RSCS
Regional Supply Chain Strengthening Project

PFSCM

# RSCS BASELINE STUDY RESULTS

## FOR HEALTH COMMODITY SUPPLY AT BASIC HEALTH FACILITIES

**October 14, 2016**

The Three Millennium Development Goal Fund

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**October 14, 2016**

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We would like to thank the donors contributing to the Three Millennium Development Goal Fund (3MDG) for their kind contributions to improving the health of the poorest and most vulnerable people in Myanmar, particularly women and children. We also would like to thank the 3MDG fund team for their support, input and participation in the baseline study.

**About PFSCM**
The Partnership for Supply Chain Management (PFSCM) is a nonprofit organization established in 2005 by two of the leading international health consultancy organizations in the U.S.—Management Sciences for Health (MSH) and JSI Research & Training Institute, Inc. (JSI), both also nonprofits. To deliver its services PFSCM draws on the capabilities and experience of 13 organizations that are among the most trusted names in international public health and development, with each offering unique capabilities, including procurement, freight forwarding and technical assistance. In Myanmar PfSCM implements two supply chain strengthening projects: SCMS project (Supply Chain Management Systems) funded by USAID and RSCS project (Regional Supply Chain Strengthening) funded by 3MDG.

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**About RSCS**
The Regional Supply Chain Strengthening (RSCS) project assists the Myanmar Ministry of Health and Sports (MOHS) to improve supply chain management in public sector health systems at the regional and lower levels through system improvements and capacity building. The project design is based on the findings of the National Supply Chain Baseline (NSCB) Report; the recommendations of the SCMS Procurement Options Analysis Report; and the work of a team of experts who visited Myanmar in September 2014 and developed the initial RSCS Project Charter. RSCS project activities are implemented in Bago, Magway and Ayeyarwaddy regions.

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# Acronyms

| | |
|---|---|
| 3MDG | Three Millennium Development Goal Fund |
| AN | Ante-natal |
| BHS | Basic Health Staff |
| CME | Continuous Medical Education |
| CMSD | Central Medical Stores Depot |
| EPI | Expanded Program on Immunization |
| FEFO | First Expiry First Out |
| HA | Health Assistant |
| LHV | Lady Health Visitor |
| LMIS | Logistic Management Information System |
| LMU | Logistic Management Unit |
| MCH | Maternal and Child Health Care Center |
| MO | Medical Officer |
| MOHS | Ministry of Health and Sports |
| MW | Midwife |
| OPD | Out Patients Department |
| PfSCM | Partnership for Supply Chain Management |
| PHS I | Public Health Supervisor I |
| PHS II | Public Health Supervisor II |
| PN | Post-natal |
| RHC | Rural Health Center |
| RSCS | Regional Supply Chain Strengthening project |
| School HC | School Health Center |
| SCM | Supply Chain Management |
| SCMS | Supply Chain Management System project |
| SHU | Station Health Unit |
| S-RHC | Sub-Rural Health Center |
| UHC | Urban Health Center |
| WCHD | Women & Children Health Development |

# Executive summary

In recent years the Ministry of Health and Sports (previously: Ministry of Health) has gone through many changes. MOHS budgets have quadrupled and are still increasing. Department of Health has been separated into two new departments: Department of Public Health and Department of Medical Services. Procurement budgets have been decentralized from central to regional level and separated for each department. Due to these changes it has become more important to implement and strengthen supply chain procedures and capacity at all levels of the supply chain.

As part of the RSCS work plan activities, a Baseline Study on Health Supply Commodities at basic health facility level was conducted in three regions; Bago, Magway and Ayeyarwaddy. The purpose of this Baseline Study is to get a more in depth understanding of the level and performance of supply chain management and availability of essential health commodities at basic health facilities.

The main finding of the baseline study is that there is no properly organized supply chain structure in place. Supply chain activities are carried out by health staff as an extra activity with very limited or proper training, instructions and guidelines. We have noticed a high level of commitment from the staff and they are giving their best effort with the limited available resources. More training and the set-up of Logistic Management Units with dedicated supply chain management staff would help improve creating the necessary capacity.

There is no structured information flow between different levels of the supply chain due to a lack of a properly functioning LMIS system. Forecasting and quantification is mainly done at regional level (with limited inputs from townships) usually based on previous year's quantification, morbidity and population numbers. Generally commodities are divided equally with fixed quantities for RHC's and Sub-RHC's, and supplies are 'pushed' down to the health facilities. A lack of consumption data and stock information from lower levels make it difficult to make a more accurate forecast.

In addition to their daily medical duties, the Basic Health Staff are also responsible for supply chain management activities and providing regular reports (HMIS & LMIS) to township level. All these additional activities are done with a manual paper based system which can be very time consuming. Changing the number of stock ledger books (from one per source separated by main and sub stock book to only one Stock Ledger Book) will reduce the workload of the staff and will make stock recording and management more efficient.

There are many incidents of stock out a well as excess/unused drugs. This is mainly a result of the above described forecasting and push system. Due to the lack of regular and updated LMIS data there is no early warning system that could help avoid stock outs

and excess drugs (including expired drugs). A functioning LMIS system would give higher level a better overview and a tool to re-allocate commodities where and when necessary.

Decentralizing procurement and separating the department of health to Department of Public Health and Department of Medical Services have resulted in a fragmented health sector supply chain. Good coordination, cooperation and communication between the two departments are essential.

# Background

The RSCS project assists the MOHS by conducting supply chain strengthening activities in three regions: Bago, Magway and Ayeyarwaddy regions.

These activities mainly consist of:

- Implement an harmonized logistics management information system (LMIS) for all essential medicines
- Provide training to MOHS staff on various Supply Chain Management activities
- Assist MOHS with Introduction of Logistics Management Units (LMU) at the regional and Township level
- Strengthen Supply Chain Management which change from 'Push' to 'Pull' system

The activities initially focus on the implementation of a Logistic Management Information System at lower health facilities in order to provide higher level management (township and region) with more accurate consumption data and stock level from health facility level. This information will enable higher level to improve forecasting and quantification as well as provide an early warning system regarding stock outs and excess stocks at facilities. It will be easier to re-allocate stock from one facility to another (and from one Township/Region to another) and avoid possible stock outs and/or excess and expired drugs.

