencies, are eligible to purchase contraceptives through UNFPA as long as the contraceptives requested are required for purposes related to UNFPA activities and are consistent with the aims and policies of UNFPA.

UNFPA has been procuring contraceptives and related commodities for more than 30 years. Its extensive experience in this area combined with the significant volume of contraceptives procured annually allows access to the most favorable international pricing. As the leading procurement agency for contraceptives, UNFPA has extended its services to ensure that partners in development can benefit from its knowledge base and market influence.

Quality assurance of products and manufacturing processes is of utmost importance in the procurement of condoms and other contraceptives. The UNFPA procurement unit has established procedures for ensuring that the commodities it supplies live up to the highest international standards at all times.

For this purpose, UNFPA requires manufacturers of condoms and IUDs to undergo a prequalification process before they can compete for contracts. UNFPA buys injectables and pills from internationally recognized manufacturers with relevant FDA approval or equivalent certification that are licensed both in the country of operation and in the country of supply. Whenever UNFPA purchases any of these commodities from less well-known sources, it contracts international testing laboratories to sample and test every batch produced against contract specifications before shipment.

UNFPA charges a 5 percent handling fee on top of the total CIF/CIP<sup>1</sup> order value to cover its administrative costs for the reimbursable procurement services. In addition, UNFPA requires full advance payment for all clients with the exception of certain U.N. clients with whom it has special procurement agreements.

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<sup>1</sup> CIF is the price charged by the seller that includes the cost of drugs, insurance, and all transportation charges to the named destination. This term is used for carriage by sea and inland waterway only. If the parties do not intend to deliver the goods across the ship's rail, the CIP term is used. CIP is the price paid by the seller for carriage and insurance to the named destination and is used for any other mode of shipment.

## ***Joint Procurement Mechanism***

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A proposal for a joint procurement mechanism was submitted in the late 1990s to cover the MOH, RMS, JUH, and other public university hospitals and was accepted. A system for joint purchasing was developed by a special committee headed by the Director of Drugs at the MOH and approved by the Prime Minister at the end of 2002, to be implemented starting January 1, 2003. However, an amendment was made to postpone implementation until securing needed resources, including hiring a General Manager and other required staff and approval from the Prime Ministry to start, which had not happened as of March 2004.

The aim of this joint procurement mechanism is to unify specifications leading to rational use of drugs, get better prices as the quantity will be higher, and better control the quality of purchased drugs by a single agency or organization.

The procurement system would be different from the supplies system currently implemented by the MOH through the MOF, which is more compatible with the RMS system, allowing for international tendering. It was proposed that the joint procurement system will start with purchasing selected numbers of essential drugs, to increase gradually based on system success.

## *Conclusion*

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All studied organizations have clear and transparent procurement systems although procedures vary depending on the organization's size. The most effective and strictly implemented system is the one at RMS, which is based on a documented supply system and performed by qualified and well-trained staff. The system at MOH is also effective and is based on the Supplies Act No. 32 of 1993 implemented by the GSD/MOF. UNRWA, JUH, and JAFPP also have well-documented systems for procurement but on a smaller scale than RMS and MOH.

The above systems are not as efficient and effective as possible because they contain lengthy procedures with many committees involved and often have inadequate financing, which leads to delays in delivery and unnecessary complications. The existence of stock-outs of certain drugs at various levels in most organizations confirms this lack of efficiency.

Forecasting drugs is not performed systematically and rigorously in most organizations (i.e., forecasting tools are not used, and trends are not followed). Instead, most organizations have a committee that meets to decide on future drug requirements by looking at the previous year's data regarding consumption and stock levels. Again, stock-outs of essential drugs in most organizations confirm the use of weak forecasting techniques.

Distribution covers all points of service delivery and is performed by all organizations with varying procedures based on the resources available. RMS and MOH have the capability for storage and distribution to almost all locations in Jordan without difficulty.

All studied organizations conduct procurement through tenders, including evaluation, classification of bids, and selection of the best bid based on specified criteria. Thus, all organizations have the ability to conduct local tenders, and some have the ability to conduct international tenders if it saves money or provides products that are not available in Jordan through a local agent or importer. However, all organizations prefer local tenders as most well-known pharmaceutical companies have local agents in Jordan who can buy the tenders, perform all necessary paper work, have the locally required financial bonds, and can follow up on product delivery dates.

It should be noted that all studied organizations supplying FP services share the common weakness of limited financial resources, leading to stock-outs of certain essential drugs. With USAID phasing out in the near future, all organizations expressed concern about the future of FP procurement and supply in view of limited budgets, and some (e.g., JAFPP) are also worried about their ability to provide services at the current low prices, which will affect demand and overall strategy in this direction.

