

## **STUDY ON ISSUES OF DRUG AVAILABILITY AND RECOMMENDATIONS OF IMPROVING THE AVAILABILITY IN HEALTH CARE INSTITUTIONS OF SRI LANKA**

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### **ABSTRACT**

Access to essential drugs is vital to the good performance of the health care delivery system. Because of that it is very important to establish a proper system to manage regular supply of medicines to health care institutions. non-availability of drugs in public health care institutions affect negatively for the institution as well as for the customers (patients), Patients have to get those drugs from private pharmacies which leads to increase their out of pocket expenditure for health care. Institution also get bad impression of the population. Objective of this case study is to analyze causes for drug shortage a hospital level and make recommendations to ensure availability of drugs at each level. Issues related to; selection, estimate, ordering, procurement, storage,

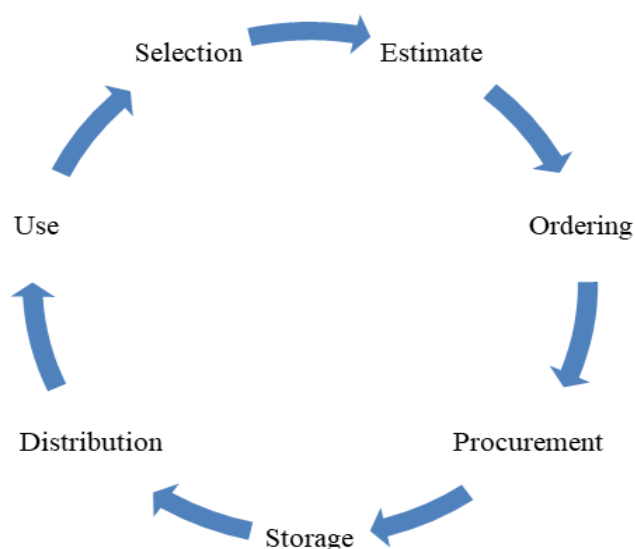
distribution and use of drugs and issues related to core management support system were the identified problems during the study. In order to improve the drug availability in institutions recommendations can be given as follows; each health care institution should prepare realistic drug estimate considering current year consumption, changes in prescribing patterns, future disease trends, budgetary allocation for drugs in each level etc. Establishment & regular meetings of Drug review committee which will help to improve the quality of annual drug estimate in each health care facility. Reliable and standard drug manufacturing companies should always be selected for awarding the tenders and capacity of the manufacturer, quality of drugs, and lead time for supplement of drug orders etc have to be considered in this process.

**KEYWORDS:** Drugs, Improve, Availability, MSD.

## 1. INTRODUCTION

Access to essential medicines remains a major objective of people everywhere, and is widely featured as an objective of countries' national medicines policy.(WHO,2004) persisting problems of shortages and stock outs of essential medicines, especially for non-communicable diseases, increasing numbers of substandard and falsified medical products that pose an unacceptable risk to public health (WHO,2019). Inequities in access to medicines reflect failures in health systems and medicines policy in a country.

Medical supplies division (MSD) is responsible for supply of medical items to the government health institutions of pharmaceuticals, surgical items, laboratory items, radioactive items and printed forms to the government sector healthcare institutions island-wide (AHB,2015) and it is the sole supplier for Narcotics to the country. "To supply Right item (medical supplies) of Right quality & Right price in Right quantities to the Right price at Right time" is the goal of MSD. In public health sector, most of the time patients are provided safe, effective & good quality drugs in right quantity at right time but sometimes non-availability of drugs also can be seen in this system. It can be resulted from delays and errors occurred in any stage of the drug management cycle.