In order to get a better understanding about the status of supply chain management at lower health facility level a health commodity supply baseline study was conducted in the 3 regions.

The Objectives of the baseline study are the following:

- to provide baseline data to assess the health commodity logistics system performance and commodity availability at health facilities
- to measure the impact of the RSCS Supply Chain Strengthening activities in the 3 regions (Bago, Magway and Ayeyarwaddy).
- to provide relevant stakeholders (Central and Regional MOHS, 3MDG) with information regarding the current status of the Supply of Health Commodities at lower health facilities in the 3 regions
- to use the baseline study data in order to focus on improvements to be made to relevant issues such as LMIS implementation, Stock Management, Forecasting and management of shortages and excess stocks

# Methodology

A baseline study tool was used to conduct a facility-based survey to collect quantitative data that will be used to calculate indicators for monitoring and evaluating logistics system performance. It was important to have stakeholder's buy-in for this type of study from the beginning to the end. The following steps outline the recommended methodology for completing the baseline study.

## Design of Baseline Study tool

The Health Commodity Supply Baseline Study Tool, a quantitative data collection instrument developed by RSCS project (based on the Logistics Indicators Assessment Tool (LIAT) by USAID | DELIVER PROJECT)[1], hereafter referred to as 'The Tool', is used to collect baseline data regarding health commodity logistics system performance and commodity availability at lower health facilities.

The tool contains a series of questions and checks on supply chain issue such as Human Resources, LMIS, Supply, Stock Management & Cold Chain and Physical Stock Status. Some questions can have multiple responses but most can have only one response.

The Regional teams as well as the 3MDG monitoring & evaluation unit have been able to provide input and feedback before finalizing the study tool[2].

## Determining the appropriate sample size

The main purpose of the sampling design is to avoid a convenience sample. Selection of facilities was done as randomly as possible. The total number of Health Facilities in the 3 regions is approx. 3500. For a statistically significant sample, a standard sampling formula was used (confidence level between 90 – 95% and margin of error of 5%), which resulted in approx. 300 facilities (100 per region)

There are 79 townships in the 3 regions. On average there are approx. 7 to 8 RHC's in each township and 5 to 6 Sub-RHC's linked to each RHC (approx. 35 Sub-RHC's per township). The sites have randomly been selected proportionally within each township, without breaking the supply chain between levels. In other words, select Rural Health Centers (RHC's) first, then randomly selected Sub-Rural Health Centers (Sub-RHC's) linked to the selected RHC's.

[1] USAID | DELIVER PROJECT, Task Order 1. 2008. Logistics Indicators Assessment Tool (LIAT). Arlington, Va.: USAID | DELIVER PROJECT, Task Order 1.

[2] RSCS Health Commodity Baseline Study Tool V6 (160708)_Final

Due to the fact that the baseline study has been done in the rainy season it has not always been possible to visit all selected sites (due to flooding) and some sites have been replaced by other sites in the same area.

Health facility visited in flooded area in Ayeyarwaddy Division

**Total number of Health Facilities in the Regions** [3]

| Region | RHC | S-RHC | MCH | UHC | School HC | Total |
|---|---|---|---|---|---|---|
| Bago | 190 | 815 | 32 | 3 | 5 | 1045 |
| Magway | 188 | 854 | 28 | 3 | 5 | 1078 |
| Ayeyarwaddy | 225 | 1132 | 42 | 3 | 9 | 1411 |
| Total | 603 | 2801 | 102 | 9 | 19 | 3534 |

**Selected number of Health Facilities to be surveyed**

| Region | RHC | S-RHC | MCH | UHC | School HC | Total |
|---|---|---|---|---|---|---|
| Bago | 35 | 55 | 6 | 2 | 2 | 100 |
| Magway | 35 | 55 | 6 | 2 | 2 | 100 |
| Ayeyarwaddy | 35 | 55 | 6 | 2 | 2 | 100 |
| Total | 105 | 165 | 18 | 6 | 6 | 300 |

For the complete list of name of selected health facilities see section “List of Facilities”.

## Tracer Commodity list

For the Stock Status check, a list of 10 tracer commodities was selected. A criteria for each item was that it was an essential basic health care item that should normally be available in every Basic Health Facility in the country.

[3] Source dated April 2016

| S/N | Description | Strength | Unit | Product Type |
|---|---|---|---|---|
| **1** | Albendazole | 400mg | tablet | Essential Medicine |
| **2** | Aluminium Hydroxide | 500mg | tablet | Essential Medicine |
| **3** | Amoxicillin | 250 mg | capsule | Essential Medicine |
| **4** | Ferrous Sulphate + Follic Acid | 200mg+0.4mg | tablet | Essential Medicine |
| **5** | Metronidazole | 200mg | tablet | Essential Medicine |
| **6** | Multivitamin/Compound Vitamin | - | tablet | Essential Medicine |
| **7** | Oral Rehydration Salt (ORS), low osmol | 20.5g/1l | sachet | Essential Medicine |
| **8** | Paracetamol | 500mg | tablet | Essential Medicine |
| **9** | Zinc Sulphate | 20mg | tablet | Essential Medicine |
| **10** | Benzyl Benzoate, 25%, lotion | 500ml | Bottle | Essential Medicine |

## Obtain MOHS approval for the baseline study

Before the start of the baseline study, approvals for the whole study and training workshop were requested (and received) from both central as well as regional level Ministry of Health and Sports.

## Training of Teams on use of the study tool

Prior to the start of the baseline study a training workshop was conducted in order to train and collect feedback from the RSCS study teams. Included in the workshop were representatives of the regional departments of public health as well as the donor (3MDG) who planned to accompany the RSCS study teams during some of the study visits to the selected facilities.

## Determining scoring methodology for baseline study

Most questions have a 'yes' or 'no' answer and some can have multiple answers. Every question has been reviewed and rated a score based on importance in the overall supply chain activity. The scoring method has been discussed during a Peer Review Meeting attended by representatives from relevant stakeholders such as MOHS and 3MDG.