## ***Annex A: List of Interviews***

<b>Organization</b>	<b>Persons Interviewed</b>	<b>Position of Person Interviewed</b>
Ministry of Health (MOH)	<ol style="list-style-type: none"> <li>1. Mr. Wajeeh Reimawi</li> <li>2. Mr. Munadel Al-Muhaisen</li> <li>3. Dr. Maisa' Saket</li> <li>4. Mrs. Abeer Mwaswas</li> </ol>	Former Director of Purchasing Current Director of Purchasing Director of Drugs Head of RH Information Dept.
Royal Medical Services (RMS)	<ol style="list-style-type: none"> <li>1. Mrs. Riham Al-Natheef</li> <li>2. Mrs. Wafa' Al-Nsour</li> </ol>	Director of Supply Department Head of Purchasing Division
United Nations Relief and Works Agency for Palestinian Refugees (UNRWA)	<ol style="list-style-type: none"> <li>1. Mr. Suleiman Ayyash</li> <li>2. Mr. Mustafa Sheikh</li> </ol>	Inventory Control Manager Head of Pharmaceutical Section
Jordan University Hospital (JUH)	<ol style="list-style-type: none"> <li>1. Mr. Shaher Al-Nimran</li> <li>2. Mr. Ahmad Saber</li> <li>3. Mr. Musa Sharaia'</li> <li>4. Mr. Ahmad Issa</li> <li>5. Mr. Mohammed Mufleh</li> <li>6. Dr. Shawki Saleh</li> <li>7. Nurse Raja' Abu Sa'dah</li> </ol>	Deputy Director of Supplies Head of Warehousing Head of Purchasing Head of Tenders Head of Drugs Store Head of Ob-Gyn Section FP Clinic Supervisor
Jordan Association for Family Planning and Protection (JAFPP)	<ol style="list-style-type: none"> <li>1. Mr. Basem Abu-Raed</li> <li>2. Mr. Hatem Karyouti</li> <li>3. Mr. Assem Atiyat</li> </ol>	Executive Director Purchasing Officer Supplies Officer
United Nations Population Fund (UNFPA)	<ol style="list-style-type: none"> <li>1. Mr. Seif Al-Dein Abaro</li> </ol>	Country Representative

## ***Annex B: Guideline Questionnaire***

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### **Procurement**

1. What percentage of total essential drug need does the government procure?
  - Is this percentage increasing?
  - Is it using donor grant, loan or government funds?
2. Who is responsible for procurement?
  - Have they received procurement training?
  - Is there coordination between logistics and procurement staff?
3. Are procurement plans based on the following data?
  - Updated forecasts
  - Inventory levels
  - Losses and adjustments
  - Lead times and shipping and handling schedules
4. What are the procurement policies and procedures (e.g., issuing tenders, evaluating bids, monitoring supplier performance)?
5. How transparent are the procurement procedures?
6. Were appropriate products procured to address forecast need? Prevent stock-outs?
7. What policies and procedures are in place to assure product quality?

### **Forecasting**

1. Are essential drug needs forecast 2 to 5 years in advance?
2. What data is used for forecasting need (e.g., logistics data, consumption, issues, losses/adjustments, sales data, demographic data, and service statistics)?
  - How reliable is the data?
  - How complete is the data?
  - Are multiple sources of data used to compare calculations?
3. How often are forecasts updated?
4. Who is responsible for forecasting?
  - Have they received logistics training?
  - Do they require donor assistance for completing their forecasts?
  - Do they have skills in drug quantification (estimation) as well as contraceptive forecasting?
5. Are forecast data used for resource mobilization?

## Distribution

1. Have stock-outs of any essential drugs occurred within the last year? If so, in what sector and at what levels?
  - Which products stocked out most often?
  - Which products stocked out for the longest periods?
  - Which levels experienced stock-outs?
  - What were the main effects? (Did clients go to private sector? Were new users turned away?)
  - What were the main reasons for the stock-outs?
2. Have significant amounts of any essential drug expired within the last year (any sector, any level)?
  - Which products had the highest quantity of expirations?
  - What were the main effects? (Products destroyed? Donors unwilling to re-supply?)
  - What were the main reasons for the product wastage?
3. What is the current capacity of the distribution system?
  - How many levels are there in the supply chain?
  - How long is the pipeline? How can it be lessened?
  - What are the storage conditions at each level? Are they adequate to manage the product load?
  - Is transportation adequate at all levels?
  - Is the distribution schedule appropriate?
  - Are data on stock on hand and consumption collected and used for ordering and shipping at all levels?
  - Are staff trained in logistics at all levels of the system?
4. What is the future capacity of the distribution system?
  - Is the commodity distribution infrastructure improving or deteriorating?
  - Are the demands on the public sector system likely to increase? Can the system expand to accommodate the increase?
  - Do weaknesses in infrastructure (e.g., bad roads or too few wholesalers) limit the availability of private sector products?
  - Does the commercial distribution network have potential to expand? What are the barriers to expansion (e.g., cost of transportation, labor and/or advertising to consumers)?