

# Management of Medical Stores in Indian Armed Forces

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*Due to the large base and geographical spread of users, AFMSDs face difficulties in supplying the required stores to indenters. As a result, clientele satisfaction is affected. The pharmaceutical industry in India has developed over a period of time and there are reputed firms which have wide and reliable network to supply medical stores. Thus, hospitals/units located in peace stations can obtain their stores requirement directly from RC holder or the local market. The smaller units could be attached to the nearest hospitals functioning as DDOs. The AFMSDs should concentrate on procurement and storage work only for hospitals/units located in forward and advanced areas. It will result in reduction of work load of depots and improve supply of stores to field areas.*

## Introduction

Medical services are a crucial component of the extensive logistical support required by the armed forces, both in operations as well as in peacetime. The management of medical stores is a very important function of medical services. In fact, the effectiveness and efficiency of medical services depends on management of medical stores. In the Indian context, the Armed Forces Medical Services (AFMS) are responsible for providing medical support to Indian armed forces. This paper examines the current system of medical stores management by the AFMS, its effectiveness and efficiency, and suggests measures to further achieve economy in stores management.

## Role of AFMS

The AFMS is the largest health care delivery system in the country. It provides comprehensive health care to serving armed forces personnel, their families and dependents, numbering approximately 15 lakhs and medical stores for about 27 lakhs veterans<sup>1</sup>. The Directorate General of Armed Forces Medical Services (DGAFMS) is the controlling authority of AFMS. One of its primary functions is provisioning, procurement and storage of expandable (drugs and consumables) and non-expandable (equipments) stores required for medical

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treatment. The requirement of medical stores is met through central procurement by DGAFMS. To meet shortfalls in supply of expandable stores, local purchases are done by medical depots and hospitals. However, the procurement and maintenance of medical equipment for all hospitals and constant up gradation of hospitals is done centrally by DGAFMS.

### Organizational Structure

AFMS has a wide network of Regimental Aid Posts manned by doctors across the country. These are supported by a fleet of 87 state-of-the-art Field Ambulances, which are mobile hospitals with a capacity of 45 beds each. Besides the facilities available in combat zones, the AFMS has 130 hospitals of varying sizes in different parts of the country.<sup>2</sup> While the peripheral hospitals have basic specialist facilities, eight Command/Army Hospitals possess world class equipment and facilities.

The DG-2 Group of DGAFMS deals with the provisioning and procurement of medical stores. It concludes Rate Contracts for supply of drugs and consumables. It also concludes contracts for supply of equipment to hospitals. Currently, 10 establishments (known as Direct Demanding Officers - DDOs) receive drugs and consumables direct from the Rate Contract holders.<sup>3</sup> The remaining hospitals (known as dependant hospitals) obtain their requirement from Medical Depots, who receive the stores from Rate Contract holders.

### Medical Depots

The Armed Forces Medical Stores Depots (AFMSD) functions under the direct control of DGAFMS. There are three depots at Bombay, Delhi and Lucknow, which supply all expandable medical stores and hygiene chemicals. The depot at Pune supplies non-expandable stores to all commands. The Armed Forces Transfusion Center (AFTC) Delhi, AFMC, Pune, and TC, Kolkata provides fluids, blood and blood products. AFMSDs are responsible for storage and supply of all medical stores (expandable and non-expandable) to dependant hospitals. In addition, the designated DDO hospitals also receive non-expandable stores (medical equipments) from depots. The depots obtain medical stores from the Rate Contract holders. Stores which are not available on Rate Contract are locally procured by depots for supply to hospitals.

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## Key Areas of Stores Management

### Availability

The availability of drugs and medical stores plays a pivotal role in the performance of medical services. In recent years of rapid economic growth, Indian pharmaceutical industry has been at the fore front of progress and has developed world class expertise in drug manufacturing research and technology. It ranks 4th in terms of volume globally while being 13th in terms of value and is currently growing at the rate of 8 to 9 per cent annually.

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Rapid growth in drug R&D has been complemented by development of the medical equipment industry. This segment was valued at \$2.7 billion in 2008 and is likely to grow at 12 per cent annually for the next seven years to reach \$6 billion in 2015.<sup>4</sup> The availability of quality medical equipment is increasing and since there is an ever increasing demand for the services of this sector, economies of scale are being achieved making them more affordable.

The Indian armed forces are present across the length and breadth of the country with over 250 stations - from Nalia in West to Twang in East, Leh in North to Thiruvanathapuram in South. To provide medical services to the forces over such a vast stretch of land with numerous geographical diversities is a challenging task. The AFMS has set up Medical depots with well defined responsibilities and jurisdictions to ensure timely availability of medical stores. However, it is to be noted that during the past decade, availability of medical stores has increased significantly

particularly in bigger cities but in far flung and forward areas, the distribution network is rudimentary and requires drastic measures to strengthen it.