# Key findings

**Human Resources**

- The medical staff are very committed and try to manage commodity supply to the best of their ability
- Basic health care staff have received little or no training on LMIS reporting system or other Supply Chain Management activities
- There does not seem be any designated staff for specific Supply Chain Management activities. It is done by medical staff who are also busy with their daily medical duties

**LMIS**

- All facilities maintain basic stock recording system (stock ledger book(s))
- Stock records are kept per item per source, resulting in multiple (too many) stock record books.
- No standard LMIS reporting system exist at basic facility level, no info re. stock levels and consumption data is reporting to higher level
- No facility LMIS data available at higher lever for forecasting and supply planning purposes

**Supply**

- Little or no involvement from health facilities regarding supply forecasting
- No proper system to re-allocate excess commodities to facilities with shortages
- Little of no stock kept as buffer in township in order to facilitate urgent orders to prevent stock out
- No procedures / instructions how to deal with damaged or expired commodities
- Transportation of commodities from township to facilities often paid with personal money of health staff

**Stock management**

- Health commodities are kept as cool and dry as possible
- Storing pharmaceuticals at appropriate temperature is a big challenge (impossible and not feasible) due to lack of electricity at health facilities
- Limited storage space at many facilities
- Lack of good quality, lockable storage space (cupboards)

- Lack of (adherence to) regular physical stock check procedures

**Stock availability**

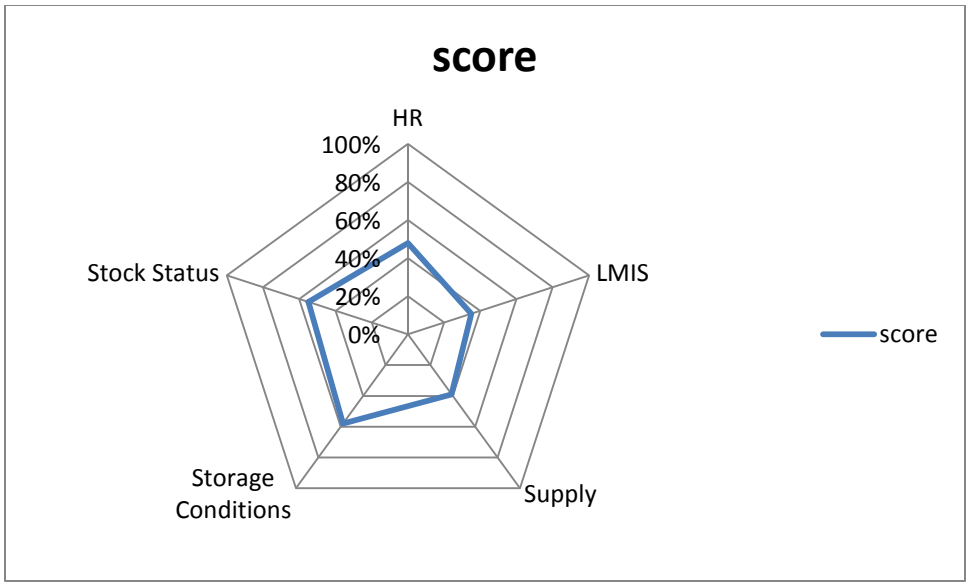
- High incidence of commodity stock out of more than 30 days
- High incidence of expired drugs
- High incidence of unused and/or excess commodities

Performance appraisal supply chain management system

| Performance | Score |
|---|---|
| **Bad** | 0 – 20% |
| **Poor** | 20 – 40% |
| **Moderate** | 40 – 60% |
| **Adequate** | 60 – 80% |
| **Good** | 80 – 100% |

Each of the categories included in the baseline study has been given a score between 0 and 100%.

| Category | Score |
|---|---|
| **Human Resources** | 48% |
| **LMIS** | 35% |
| **Supply** | 39% |
| **Storage Conditions** | 58% |
| **Stock Status Check** | 55% |
| **Total Average Score** | **47%** |




The above charts show that all Supply Chain category score below 60% and that LMIS, Supply & HR are the weakest categories in the supply chain. RSCS activities mainly focus on implementation of an LMIS system in order to improve forecasting and supply planning as well as training of health staff in order to increase and improve supply chain capacity and skills.

# Data Analysis & Results

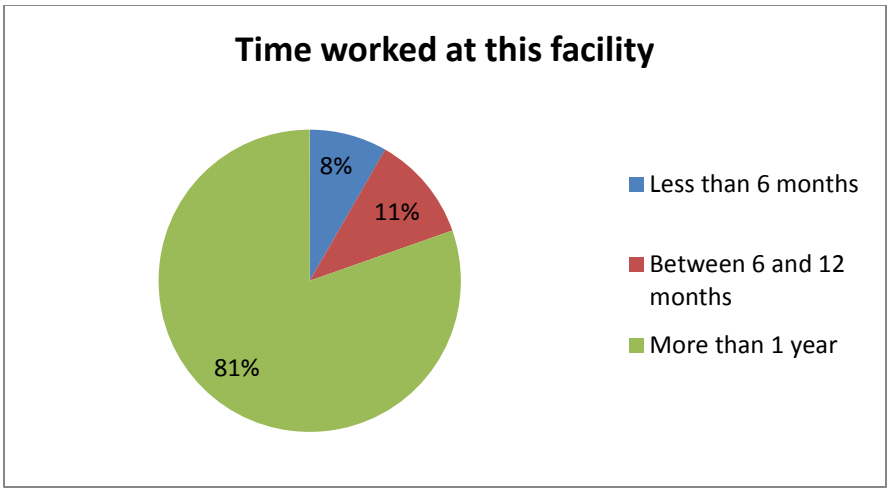
The Health Commodity Supply Baseline Study document includes 58 questions and checks. 11 are informative (I) and are not used for rating purposes. The other 47 questions and check are related to performance (P) and are used for rating purposes. All 'Yes' or 'No' questions have a 100% (for Yes) or 0% (for No) score. Other questions with multiple choice answers have a rating between 0 – 100% percent depending on best supply chain management practise. This rating has been determined by the designers of the baseline study and review and discussed during a Peer Review Meeting with relevant stakeholders.