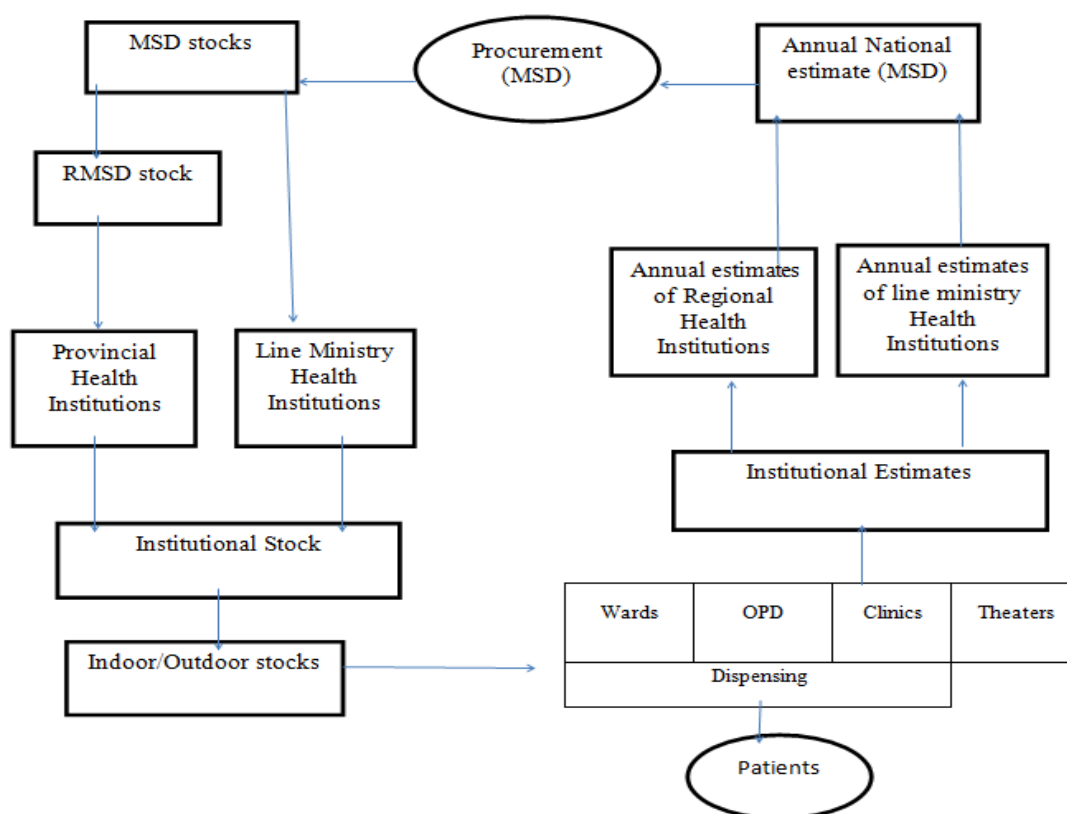


**Figure 1: Medical Supplies Management Cycle.**

Continuous supply of all the essential drugs is one of the features in good health care delivery system and Ministry of Health in Sri Lankan has taken several measures regarding that. Establishment of drug policy, preparation of essential drug list and prescribers' formulary, preparation of treatment guidelines & protocols are some of the actions taken to ensure the

availability of drugs in health care institutions. In order to improve the drug availability, gaps of the current system should be identified. Problem analysis was done to identify the gaps availability of drugs in health care institutions.

At present only 10 -15% of the total national requirement of drugs is supplied by the local manufacturers and 85- 90% of total requirement has to be imported. Development of local pharmaceuticals industry will help to save billions of rupees spend to import drugs. Furthermore, local manufacturing will ensure quality and supply and availability of drugs. Total number of 39 suppliers supply for MSD. But only 10 has signed for Buy Back agreements. Buy back is signed for 5 years' duration.



**Figure 2: Illustration of drug management in health care National, Regional and Institutional level.**

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Due to non-availability of essential drugs in government sector health care institutions, Continuation of drug treatments will be break and leads to other complications which may need more costly treatment modalities

## **2. OBJECTIVE**

- To identify issues in drug management process
- To improve availability of drugs in Health Care Institutions

## **3. METHODOLOGIES**

- Key Informative Interviews KII with Director MSD, hospital directors and medical superintendents, Chief pharmacists, MSD staff
- Review of documents
- Attending drug therapeutic committee meetings

## **4. RESULTS**

Sri Lankan health sector spends around 40 billion rupees annually for the medical supplies required for the government health care institutions, which is approximately 25% of annual health budget. These include Pharmaceuticals, Surgical & medical devices, Laboratory chemicals & devices, Diagnostic agents & devices, radioactive items. Out of this around 25 billion rupees are spending on pharmaceutical items. Access to essential drugs is vital to the good performance of the health care delivery system. The provision of safe, effective and affordable essential drugs of good quality in right quantity to the whole population is therefore a priority in health policy in Sri Lanka. Current lead time of supply of drugs is almost 1 year.