### Vendor Selection

The vendor selection process is a critical factor in stores management. The quality of medical supplies and their timely availability depends on the vendors. DGAFMS has laid down the following eligibility criteria for registration of firms:<sup>5</sup>

- The firms will have to get registered with DGQA;<sup>6</sup>
- The firms must possess Good Manufacturing Practices (GMP) Certificate for individual drug by state/central authority and have an annual turnover of more than Rs 20 Crores for the last 3 years;
- An original inventor of molecule patent;
- Minimum three years of manufacturing and marketing experience certificate from state drug controller.

## Drug Selection

There is an established international practice of adoption and procurement of essential medicines which are generically named products based on WHO principles. This practice is followed the world over in order to improve the management of medical services by limiting the selection of drugs to the appropriate ones.

DGAFMS also maintains a list of commonly used drugs for Armed Forces based on quantum of usage, called Priced Vocabulary Medical Store (PVMS) drugs. The new drugs, which are not listed in PVMS list, are called NIV items.

## Quality Assurance and Control

DGAFMS has adopted the best pharmacopeias (ISP/IP/BP/USP/EP) for quality assurance of drugs supplied. The guidelines for quality control primarily state that all drugs meant for central purchase exceeding Rs. 1.50 lakhs must be inspected by DGQA. Alternatively, firms can also submit test reports from laboratories approved by National Accreditation Board of Laboratories (NABL).<sup>7</sup> In case of local purchase of medicines by DDOs, depots samples are sent for Post Lab Testing (PLT) before distribution. This mechanism of quality control is in addition to the State Quality Control regulations.

## Provisioning and Procurement

DGAFMS is responsible for provisioning and procurement of medical stores for the Armed Forces. It has an inventory of over 9000 items. It procures more than 1000 listed drugs and over 250 NIV drugs and consumables every year.

## Computation of Requirement

The hospitals carry out an annual review of provisioning of the medical stores to calculate its average monthly requirements known as Monthly Maintenance Figures (MMF). This is prepared taking into account consumption pattern and factors such as changes in commitments, trends of issue, among other relevant factors. The Depots also calculate MMF for units which are dependent on them.

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The DGAFMS calculates the all-India MMF. The usual method of calculating MMF is to take an average of the issues and dues out for the previous year. To make the MMF estimate more realistic, inputs from Senior Consultant (Med/Surg.) are also obtained. These estimates lay down the basis for procurement.

#### Procurement Process

The first step for procurement involves 'Approval of Necessity' (AON) including vetting of quantity by the appropriate Competent Financial Authority (CFA)<sup>8</sup> in consultation with financial adviser for all cases of procurement depending upon the total value of the proposal.<sup>9</sup>

After establishing the necessity, tendering action is initiated as per GFR-2007<sup>10</sup> provisions, i.e. Limited Tender Inquiry is issued to the registered vendors for items costing less than Rs. 25 lakhs. However, if the total cost for items is more than Rs. 25 lakhs, then open tenders are invited. The drugs

specifications are given in generic terms. The propriety items are purchased directly from the manufacturer after negotiating the amount of discount for bulk purchase.

#### Central Purchase and Local Purchase

DGAFMS concludes Rate Contracts (RCs) for drugs and consumables having annual drawl of more than Rs. 20 lakh, which are known as central purchase items. There are about 480 items for which RCs are required to be concluded. Presently, only about 215 items are available on Rate Contracts. The supply orders on RC holders are placed directly by DGAFMS for supply to the DDOs. The medical stores, which have total annual drawl of less than Rs 20 lakhs are purchased locally by the DDOs under the delegated financial powers. The Depots also make local purchase to meet the requirement of dependant hospitals.

In addition to RC items, 102 drugs are to be purchased from 5 Pharmaceutical Central Public Sector Enterprises (CPSEs)<sup>11</sup> under Purchase Preference Policy of the government.<sup>12</sup> As far as procurement of equipments is concerned, the same are centrally purchased by DGAFMS/AFMSDs on the basis of Annual Acquisition Plan and Long Term Perspective Plan for modernization of hospitals.

## Storage

AFMSDs are responsible for procurement and storage of medical stores for dependant hospitals. The depots receive stores from RC holders and also make local purchase of stores which are not available through RCs. There are norms for provisioning and procurement of medical items by the depots to avoid overstocking. For Short Life Items,<sup>13</sup> six months stocks are to be kept and for Long Life Items,<sup>14</sup> eight months stocks are to be maintained. The MMF is taken as the basis to calculate the quantity of stocking.

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For storage of medical stores, three types of facilities are required viz. cold room, cool room, and day temperature room facility. In most of the depots and hospitals however, storage facilities are very primitive and lack modern storage technology. Even in some hospitals, there is a problem of appropriate storage facilities. This was one of the reasons why some hospitals designated as DDOs in 2006 had to be re-linked to the depots.

## Distribution

The supply of medical stores at the designated place and in time is one of the critical aspects of medical stores management. The dependant hospitals place indents on AFMSDs in respect of items with short life on quarterly basis and for long life items on half yearly basis, which are known as Regular Indents. The depots are required to dispatch stores against the quarterly indents in three to four weeks whereas in the case of half-yearly indents, in four to six weeks (maximum of 8 weeks). The AFMSDs supply stores through Civil Hired Transport. The present system of distribution is based on indenting. There is no pro-active approach to meet the resource shortfall as there is manual system of monitoring. Presently, central monitoring of stores available at different locations is difficult as flow of information from hospitals and depots is very slow.