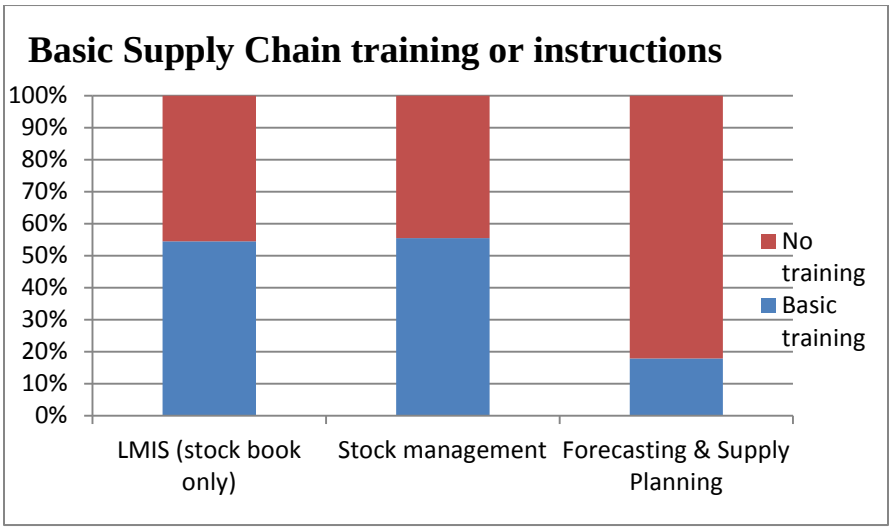
| Category | Informative (I) | Performance | Total |
|---|---|---|---|
| **Human** | 3 | 2 | 5 |
| **LMIS** | 3 | 14 | 17 |
| **Supply** | 3 | 12 | 15 |
| **Cold Chain** | 1 | 4 | 5 |
| **Storage** | 1 | 9 | 10 |
| **Stock Status** | 0 | 6 | 6 |
| **Total** | **11** | **47** | **58** |

## Human Resources

This section consists of 5 questions addressing the experience and level of training of staff in the health facilities.

The majority of staff has worked for more than 1 year at his/her health facility but only approx. 44% has received any kind of training or basic instruction on supply chain activities such as use of LMIS forms, Stock Management (FEFO) systems, Forecasting & quantifications or other related topics. This usually consisted of basic instructions on how to use a stock ledger book.




During the visits, some of the health facility staff raised the issue that they should have a dedicated person (for example, PHS II) for the recording of stock transaction in stock ledger books and preparation for the health facility stock report if they need to report monthly in near future. Otherwise, there will be difficulties for the data accuracy, data update and in time reporting as HA or LHV or MW has other priorities like the activities on mobile, school health, immunization, AN care/ PN care and daily treatment in clinic etc. and they do not have enough time to emphasize on the LMIS data recording.

## LMIS

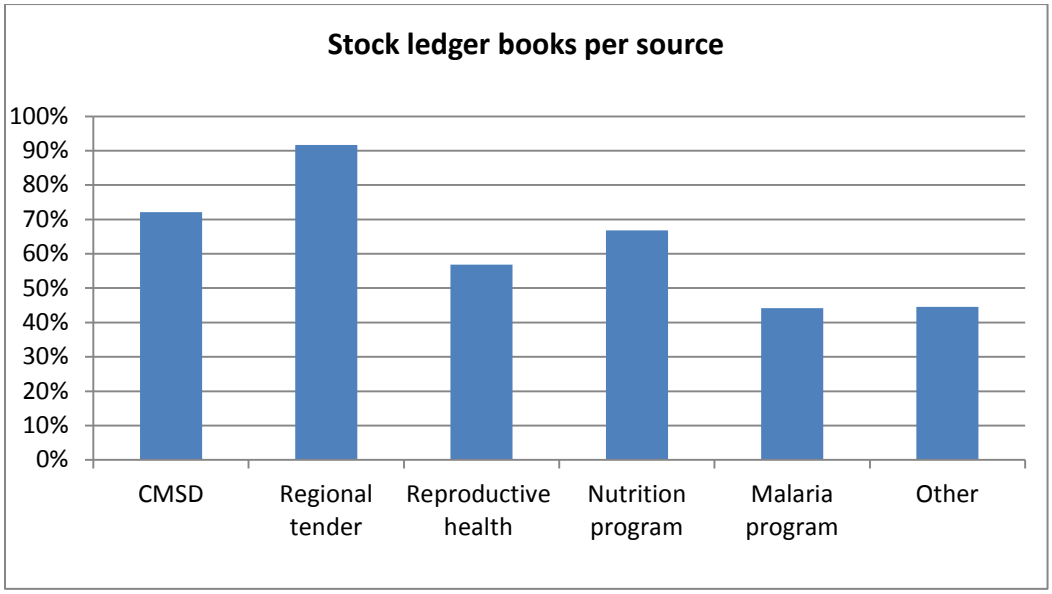
This section consists of 17 questions addressing the presence and use of any form of LMIS system in the health facilities.