**During above methodologies following problems were identified**

### **Illustration of problems**

#### **1. Problems in selection**

- Delays and lapses in registration of drugs by NMRA (Procedural delays)
- Not conducting periodic formulary revisions to review specifications of formulary lists and institutional levels.

#### **2. Problems in estimation**

- Under estimation
- Unrealistic estimations – Not considering future expansions of the institution

- Delayed estimation, incomplete submission of estimates or errors in estimates
- Not submitting supplementary estimates in proper order

### **3. Problems in procurement by SPC**

- Delays in tender procedures
- Prolonged lead time
- SPC and suppliers not sticking to the agreed delivery schedules
- Unavailability of manufacturers for some items

### **4. Problems in storage and stock control functions**

- Insufficient storage capacity in MSD, RMSDs and institutional stores
- Frequent out of stock situations in MSD
- Inadequate buffer stocks in MSD, RMSD and institutional stores
- Improper stock control and monitoring
- Inadequate space in stores due to blocking of space by withheld and withdrawn drugs

### **5. Problems in distribution**

- Inadequate supply from MSD
- Absence of adequate transport facilities in MSD and RMSD
- Delays in supplying from MSD
- Not preparing advance programme for distribution
- Inadequate knowledge of MSD staff on modern supply chain management
- Issuing unnecessarily excessive stocks to institutions by MSD due to lack of storage space at MSD

### **6. Problems in consumption**

- Overconsumption due to sudden increase in demand –Eg unforeseen epidemics, disasters and opening of new units in the institution
- Overconsumption of substitutes of the drugs those are estimated but not supplied or in short supply
- Changes in prescription pattern due to new consultant arrival or transfer