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## Record Maintenance

The records of medical stores required for provisioning reviews are maintained at various levels. The DGAFMS office maintains the following

records in respect of all items of medical stores:

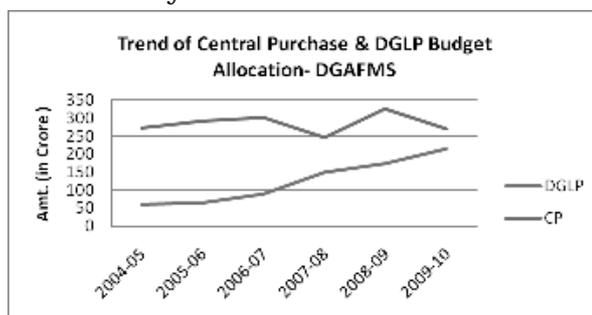
- a. Yearly stock position of all depots, transfusion centres and other stocking units (DDOs) along with twelve monthly issues, dues out & dues-in submitted as on 01 Jan/01 Sept for Expandable/Non-Expandable items;
- b. Records of dues-in against indents;
- c. Provision Review Form (PRF) cards.

The Depots also maintain Stock Details Sheet for Short Life Items and Long Life Items, and Store Section Ledger Card (SSLC card) for accounting of drugs. These documents form the basis for preparing MMF of medical stores. The hospitals maintain Item-wise Register for accounting of medical stores and charge off the stock on the basis of Daily Summary Sheet prepared by them. All these records are being maintained manually as computerized system to generate MIS Reports regarding stock position at a given point of time is yet to be put in place.

### Stores Budget

The total budget allocated for DGAFMS was Rs. 510 crore during 2009-10. Out of this, Rs. 440 crore<sup>15</sup> was allocated for Revenue expenditure<sup>16</sup> and Rs. 70 crore for capital expenditure.<sup>17</sup> The Revenue Budget for stores has two components - budget for central purchase and budget for local purchase (known as DGLP). The DGLP budget has increased from Rs. 61 crore in 2004-05 to Rs. 216 crore in 2009-10, an increase of about 25 per cent. However, there has not been much of a change in Central Purchase budget, which was Rs. 272 crore in 2004-05 and Rs. 269 crore in 2009-10.

The high increase in DGLP budget in 2007-08 and in subsequent years was mainly due to the fact that central procurement system was not able to meet the medical stores requirement of hospitals. This is supported by the fact that during the last 3 years or so, the number of items available on Rate Contracts has not increased. Consequently, requirement of funds for local purchase (DGLP) has increased in recent years.



Source: DSE Vol. II

## Perception of Users

To gauge the perception of users about the medical stores management by the AFMS, primary data was collected through close-ended questionnaire method. Information was obtained through a random sample of 97 service officers and soldiers at Delhi, Kota, Udaipur, Guwahati and Mhow.

- The survey suggested that 26 per cent users are dissatisfied/highly dissatisfied with the quality of drugs supplied.
- 62 per cent users 'sometimes' faced difficulty in obtaining medicines from MI Rooms/Hospitals.
- 38 per cent users have to purchase drugs prescribed by AFMS doctor from market due to urgency.

The findings of the survey reflect that there are some problems relating to availability of drugs in hospitals and dispensaries and quality of drugs.

### Areas of concern

Some of the issues which emerged from the examination of extant medical store management system of AFMS and interaction with various authorities are as under:

There is no delegation of financial powers for purchase of equipments to hospital authorities. The DGAFMS is following centralized approach for procurement of medical system with a view to have better control and achieve efficiency and economy in procurement.

#### Weakness in Centralized Procurement Approach

If we look at the allocation/utilization of medical stores budget of DGAFMS during last the three years (2007-2010), out of the total budget allocated for medical stores (including equipments), about 70 per cent is spent centrally by DGAFMS and AFMSDs. The hospitals get only 30 per cent of budget for procurement of drugs and consumables. There is no delegation of financial powers for purchase of equipments to hospital authorities. The DGAFMS is following centralized approach for procurement of medical system with a view to have better control and achieve efficiency and economy in procurement. To achieve this objective, Rate Contract (RC) is concluded for supply of drugs and consumables. It also procures equipments centrally for supply to the hospitals to ensure standardization of equipments in hospitals.

DGAFMS is required to conclude RCs for about 480 drugs and consumables. However, the recent data indicates that only 40-45 per cent items are available on Rate Contract. Further, there is a problem of delay in concluding Rate Contracts. According to some medical authorities, there is a delay of about 12-18 months in processing the cases at different stages. As a result, it takes about 22 to 64 months to conclude a rate contract.