## Stock ledger books

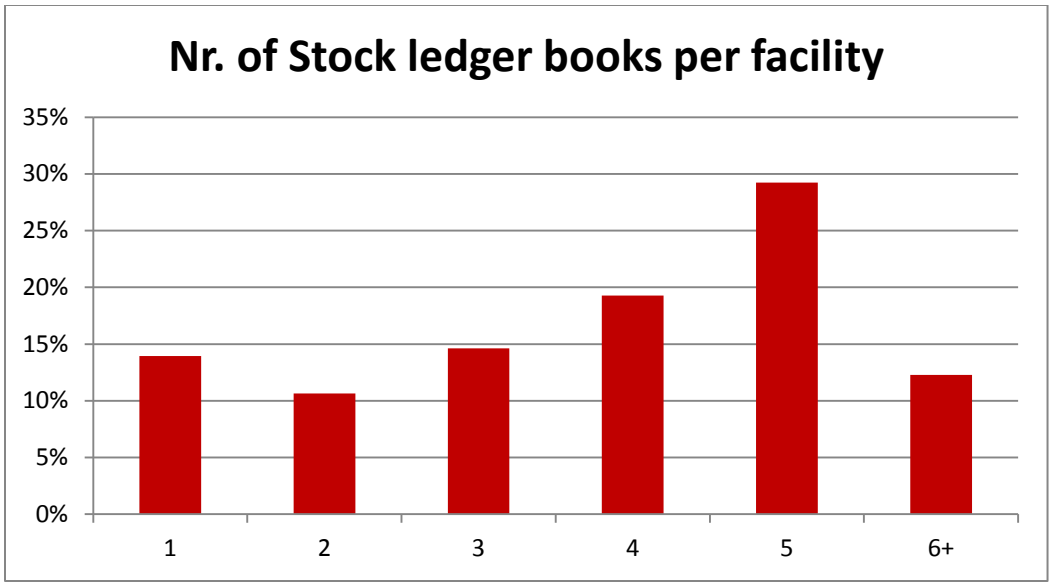
Almost all health facilities use some kind of stock keeping records such as a stock ledger book. The problem is that separate stock books are kept depending on the source of the commodities. It could be that one commodity (for example Paracetamol) is registered in multiple stock books because it is supplied via different sources such as: CMSD, Regional Tender, or various Vertical Programs. This makes it difficult to get a clear overview of how much of one particular commodity is present in the facility as one must check various stock books and storage locations (or shelves). It is even more complicated to get a complete overview as most health facilities use Main Stock books and Sub-Stock books for each source.

Number of main stock books in one Sub-RHC


Main & Sub stock books in one RHC



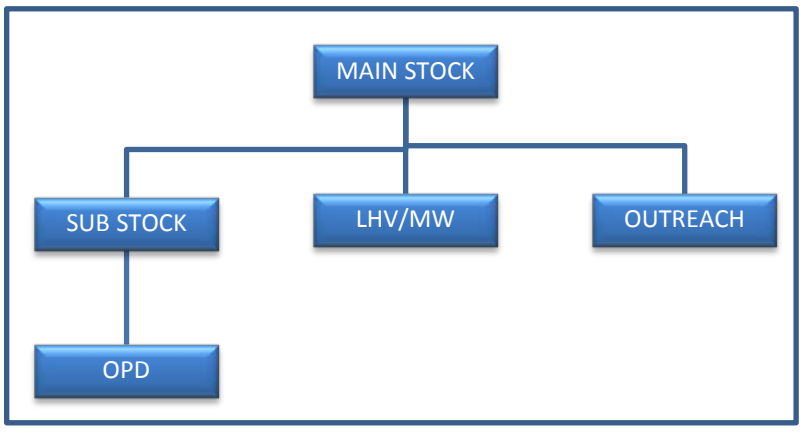

**Note:** under 'Other' source we have recorded the following: Unicef, UNFPA, GAVI, EPI, PMCT, TB, Leprosy, TB, TMO and WCHD. Each of these sources has their own separate book as well




## Goods flow and record keeping

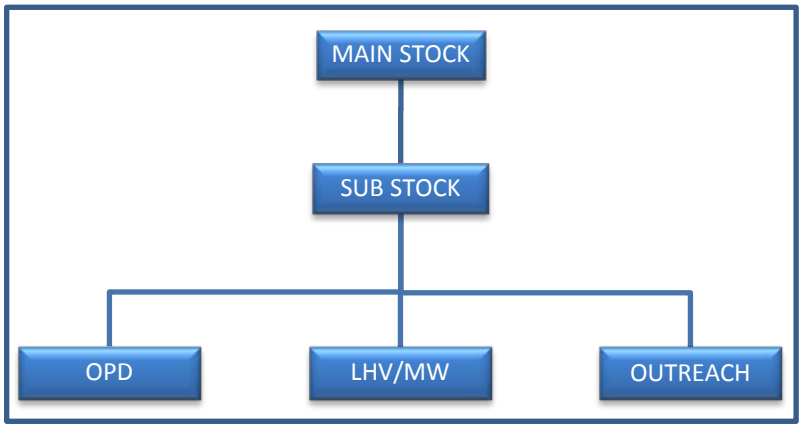
There is no standard practice regarding how to keep stock records and how to manage the goods flow. There seems to be many different practices between facilities and regions on how they record their stocks and how the commodity flow is managed. A standard practice in Health facilities is the use of a Main Stock book and a Sub Stock book in one facility. The Main stock is to be used for reception of goods from higher level and then a weekly or monthly re-supply to the SUB stock book and Lady Health Visitor, Midwife for daily use as well as to Mobile teams in case of outreach activities. In many cases the Sub Rural Health Centres receive their supplies directly from higher level (township) but in some cases the supplies go via the Rural Health Centres to the Sub Centres in which case sometimes these transaction are recorded in the RHC stock books and sometime they're not. In reality the use of these stock books and goods flow can vary a lot.

A variety of scenarios is shown in below diagrams (please note that these are the main varieties we have noted):



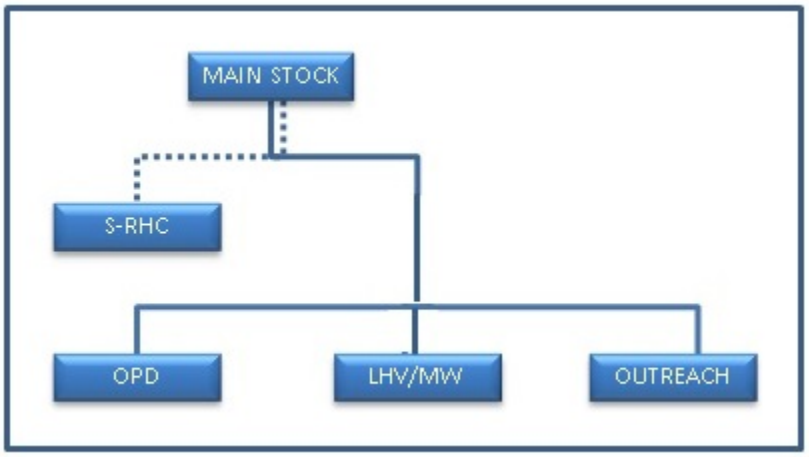

**1. Standard practise**

- Supplies received in Main Stock and distributed periodically to Sub-stock, LHV/MW and Outreach activities
- Main Stock is primary stock management record
- Clinic daily use in OPD issued from Sub-stock
- Sub-RHCs get supply directly from Townships