### **7. Problems due to quality failures**

- Withdrawal of stocks due to quality failures

- Long time taken to replenish the quality failed preparations

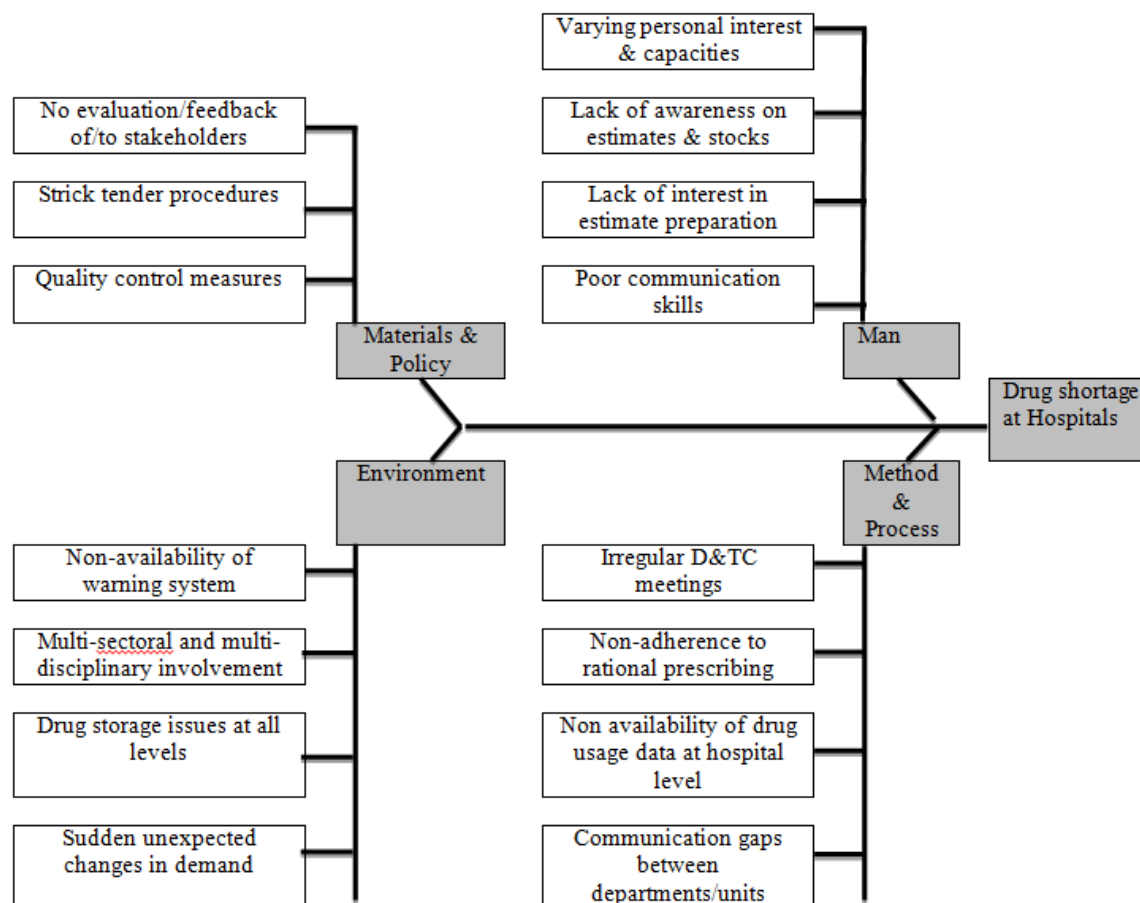


Figure 1: Cause-and-effect diagram for drug shortage at hospitals.

Table 1: Comparison of estimated quantity and issued quantity of drugs in vital, essential and non-essential.

Year	2016		2017				2018		
Drug Classification	Estimated quantity <sup>1</sup>	Issued quantity by MSD <sup>1</sup>	Gap <sup>2</sup>	Estimated quantity	Issued quantity by MSD	Gap	Estimated quantity	Issued quantity by MSD	Gap
Vital	103067014	44630262	56.7	40970554	37383027	8.76	40964406	24551173	40.07
Essential	7152161192	5493279104	23.19	6372043490	5280571762	17.1	6177761101	5027882065	18.61
Non-Essential	1151147196	904571143	21.42	983259178	723365471	26.4	1235752097	987763592	20.07

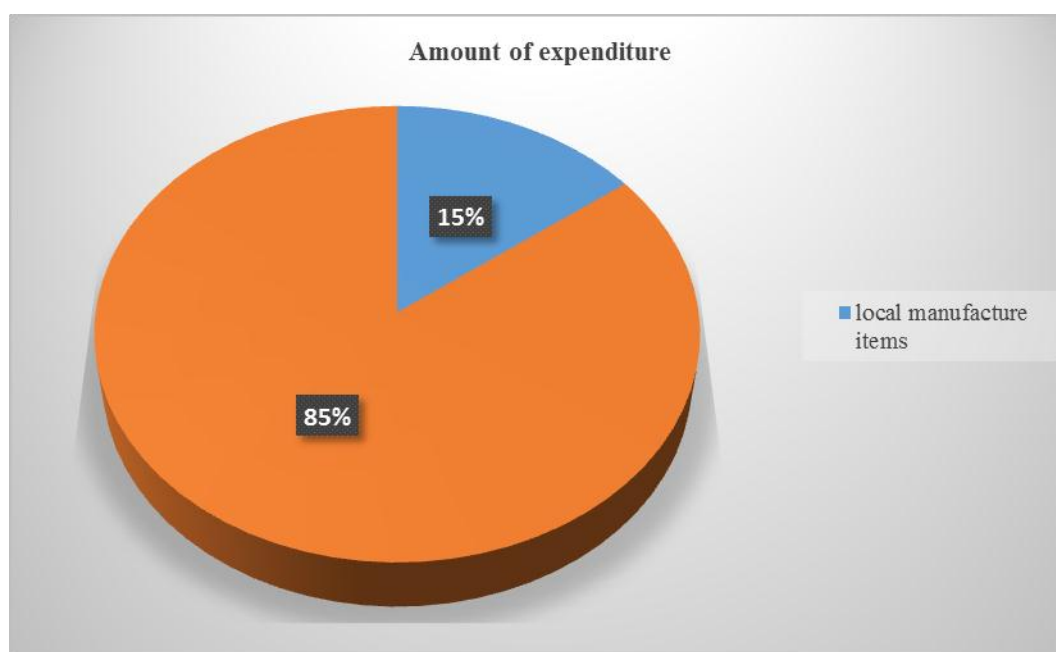
**Table 2: Payment summary for medical supplies from 2016-2018.**

Expenditure item		2016(Rs)	2017(Rs)	2018(Rs)
<b>LM<sup>1</sup> items</b>	SPMC Supplies	1,976,838,600	2,379,865,800	4,093,138,465
	Other LM items	3,085,825,980	2,595,140,885	4,438,049,309
	Sub total	<b>5,602,962,960</b>	<b>5,539,317,905</b>	<b>8,957,775,924</b>
<b>Imported items</b>		<b>32,399,851,140</b>	<b>32,983,301,035</b>	<b>34,372,870,418</b>
<b>Total</b>		<b>38,002,814,100</b>	<b>38,522,618,940</b>	<b>43,330,646,342</b>

1 LM-Locally Manufactured items Source: Accounts dept., MSD, 2016-2018

**Figure1. Amount of expenditure FOR MEDICAL SUPPLY**

5.602 billion (15%) of SLR has expended for locally Manufactured (LM) items, while 32.399 billion (85%) of SLR spends for imported items.