The procurement of all medical stores (other than those available on RCs or centrally procured by DGAFMS) is the responsibility of the AFMSDs through local purchase. However, the depots are not able to meet the complete store requirement of dependant hospitals. As a result, the hospitals have to procure stores locally. However, to do this, they require 'Non Availability Certificate' from the depots, which is a time consuming process. Sometimes, delays caused by the sluggish process results in non-availability of drugs which eventually affect the quality of service.

Currently, supply orders against RCs are placed by DGAFMS after obtaining demand from DDOs. It has been observed that it takes about 3-4 months to place the supply orders. Due to this factor, DDO Hospitals have to locally purchase the items though available on RC list to meet urgent requirements. Such a time lag between actual demand which is time bound and supply indicates the limitations of the centralized procurement system.

Medical Items Demanded and Received from Medical Depots during 2008-09

Hospital	No. of Items Demanded	No. of Items Received	Compliance Level (in %)
I	1189	684	57.5
II	1119	277	24.8
III	1554	624	40.2
Total	3862	1585	41.0

The analyses of indents placed by three Military Hospitals revealed that out of 3862 items demanded from Medical Depots during 2008-09, only 1585 items (41.04 per cent) were supplied. Further, out of the items received, complete quantities were not received in about one-third of the cases. The above facts and figures directly reflect the inherent weaknesses in the extant centralized procurement and supply system and the need for a review of the system to ensure timely supply of medical stores.

One of the options to overcome the above problems is to further decentralize the procurement system by allocating more budgets and delegating financial

powers to hospital authorities. The decentralized system offers benefits of increased accountability, motivation and management responsiveness. In decentralized procurement systems, there is increased autonomy and greater scope for motivating and involving the hospital management. In a decentralized system, hospital authorities control their own budget and will have to act in a much more responsible way. Perhaps the most important advantage is that reliability of hospital services will increase as motivated hospital authorities will ensure that hospitals are fully equipped to provide the service to the clients.

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### Problem of Over Provisioning

Instances of over provisioning of medical stores are not uncommon in AFMS. This problem has also been highlighted by the committee appointed by the Ministry of Defence to review the 'Financial Powers Delegated to The Services' in 2005. Some medical officers mentioned that at times medicines with less residual life are supplied by AFMSDs. This indicates that there is overstocking of medicines which in some cases leads to loss of their shelf life by the time they are utilized. The reasons for this problem are plenty. Primarily, the reliability of the supply system managed by the depots is very low due to prolonged delays which causes the hospitals to issue inflated MMF's to demand stores from depots.

The problem of overstocking is inbuilt in the system since provisioning norms provides that depots must endeavor to maintain stock of 6 months for short life items and of 8 months for long life items. The requirement of many medicines is seasonal and depends on weather conditions - thus any change in conditions may cause reduction in demand and result in surplus stocks. Moreover, there are cases where introduction of new drugs causes the demand of old drug to diminish drastically.

As per the usual norms, the dependant hospitals get medical stores from depots on quarterly and half-yearly indents. Under such norms, the stocking of 6/8 months requirement currently followed by the depots is certainly on a higher side.

There have been instances when local purchase was done by the hospital to meet urgent requirement as stores were not received from central sources and immediately after that, supply from central sources was also received which resulted in over provisioning. This indicates weakness in the central monitoring system.

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### Unsatisfactory Drug Quality

This is a common concern voiced by doctors as well as by the clients as many of the generic drugs (PVMS drugs) don't produce the desired results. In fact, during the survey, 26 per cent of respondents expressed their dissatisfaction with the quality of drugs being issued in hospitals/MI rooms. Presently, pharmaceutical companies obtain quality certification from NABL labs and in few cases from DGQA. The AFMSDs also sends samples of about 10 per cent drugs for Post Lab Test (PLT) to DGQA and there have been few cases of failure of samples. In addition to the procedure laid down for checking the drug quality, there is another issue of the manner in which the sample is taken for test by the firms. Some procurement officials have expressed apprehension that pharmaceutical firms manipulate the samples sent for testing.

Financial Delegation to AFMSDs is not commensurate with responsibility

The present delegation of financial powers to Commandant AFMSDs is considered inadequate by the medical authorities considering the huge amount of local purchase they have to do. Currently, depots are required to locally procure about 5 to 6 thousand items, including about 250 items for which DGAFMS is not able to conclude RCs. Under the delegated financial powers, Comdt. AFMSD can accord sanction for LP of stores amounting to Rs. 10 lakhs per item per day with IFA consultation. Due to the limitation of financial powers, the depots have to issue repeated tender inquiries to procure medical stores to maintain prescribed stocks level, particularly for those items for which RCs are not concluded by DGAFMS. The repeated tendering for the same items at short intervals amounts to splitting of quantity. Such proposals are objected by finance and audit authorities. Consequently, not only the procurement process is delayed but also the value for money is not achieved.

Moreover, it also generates avoidable extra administrative work.

There are delays in distribution also as the required stores are not readily available with the depots.

### Delay in Supply of Stores

The time limits for dispatch of stores to indenting units have been laid down. However, these are rarely adhered to by AFMSDs, which not only affects the quality of health management but also the

confidence of indenters. There are delays in distribution also as the required stores are not readily available with the depots.