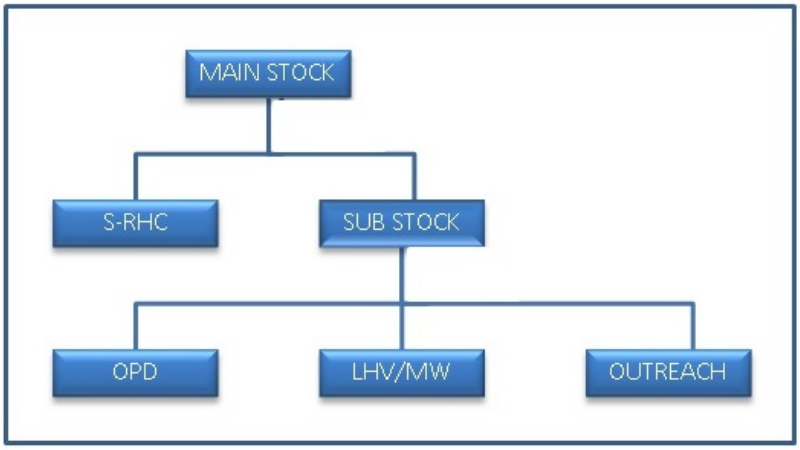

**2. Main Stock as transfer stock**

- Supplies received in Main Stock and directly transferred to Sub-Stock Book (In = Out; balance = Zero)
- Sub-stock book is primary stock management record
- Purpose of Main stock book redundant
- Sub-RHCs get supply directly from Township.




**3. Ad-hoc supply from RHC to Sub-RHC**

- Supplies only received and recorded in Main Stock Book
- All daily use get direct supply from Main Stock Book
- The RHC sometimes issues supplies to Sub-RHC's (upon special request)




**4. RHC Supplies Sub-RHC's**

- Supply for RHC and Sub-RHC flow through RHC
- RHC re-supplies Sub-RHC in it area

### 1. Standard practice

Goods are supply on a regular basis from RHC Main Stock to Sub-Stock, Lady Health Visitor, Midwife on a regular basis (daily, weekly or monthly). The Main stock book serves as the primary stock keeping record where all issues to other users are recorded. Out transactions from Main stock book can be used as proxy consumption data.
A similar procedure is used in the Sub-RHC's. The Sub-RHC's get their supply also directly from higher (township) level, received in main stock book and then distributed from main stock book to sub-stock.

### 2. Main Stock as transfer stock

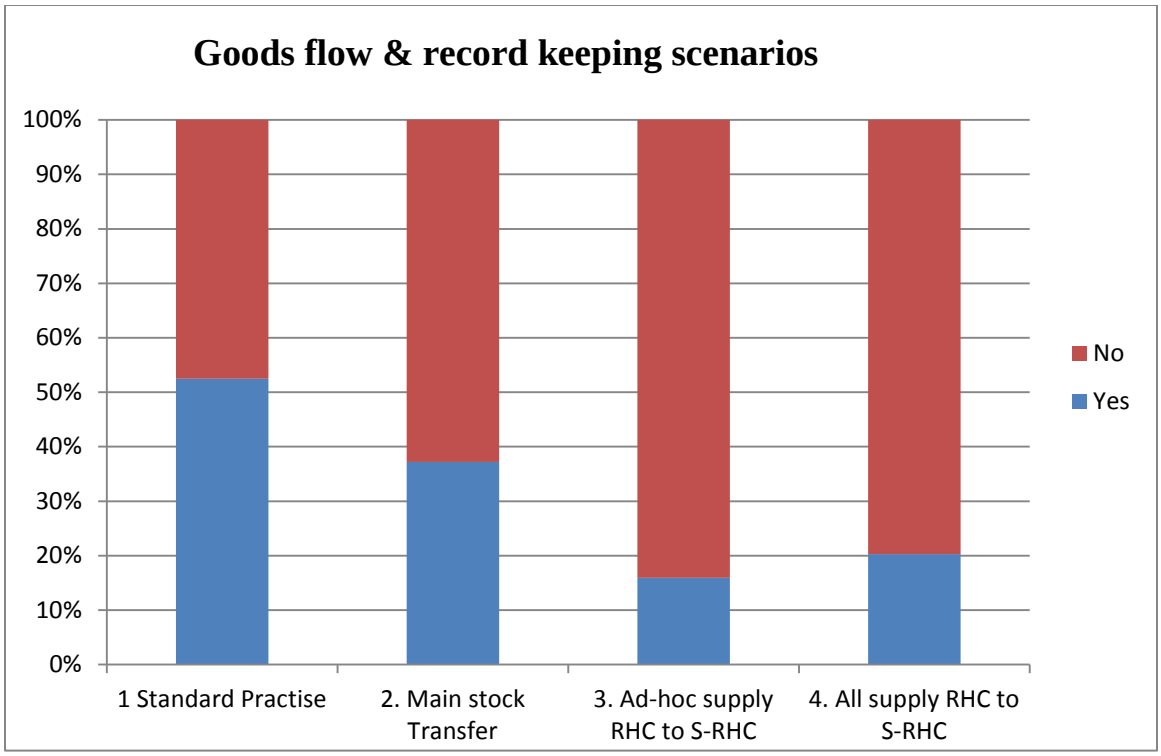
As soon as goods are supplied to the RHC they are recorded in the Main stock book and then directly transferred out to Sub-stock book, so basically using the main stock book only as a transfer stock ledger. Issues to daily users (LHV, Midwife and OPD) are recorded out of the Sub-stock book on a regular basis. The 'Out' transactions from the Sub-stock book (instead of Main stock) can be used as proxy consumption data. The purpose of the Main Stock book becomes redundant.

### 3. Ad-hoc supply from RHC to Sub-RHC

Normally the Sub-RHC's get their 6 monthly suppliers directly from the Townships but sometimes (upon special request) they also receive supplies from the RHC in their area.

### 4. RHC Supplies Sub-RHC's

Instead of direct supply to Sub-RHC's from the townships, in several township, the 6 monthly supplies to the Sub-RHC's are distributed via the RHC in their area.



