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Assessment of Pharmacy and Inventory Control in Ministry of Health Hospitals in Jordan

Executive Summary *March 2006*

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Executive Summary

This pharmacy and inventory control assessment of Jordanian Ministry of Health (MOH) hospitals, undertaken in conjunction with Partners for Health Reform *plus* (PHR*plus*), had the following goals:

- ▲ Define the status of each hospital's pharmacy system including strengths and weaknesses
- ▲ Provide information to assist in the design of interventions
- ▲ Provide information to help define resources and budget requirements
- ▲ Monitor the changes in the system and the impact of interventions
- ▲ Compare the performance of different systems

Pharmacy services in MOH hospitals are provided by a complex, bureaucratic system in which personnel are overworked and resources are greatly limited. Lack of computerization exacerbates this situation. Pharmacy staffs spend extensive time on administrative tasks such as drug distribution and procurement, to the detriment of pharmacotherapy, i.e., pharmaceutical services provided to patients.

In addition, a lack of access to current and updated medication information and professional training opportunities constitute a fundamental obstacle to the provision of effective and up-to-date pharmaceutical services.

The assessment surveyed three aspects of hospital pharmacy departments (HPDs) in 26 MOH hospitals:

- ▲ Structure
- ▲ Processing
- ▲ Outcomes

Each topic was evaluated against a subset of indicators. The indicators are qualitative (expressed in the presence or absence of a subject), or quantitative (expressed in numbers), in order to obtain a reasonably complete overview of the pharmacy system.

The survey identified the strengths and weaknesses listed below.

Strengths

- ▲ Strict adherence of all HPDs to MOH regulations regarding narcotics.

- ▲ All records and forms used to perform HPD work are standardized and designed centrally by the MOH.
- ▲ Pharmacy staffs are enthusiastic about and supportive of any program that will enhance their performance and build up their capacity.
- ▲ There is good control of expensive drugs at some hospitals.
- ▲ The average number of medications per prescription is rational and lies within international figures.
- ▲ The average percent of medications prescribed from the National Drug Formulary and List (NDFL) is relatively high.
- ▲ The average percent of injectables prescribed to outpatients is acceptably low, in fact lower than international figures.
- ▲ The availability of essential medications, at the time of study, was excellent.
- ▲ The average percentage variations between stock records and physical counts were low and within international figures.
- ▲ The correspondence between stock records and physical count was acceptable.
- ▲ The average percentage of unexpired medications available at HPDs dispensaries and storage sites was extremely high (100 percent).
- ▲ The average percent of time that individual medications were out of stock was low (at the time of survey) and within international figures.

Weaknesses

The following challenges were common to most MOH hospitals:

- ▲ Pharmacists sometimes delegate dispensing responsibilities to pharmacy technicians. This contravenes the Pharmacy and Medication Temporary Law No. 80, Article 19, of 2001, and its modification No. 30, of 2003.
- ▲ The number of pharmacists is inadequate and there is need for proper selection and distribution criteria in staffing hospitals.
- ▲ Pharmaceutical care is not satisfactorily provided to patients due to the fact that clinical pharmacy services are not yet implemented in MOH hospitals.
- ▲ Proper drug information sources are lacking and training opportunities for pharmacy staff are limited.
- ▲ Proper fire alarm systems and fire-fighting equipment is inadequate at some hospitals in terms of numbers, types, and distribution, as is staff training on the use of such equipment.
- ▲ Organizational structures and job descriptions for the HPDs have not been disseminated.

- ▲ An active adverse drug reaction monitoring and reporting system is needed.
- ▲ Medication quantification requirements are not estimated according to actual hospital needs and standard procedures. Estimation of medication needs is processed centrally without direct involvement or active contribution of the hospital pharmacists.
- ▲ No hospital had a policy for keeping emergency stocks of essential drugs at the time of the survey.
- ▲ There is no active policy recommending body, such as the pharmacy and therapeutic committees (PTCs) and antibiotic committees, in any hospital.
- ▲ There are improper stock recording practices in some hospitals (untidy records and poor recording of drugs).
- ▲ Prescribing medications by their generic names was found to be unpopular among physicians.
- ▲ Antibiotics are overused; nearly half of outpatient prescriptions contain one or more such agent.
- ▲ A system is needed to randomly monitor medications at dispensaries and stores to ensure that they retain quality.

Recommendations

Pharmacy premises and storage

- ▲ The suitability of buildings, adequacy of working space, appropriateness of sites and the maintenance requirements of all dispensaries and storage sites need to be evaluated by a team of engineering, pharmaceutical, and administrative experts.
- ▲ Storage space in Princess Basma, Jarash, and Princess Badee'a hospitals, and dispensary space in Princess Basma, Jarash, Princess Badee'a, and Princess Raya should be expanded.
- ▲ There is need for proper pharmaceutical preparation areas in almost all hospitals.
- ▲ Storage conditions (temperature, ventilation, humidity, sanitation, and hazards) should be controlled, monitored, and appropriately documented.
- ▲ All cooling equipment should have a permanent calibration system with documentation.
- ▲ Some hospitals need safer storage cabinets for narcotic drugs.
- ▲ Staff should be trained on good storage practices.

Drug information

- ▲ There should be proper information and reference resources on all medications.
- ▲ The NDFL should be effectively disseminated to all health professionals.

- ▲ Each hospital needs specialized and well-trained clinical pharmacists to provide pharmacotherapeutic care. These pharmacists also should be able to provide information about proper medication usage to health care providers, patients, and colleagues.

Safety and security

- ▲ There should be a comprehensive assessment of security and safety measures and related equipment, with special focus on alarms and fire-fighting equipment (types, quantities, and locations); staff should be trained on equipment usage in collaboration with Civil Defense Directorates.
- ▲ There is need for proper security and protection measures for some storage sites and pharmacy outlets, including a system for controlling and properly handling the keys of pharmacies, stores, and narcotics cabinets as well as a recording system.

Personnel

- ▲ Pharmacists should be recruited according to a plan with proper selection and fair distribution criteria in compliance with the patient load at each hospital.
- ▲ There is need for a training plan for pharmacists and technicians, with technical grading and a professional performance assessment system with related incentives, similar to that used in the Royal Medical Services.
- ▲ Clinical pharmacy and pharmaceutical care concepts should be introduced for the provision of equitable and value-added pharmaceutical care to all patients.

Professional

- ▲ Functioning PTCs and antibiotic and infection control subcommittees should be established in each hospital.
- ▲ Standard operation procedures covering all aspects of professional pharmacy practices should be developed and disseminated, and continuously revised and updated.
- ▲ All health professionals should be trained to effectively utilize the NDFL, and prescribe generic medications in their practices whenever possible.

Inventory management

- ▲ Drug procurements should be based on proper quantification, taking into account data on actual drug consumption at each health facility.
- ▲ A system for proper distribution and control of medications in hospital wards/nursing stations and critical care areas should be implemented based on the unit-dose system that relies on actual medication orders for each patient.
- ▲ There is need for a system to monitor and control the expiration dates of medications.
- ▲ Each hospital should have a pharmacist on call after hours, to provide pharmaceutical services coverage 24 hours.