Time taken to obtain Stores from AFMSDs

Time Taken to Supply	Per cent of Indents			
	Hospital	Hospital	Hospital	Avg. of 3
	1	2	3	Hospitals
< 4 Weeks	30.9	29.4	33.9	31.4
4 - 6 Weeks	4.8	11.8	1.6	6.1
6 -8 Weeks	4.8	8.8	1.6	5.1
8-10 Week	4.8	11.8	3.2	6.6
10-20 Weeks	47.6	20.5	29.0	32.4
> 20 Weeks	7.1	17.7	30.7	18.4

Note: Data for Hospital 1 & 2 is for the year 2008-09 and in case of Hospital 3 for 2009-10

The analysis of response time of AFMSDs against the indents submitted by three military hospitals during the year revealed that in 38-60 per cent of indents, the time taken by depots to supply stores was much more than the time limits prescribed by DGAFMS.<sup>18</sup> In case of 32 per cent of indents, 10-20 weeks time was taken to supply stores to the indenter. In about 18 per cent indents, the response time was more than 20 weeks, which is very high by any standard.

The depot authorities mentioned that the delay in supply happens more in those cases where quantity to be dispatched is limited and full load for CHT vehicle is not available. In such circumstances, even if store section has cleared the indent, it is delayed for want of transportation. Sometimes, appropriate types of vehicles are not available and as a result, the problem in maintenance of cold chain is also faced.

The substantial delays in supply of stores indicate problems in the centralized procurement system. The delays indicate that required medical stores are not readily available with depots in many cases, thus defeating the very purpose of depots.

The non supply/delay in supply of medical stores also results in a lot of wasteful expenditure. Since dependant units cannot make local purchase of items without NAC from depots, they dispatch escort to collect medicine/NAC from depots. Sometimes the value of item to be purchased is a few hundred rupees but the expenditure incurred on collection of medicines/stores is many times more than the cost of stores.

## Manual Stores Inventory System

AFMS has a large inventory of more than 9000 medical stores. To manage the inventory of such large number of items, AFMS initiated a computerization programme about 7 years ago. The system, however, is still not operational and is not being used for inventory management by store section of depots. The inventory continues to be maintained manually, making it difficult and time-consuming to obtain reliable data about stores consumption pattern, shelf life of medicine available in stores among other relevant information needed for stores management and preparation of procurement plan.

### Functional Problems

These include difficulties in procuring drugs from reputed firms due to LI syndrome;<sup>19</sup> not being able to attract offers from firms of repute; increased lead time due to octroi/state levies among other factors. These factors are not within the control of DGAFMS but they certainly affect the medical services and needs to be addressed on a priority.

### Stores Management Practices in MSO

The medical stores requirement of CGHS, Central Government Hospitals and Para Military Forces are met by Medical Stores Organisation (MSO), functioning under Ministry of Health and Family Welfare. There are seven depots located at Delhi, Mumbai, Chennai, Kolkata, Karnal, Hyderabad, Guwahati. The reforms process in stores management in the organisation started after 1998 on the recommendations of Vaidyanathan Committee report. Consequently, over a period of time, medical store management in MSO has undergone significant change and some of the noticeable developments are as under:

- The MSO is making full use of IT solutions for improving the stores management. Presently it is linked with all its indenters and depots through WAN. The indents and supply orders are placed on-line, which has helped in reducing the processing time. The depots forward the consolidated requirements to MSO at Delhi. Immediately after receipt of demand, the MSO issues NAC for the items which will not be available

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through central sources/RCs. This exercise is done on a yearly basis to help indenters plan their LP for the year. The supply orders on pharmaceutical companies are placed centrally by MSO on the basis of yearly/half-yearly demand projected by depots.

- The MSO and its depots don't hold any inventory of drugs and consumables. They procure and supply stores only against firm indents from RC holder. To ensure timely supply of stores, there is a provision of penalty of 0.5 per cent of SO value, for a delay of every 7 days on suppliers. The drugs are supplied directly to depots, who issue the stores to indenter after quality check. After the drugs are supplied by the RC holder to depots, the information regarding supply indicating the Batch Numbers is provided to MSO at Delhi. The MSO selects the batches in different depots, from which the samples are to be selected for quality check. Two representatives of indenters are invited to select the samples. The samples are sent to two labs selected by the representatives of indenters from the list of registered labs. This has helped in enhancing transparency in the system.  

To ensure timely supply of stores, there is a provision of penalty of 0.5 per cent of SO value, for a delay of every 7 days on suppliers.
- To ensure quality of drugs, MSO ask for details pertaining to raw material the firm is going to use for drug preparation before commencement of production.
- If the sample of any firm fails in lab test, the lot is rejected and the firm is debarred to supply that item for three years. In case of a second failure, there is a provision for permanent ban on firms to supply the particular item.
- The MSO invites Open Tenders for generic drugs from pharmaceutical companies. It is ensured that the firm quoting against the open tender is registered with MSO. However, if any firm is not registered, it can register within one month of quoting for any tender. One of the eligibility criteria for registration is that the firm should have a turnover of Rs. 20 crore or more (excluding Bulk drugs production) and three year experience in production of pharmaceuticals.
- The MSO has stopped supplying equipment to dependant hospitals. The medical equipments are to be purchased directly by the hospitals.