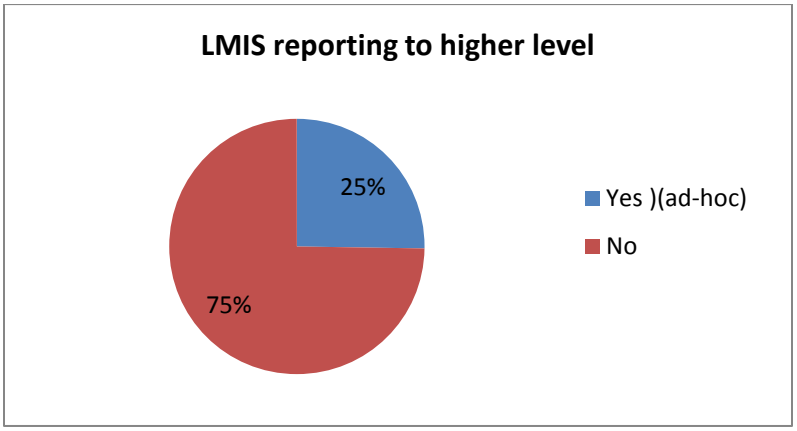

The above graph gives an indication about the different practices used in the facilities regarding goods flow and stock keeping. Clearer guidelines and instructions from central level would improve standardization and more efficient practices.
In general, the shorter the supply chain the more efficient it performs. We would suggest the following recommendations:

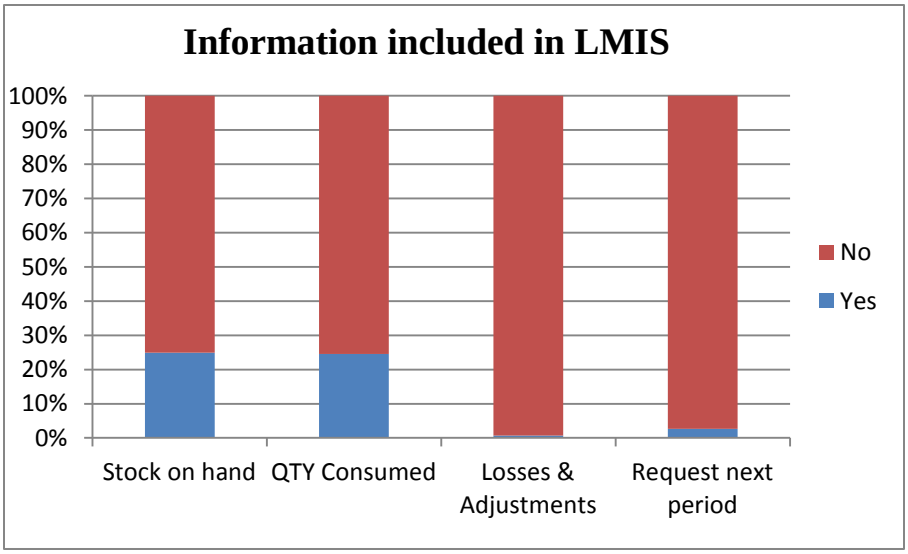
- Use only one Main Stock Ledger Book (for all sources)
- Cancel use of Sub-stock books in lower health facilities (ie. Only one Stock Ledger Book)
- Direct supplies to Sub-RHC from township (not transferred via stock book of RHC's)
- Supply from RHC to S-RHC only upon special request from S-RHC (in case of emergency /low stock)
- Weekly supply (two weekly in max.) from Main stock to daily users (OPD, LHV, Midwife)
- Supply to outreach /mobile activities when required

### LMIS reporting

Only a small number of health facilities report consumption data, stock levels or submit requisition forms to higher level. This is usually done ad-hoc and not at a regular periodic time schedule. As a result the townships do not received complete and updated

data regarding stock levels and consumption data of all health facilities, which makes forecasting exercises more difficult as well as re-allocation of excess stock from one facility to another more difficult.




Currently no standard procedure exists for Health Facilities to report on a regular basis according a standard format to higher level that includes stock level and consumption data. Only in some townships the Township Medical Officer has implemented some sort of self-designed basic reporting system.

In case the health facility does report on stock level and/or consumption data, this is done upon request from the central Audit department and usually only done for a particular category of items (coming from a specific source) and not for all items in the health facility.

### Losses & adjustments

In general no health facility records (nor reports) any losses & adjustment. Expired drugs or damaged items are currently not reported as there is not proper procedure from central level on how to deal with this category of items.

### Request for next period

In principle no stocks are kept at township level for basic health care drugs. Health facilities are supplied approx. each 6 months following the 6-monthly regional tender cycle. This explains why almost no facility sends a (monthly or quarterly) request form to higher level.