The demand supply mismatch is remarkably high for vital drugs: 56.7% in 2016 and 40.07% in 2018 comparatively to essential and non-essential drugs in same years. This conveys that supply is not matched according to the demand. This is due to breaches of the medical supplies management cycle.

## 5. DISCUSSION

Achieving universal health coverage requires access to safe, effective, quality and affordable essential medicines and vaccines. Access is a global concern in view of the: rising prices of new medicines that place increasing pressure on the ability of all health systems to provide full and affordable access to health care (WHO,2019) Unhealthy workforce is unable to contribute productively for the economic development of the country. Therefore, healthy

population is a vital factor for socioeconomic development of the country & for that there should be a good health system which protects all the people in the country without any discrimination.

Fair delivering of Health care system is a must for a country to make sure a Health population. Drugs are very important items not only on treating patients but also to prevent occurrence of severe consequences of chronic NCD e.g. Myocardial Infarctions on Hypertensive and Diabetic patients. Therefore it is very important to continuous availability of drugs in Government Health Care Institutions. Non-availability of drugs in public health care institutions, Patients have to get those drugs from private pharmacies which leads to increase their out of pocket expenditure for health care. It will be badly affect the health and economy of Sri Lanka since majority of the population, who are not socioeconomically affluent depend on the public health care system. According to the Medical Supplies Management Cycle all the stages to be fulfilled to improve drug availability in health care institutions in Sri Lanka. Therefore it is very important to address all the events to improve the situation.

## 6. CONCLUSION

Improve availability of drugs in Health Care Institutions is a very important task of the health system of the country. In the Sri Lankan context MSD is the key organization for supply of drugs to government health institutions. In order to improve the availability of drugs in the institutions it is

There is a mismatch of supply -demand of medicinal items leading to unavailability of drugs at the institutional level. This gap is changing according to different items in vital items in some years comparatively to essential and non-essential items. Approximately 1800 pharmaceutical items are imported annually with their usual lead time around 11-14 months to reach MSD. This accounts for 80%-85% from total expenditure of medical supplies. The health system gives top priority to local manufacturers at the procurement stage but lack of local manufactures is the main issue. There are many procurement related factors influence institutional drug availability such as non-availability of functionally wide specification, calling for world wide open tender procedure while NMRA disqualifying unregistered suppliers, lack of MOAP and poor adherence to delivery schedule.

The storage inadequacy, prescribe and dispensing issues, issues related to DTC and annual estimates and issues of regulatory process have contributed the drug availability of healthcare



institutions. Development of fully functioning SDCU in the MOH and fully functioning e-procurement system at SPC can resolve long PLT contributing to institutional drugs unavailability. Establishing electronic MOAP at SPC, calling limited tender from NMRA approved suppliers may further reduce the PLT. Priority must be given to bulk drugs ordering institutions to establish electronic prescription methods. DTC must be well functioned in all levels to ensure proper estimates to avoid drugs wastage.

## **7. RECOMMENDATIONS**

Strategy is a comprehensive plan that states how its mission, goals, and objectives will be achieved. A strategy is a way of describing how you are going to achieve the objectives. Our objective is 'To improve availability of drugs in Health Care Institutions'. Strategies should be at each level of drug management cycle. Strategies should always be formed before identifying activities and should also be updated periodically to meet the needs of a changing environment, including new opportunities and emerging barriers and opposition.

Strategies should Complies 6 R's Right Item, Right Quality, Right Price, Right Quantity, Right Place, and Right Time. Strategies can be aimed at Institutional level, Regional level, provincial level and ministerial level.