- The hospitals/indenters have got discretion to demand generic drug or propriety drug, which depends on their budget allocation. The MSO role is limited to supplying the items. Presently, about 60-70 per cent of the stores budget is spent on procurement of propriety drugs.

## Medical Stores Management - Reforms in the UK

The aim of the MSA is to ensure cost effective and timely provision of medical, dental and veterinary material.

The Medical Supply Agency (MSA) is a business unit within the formation of Defence Equipment and Support (DE&S), UK. The aim of the MSA is to ensure cost effective and timely provision of medical, dental and veterinary material. In addition, it provides blood and blood products, technical and medical logistic support and trained medical personnel to the UK armed forces during war and peace operations.

The Agency consists of the MSA headquarters and the Blood Supply Depot (BSD) at Ludgershall and 14 Medical Distribution Centre's (MDCs) located throughout the UK and overseas. The MSA undertook the Change Programme in 2004. Some of the principal elements of the programme were as under:<sup>20</sup>

- To exploit proven commercial supply chain solution to allow direct delivery to non-deployed customers, allowing the closure of the UK Medical Distribution Centres;
- To rationalize the support base and reduce 10 per cent of procurement costs by entering into prime vendor contracts with key suppliers;
- To empower customers and reduce administrative overhead by enabling e-commerce;
- To establish a small operational customers support and module build facility at the existing Defence Storage and Distribution Agency (DSDA) site at Donnington.

## Steps taken to improve Stores Management by AFMS

DGAFMS designated some selected establishments/Hospitals as 'Direct Demanding Officer' (DDO) in the year 2006. DDO receives direct supply of medical stores from RC holders. The purpose of designating DDOs was to obviate central stocking to the maximum extent possible, reduce transportation costs and ensure timely availability with actual users. Presently, there are 10 DDOs for drugs and consumables, and 3 DDO for Fluids, Blood & Blood products.<sup>21</sup> DDOs are also authorized to make local purchase of medical stores (Expandable items) directly from market, which are not on Rate

Contract under delegated financial power, to meet emergent requirement of PVMS & NIV drugs/consumables. However, for non-expandable items, they are still dependant on AFMSDs.

According to authorities responsible for store management in DDO Hospitals, the availability of drugs has improved after implementation of DDO policy. Further, quality of drugs purchased locally is better than the supplies received through AFMSD. All of this has resulted in improved clientele satisfaction. Further, it was revealed that there is hardly any case of expiry of drugs since the local vendors change the drugs if any drug is set to expire, which doesn't happen in case of drugs supplied through AFMSD/DGAFMS.

### Roadmap for Stores Management in AFMS

#### Embrace Information and Communication Technology (ICT) System

The ICT is a powerful tool for achieving economy, efficiency and transparency. The creation of shared data bases and networking of various functions of AFMS is the need of the hour to facilitate real time informed decision making, with manifold increase in efficiencies. As a first step, all operations i.e. registration, prescription, issue of medicines, indents, stores, lab etc of hospitals and units will have to be computerized in order to improve the quality of health services and minimize the overall service delivery time to the users. Simultaneously, all activities of the depots should be computerized, followed by hospitals. Depots should be interconnected with DGAFMS for stores management which will enable the DGAFMS to take timely decisions on inventory management.

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The use of ICT will facilitate the procurement of bare minimum quantity leading to saving and reduction in costs. The accuracy levels will increase due to reduction in manual work. The analysis of data will be possible in time and automatic classification of stores based on movement and ABC analyses. The performance monitoring of suppliers will become easy.

Earlier attempts to computerize the functioning of depots achieved partial success. The inventory management system could not be made operational due to lack of support and lack of will to adopt a new system. Consequently, the manual system of inventory management is still continuing. Thus, for the success of ongoing computerization process, it is essential to examine the reasons for failure in the earlier attempts. Mutual understanding between the various departments involved is crucial for successful computerization of the

medical service. The very support and training of officers and staff will have to be given top priority.

### Redefine the Functional Role of Medical Depots

The clientele of AFMSDs can be divided into two categories - hospitals/units located at peace stations and hospitals/units located in forward and advanced areas. Due to the large base and geographical spread of users, AFMSDs face difficulties in supplying the required stores to indenters. As a result, clientele satisfaction is affected. The pharmaceutical industry in India has developed over a period of time and there are reputed firms which have wide and reliable network to supply medical stores. Thus, hospital/units located in peace stations can obtain their stores requirement directly from RC holder or the local market. The smaller units could be attached to the nearest hospitals functioning as DDOs. The AFMSDs should concentrate on procurement and storage work only for hospitals/units located in forward and advanced areas. It will result in reduction of work load of depots and improve supply of stores to field areas.

### Streamline Procurement System

Currently, procurement of expandable stores is being done at three levels - (i) DGAFMS is concluding RCs for items whose annual turnover is more than Rs. 20 lakhs per year; (ii) Depots procure all items other than the ones available on RC; and (iii) Hospitals locally purchase those items which are urgently required or for which NAC is issued by depots. In the present situation, hospitals are not able to make planned procurement and have to take ad-hoc decisions for local purchase (LP) of small quantities. As a result, the LP is not cost effective. Procurement being a specialized function can be strengthened by engaging procurement professionals so that maximum RCs could be concluded along with annual contracts for other items of vital nature.

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There are two basic principles of inventory control - ABC analysis based on cost criteria and VED analysis on criticality. Of all inventory control systems, ABC and VED matrix is most suitable for medical stores. Hence, the coupling of ABC and VED matrix for drug inventory in a hospital is required. A study at a 190-bedded service hospital showed that out of 325 drugs used in the hospital, only 68 can be coupled in Class-I (AV, BV, CV, AE, AD).<sup>22</sup> This class mainly includes A-Category drugs which consists of about 10 per cent items (vital and essential in

nature) and consume about 70 per cent budget. This class includes all drugs which are critical to run the hospital. The DGAFMS should ensure central procurement of all the drugs falling in Class-I, provided the annual turnover is more than Rs. 20 lakhs. For the remaining items, Class-II (BE, CE, BD) and Class-III (CD) hospitals may be authorized to purchase out of DGLP grant. The AFMSDs shall concentrate on procurement and supply of stores to AMSDs/FMSDs in respect of the items for which contracts are not concluded by DGAFMS. The streamlining of procurement system will not only help in achieving economy but also ensure that vital drugs are available in hospitals. Greater delegation to hospitals will result in increased availability of stores and depots will be able to perform better due to reduction in work load.

Presently, all medical equipment of capital nature valued at more than Rs. 10 lakhs is procured by DGAFMS and remaining by AFMSDs. Hospitals in peace stations could be allowed to purchase locally number of equipment of low value like stethoscopes, microscopes, trays. Non-availability of such equipment may also affect the morale of doctors.

DGS&D possess expertise in concluding Rate Contracts. The feasibility of entrusting the responsibility to conclude RCs of some common medical items (consumables) to DGS&D needs to be considered. Further, hospitals should also be permitted to procure from the RC holders of MSO, Ministry of Health out of DGLP funds, where RC has not been concluded by DGAFMS.

### Expand DDO System

The committee on 'Review of Financial Powers Delegated to the Services' appointed by MoD in 2005 recommended that command hospitals be headed by Brigadier and above rank and 4 Hospitals of the Navy and Air Force be headed by Colonel and equivalent as DDOs. Consequently, 35 DDOs were created in 2006. However, in 2007, the decision was revised and now there are only 10 DDOs (3 depots and 7 hospitals) for drugs and consumables. The experience of existing DDOs shows that the DDOs formation had a positive impact on improving the medical services and clientele satisfaction. The DGAFMS should review the matter and designate more hospitals located in peace areas as DDOs. It must also be ensured that the required storage facility and procurement professionals are made available to them. In addition, financial powers commensurate with their responsibility may be considered for delegation.

### Improve Quality Control

There are detailed guidelines for inspection of drugs supplied by the pharmaceutical companies. In spite of this, there are grievances about the quality of PVMS drugs (generic drugs) issued by hospitals and other units.

These are considered less effective in treatment. There could be two reasons for this problem. Firstly either the guidelines are not being implemented/updated properly; secondly, there are potential loopholes in the quality control system.

All suppliers invariably submit test certificates from National Accredited Biological Laboratories (NABL) where purchase amount of drugs is more than Rs. 1.5 lakhs. There have been cases where reports were not found correct

There are apprehensions that correct sampling procedure is not being followed by firms while sending samples to NABL for test. The feasibility of giving the responsibility of selection of sample for test to an independent agency should be considered.

when samples of medicines were sent for Post Lab Testing by AFMSDs. There are apprehensions that correct sampling procedure is not being followed by firms while sending samples to NABL for test. The feasibility of giving the responsibility of selection of sample for test to an independent agency should be considered. Further, there should be a provision for stringent punitive action against supplier for supplying sub-standard items and labs for giving doctored reports under the provisions of Drugs and Cosmetics Act 1940.

Moreover, once the RC is awarded to any firm for three years, the possibility of that firm not paying required attention to quality assurance cannot be ruled out. It is recommended that DGAFMS should examine the feasibility of concluding parallel RCs and leave it to indenters/specialists in hospitals to place supply order for drugs of their choice and requirement. Doctors would demand or prescribe only those drugs which they consider more effective for treatment. As a result, firms will be forced to improve and maintain quality of the drug

in order to protect their selling contracts with the medical service authorities.

Presently, the DGQA laboratories are equipped to test the drugs as per Indian pharmacopeias standards. There is a need to equip them to test the drugs as per international standards (BP/USP/EP) as many companies follow these pharmacopeias in order to maintain high quality.