### **I. Streamline of the selecting process of drugs**

Each institute must be responsible to properly estimate the due amount and quantity for next year. Relevant data of DTC meetings and comments from Consultants, Medical officers, Pharmacist must be considered. At regional level prepared estimates should send timely to the MSD to prepare the final estimate. National level preparation of estimation should be engagement of all the stakeholders and Committee appointed for this process should be consisted of representatives from the professional colleges, Campaigns MSD, SPC, NMRA etc. Current year drugs consumption pattern, Disease trends, changes of treatment protocols, global and regional pandemic trends etc. have to be considered by this committee to select the comprehensive drug list for next year.

### **II. Realistic drug estimates have to be prepared & timely sent to the MSD by each institution in order to prepare more accurate annual national drugs estimation**

Each health care institution should prepare realistic drug estimate considering current year consumption, changes in prescribing patterns, future disease trends, budgetary allocation for drugs in each level etc. Establishment & regular meetings of Drug review committee will be

more helpful to improve the quality of annual drug estimate in each health care facility. Those accurate annual drug estimates from all the health institutions should be timely sent to the MSD for preparation of annual National Drug estimate. Estimation process should be finalized by the October.

### **III. MSD should place the accurately prepared drug orders to SPC at correct time**

When placing the drug orders by MSD need and urgency, level of available stocks, lead time etc. must be considered and according to the priority order drugs ordering have to be done. By December placing of orders must be finish.

### **IV. Improved Drugs procurement process**

- a. Providing priority for the local pharmaceuticals manufacturers when the drugs are purchased for the state health care service. Reliable and standard drug manufacturing companies should always be selected for awarding the tenders and Capacity of the manufacturer, quality of drugs, lead time for supply of drugs etc must be considered in this process. Buy back agreement
- b. Tendering process should be more efficient and tender board should be consisted of all necessary participants.
- c. SPC should be able to expedite the tender procedures when necessary.

### **V. Storage of drugs has to be further developed**

MSD is the central organization where the medical supplies are stored until they are being distributed among government healthcare institutions. It has a network of stores comprising of a central medical stores in Colombo (MSD) and 26 regional stores at the district level (RMSD).

- a. Drug stores have to have good infrastructure facilities like enough space, ventilation, air-condition and cool room etc to prevent quality failure of drugs during storage.
- b. Issuing of drugs has to follow “First in First Out” method, early expiry drugs should be issued first. Necessary actions have to be taken to move short expiry drugs.
- c. Records regarding accepting & issuing drugs have to be maintained properly& book balance and physical balance of drugs should be checked periodically. Needs continuous training with collaboration with quality unit
- d. Supervision on drugs store management has to be strengthened to prevent pilferages, damages and expiring of drugs.

**VI. Drugs distribution has to be done in a proper manner**

- a. Distribution from MSD to RMSDs and line ministry institutions as well as from RMSDs to provincial health care institutions has to be done in more organized way by maintaining distribution schedule. Stock control unit should be well coordinated with stores and distribution.
- b. Facilities have to be improved to distribute drugs efficiently.

**VII. Improve communication and coordination with MSD, RMSD and Health care Institutions**

MSMIS Expansion Project Initially connected directly with Medical supplies Division (MSD), SPC, 57 line ministry institutions and 26 RMSDD through VPN. About 53 other medical institutions are dealing with MSD through this system only for requesting the medical supplies. Live operation was started since January 2015 meanwhile majority of the functions related to MSD, RMSDD and other line ministry institutions are preceding through this MSMIS. Annual estimation process and verification process were recently started through the system.

**VIII. Proper monitoring of drugs usage**

Ensure functioning monthly DTC which sent reports regularly.

- a. Promote rational prescribing and usage of drugs using various interventions such as educational, managerial and regulatory. Education can be done using printed materials, seminars, bulletins and face to face interventions.

Various restrictions on prescribing ex; restrictive list, a maximum number of drugs per prescription, budgetary or cost restriction, endorsement by higher qualified consultants are some of the managerial strategies. Regulatory strategies can be explained as procedures to critically evaluate drugs and product information before market approval is granted, scheduling drugs for different sales levels (over the counter, pharmacy only, prescription only).

- b. Situation like changes in prescribing pattern & increase demands have to be informed immediately to relevant authorities in order to take necessary actions to ensure continuous supply of drugs.
- c. Adequate human resource and other infrastructure facilities have to be supplied to function proper system of drug management.

- d. Establishment of good information management system will be highly useful for efficient & effective sharing of information regarding drug management.
- c. Expand budgetary allocation for drugs is increased it will be more helpful for purchase adequate amount of drugs which needs for meet the demand.

### ACKNOWLEDGMENT

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