In order to improve the quality control, the loopholes in the present procedure for registration of pharmaceutical firms shall be plugged. DGAFMS should obtain annual turnover statement for the last three years, Capacity Installation certificate and Market Standing certificate certified by a commercial tax officer/charted accountant. The firm should also be asked to submit a No-conviction certificate, Form Fill and Seal Technology certification, wherever FFS is specified against each item from Competent Authority exercising powers

under Drugs and Cosmetic Act and Rules and copy of valid Revised Schedule 'M', WHO-GMP certificate of pharmaceutical product as per WHO guidelines. Further, the standard formats of the certificates should be developed / prescribed to make the registration process full proof to ensure that unscrupulous firms are not able to enter the procurement process. There is also a need to evolve a periodic vendor analysis/rating system so that vendors not performing satisfactorily are excluded from procurement process.

### Review the Vendor Selection Criteria

DGAFMS should review the vendor selection criteria. The present criteria of annual turnover should be suitably enhanced and institutional turnover should not be considered for deciding the eligibility for registration. Moreover, for selected life-saving drugs, the Limited Tendering procedure should be used. It should also take up the issue of wavering of state taxes on defence medical stores on the basis of certification by DGAFMS with the concerned authorities.

One of the reasons for not being able to attract reputed companies to participate in tendering process is the issue of payment delays and absence of vendor grievance redressal system. These issues should be resolved by DGAFMS in consultation with the concerned authorities. The vendors shouldn't be held hostage to the inefficiencies and complexities of the system.

There is also a need to evolve a periodic vendor analysis/rating system so that vendors not performing satisfactorily are excluded from procurement process.

### Avoid Maintaining Separate Inventory

Medical depots maintain a separate inventory of stores procured for ECHS. This generates a lot of extra work which could be avoided. The depots should maintain a single inventory of stores and issue stores to ECHS on payment basis. This will reduce work load and result in manpower savings. DGAFMS should take up this matter with the appropriate authorities.



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#### Notes:

- 1 The CGHS and Railways on the civil side have large health care systems. While the CGHS provides medical facility to more than 10.6 lakhs Central Government Employees and other eligible category persons, the Indian Railways Medical Service provides medical service to more than 16 lakhs railway employees.
- 2 Government of India, Ministry of Defence, Annual Report, 2003-04 and 2004-05.

- 3 Seven Hospitals Military and Three Medical Depots
- 4 [www.news-medical.net/news/.../Comprehensive-report-on-Medical-Equipment-Industry-in-india.aspx](http://www.news-medical.net/news/.../Comprehensive-report-on-Medical-Equipment-Industry-in-india.aspx)
- 5 MoD letter No. 14(8)/06/D(Med) dt. 7th July 2006
- 6 Conditions for registration: Mfg experience of 3 years; Documents required - Product details, Infrastructure available, Source of raw material, Annual turnover of Rs. 5 crores.
- 7 MoD letter No. 14(8)/06/D(Med) dt. 7th July 2006
- 8 Defence Procurement Manual (DPM)-2006
- 9 GOI, MoD Letter No. A/89591/FP-1/1974/2006/D(GS-I) dt. 26 July 2006
- 10 General Financial Rules- 2007 issued by Ministry of Finance, Government of India.
- 11 Five CPSEs i.e Indian Drugs & Pharmaceuticals Ltd, Grugaon, Rajasthan Drugs & Pharmaceuticals Ltd, Jaipur, Hindustan Antibiotics Ltd, Pune, Karnataka Antibiotic & Pharmaceuticals Ltd, Bangalore, Bengal Chemicals & Pharmaceuticals Ltd, and Kolkata
- 12 DGAFMS Letter No. 42202/ DGAFMS/ DG-2F/ RC-Cell/ 06-07, dt. March 03,2007 and July 06,2007
- 13 Items having life up to 2 years
- 14 Items having life over 2 years
- 15 Net Budget allotment at BE stage (excluding Value of Items Issued on payment to R&D, AF & NY etc.)
- 16 Life less than 7 years, cost up to Rs. 10 lacs, All scaled/PVMS items
- 17 Individual item costing more than Rs. 10 lacs, Life more than 7 years, to create a permanent asset.
- 18 Depots are required to dispatch stores in 3-4 week time in case of quarterly indents and in 4-6 weeks (Max. 8 weeks) in case of half yearly indents.
- 19 L1 syndrome pertains to awarding of supply contracts to the lowest bidding firm due to which many reputed pharma firms avoid participation in the tendering process.
- 20 "Medical Supplies Agency- Annual Report & Financial Accounts 2004-05," [www.official-documents.gov.uk](http://www.official-documents.gov.uk)
- 21 DGAFMS Letter No. 42202/DGAFMS/DG-2f/07-08/ RC Cell Dt 19th Dec 2007.
- 22 Lt. Col. R. Gupta, Col. K.K. Gupta (retd.), Brig. B. R. Jain, Maj. Gen. R.K. Garg, *ABC and VED Analysis in Medical Stores Inventory Control*, MJAFI, vol.63, No.4,2007. at <http://www.docstoc.com/docs/29103182/> with-the-advent-of-advanced-medical-technology