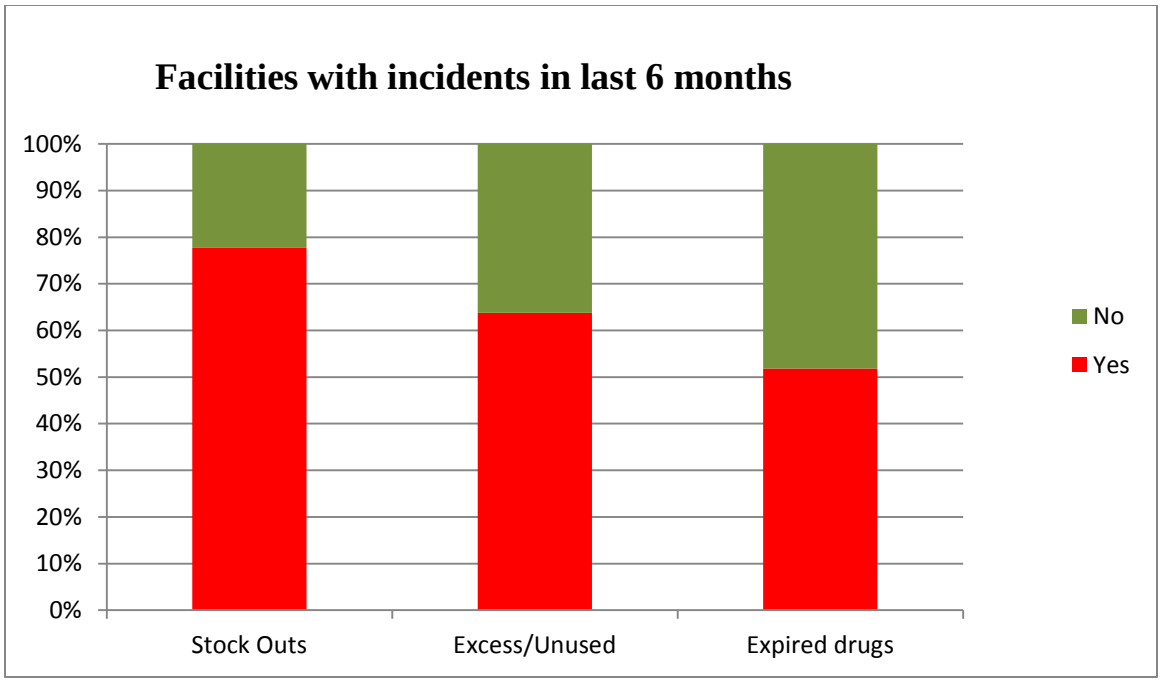
## Supply

This section consists of 15 questions related to availability of health commodities in the health facilities including delivery & transportation issues.

In order to ensure availability of essential health commodities, it is important that the facilities do not encounter stock outs and/or expired drugs. Furthermore it is important the facilities are not supplied with too much stock that they won't be able to use or can be better used at other facilities.

In case of potential stock out incidents, it is important the facilities are able to submit emergency orders to higher level in order to avoid actual stock outs.

The graph below shows the incidents of stock outs, excess drugs and expired drugs during the last 6 months as reported during the visit by the health facility staff.




## Stock Outs

78% of the facilities visited have experienced Stock Outs of 1 or more commodities in the last 6 months, but only 6% of the facilities have submitted an emergency order to higher level. It appears that there is no procedure in place to submit urgent/emergency orders to higher level in order to avoid stock outs. This is most likely due to fact that higher level does not keep (sufficient) emergency or buffer stocks for health facilities.

Sometimes RHC and S-RHC do re-allocate and share commodities between the facilities but this is done on an ad-hoc basis. There is no mechanism or standard procedure to re-allocate potential excess or unused stocks from one facility to another.

A better LMIS system that reports health facility stock levels and consumption data will provide higher level with an early warning system and a tool to re-distribute stocks between facilities.

## Excess / Unused commodities

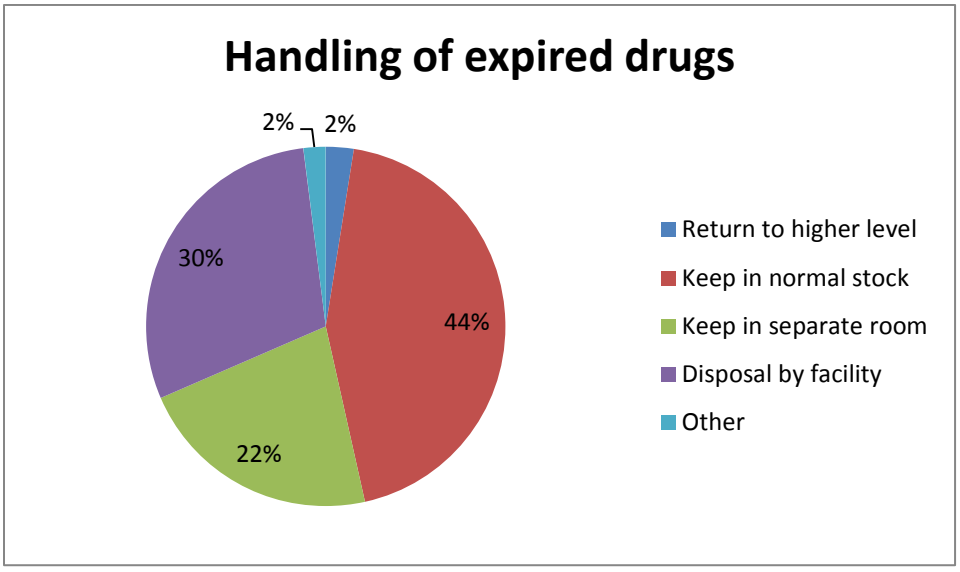
64% of the facilities visited reported excess or unused health care commodities. One of the reasons for this is that the facilities received quantities of commodities that they do not need but are 'pushed' through the supply system by higher level. A better overview of consumption data at health facility level may improve this and reduce the amount of excess or unused commodities. Monitoring facility stock levels will also enable higher level to re-allocate excess stock to other locations.

## Expired drugs

52% of the facilities visited have experienced expired drugs within the last 6 month. This is a result of high quantity of excess / unused stock (see above). All these indicators are linked and can be improved by a proper functioning LMIS system that will help improve forecasting and procurement based on real needs in the facilities. Another reason for the high incidence rate of expired drugs is that when commodities arrive at the health facilities the remaining shelf life of some products is already quite short and not all quantities can be used before the expiry date. It is important that when suppliers/vendors deliver the ordered goods, the remaining shelf life should be at least 75% of the total shelf life.

One important challenge is that currently the health facilities do not officially register expired drugs (or damages and losses) in their stock books. The reason for this is that there is no standard protocol or instructions within MOHS to the health facilities on how to deal with expired drugs, losses or damaged items.

At the moment most expired drugs are kept in the normal stock at the health facility or put in a separate room. Some commodities are disposed off at the facility and only a few facilities report that they sent the expired drugs back to higher level (township). There is a risk that expired drugs are used at the health facilities, either due to risk of stock out because there is no protocol and instruction how to handle expired drugs.



## Ordering Health Commodities

The order or re-supply quantities for most health facilities are determined by higher level (township or regional level). The health facilities do not have much involvement in determining the quantity of health commodities for the next period. The forecasting and procurement cycle of most basic health care commodities is 6 months. 98% of the health facilities reported that resupply quantities are determined by higher level.

The forecasting methodologies vary as well. Sometimes the quantities are calculated based on population numbers or morbidity statistic (HMIS data) from the townships. Sometimes the quantities fixed per RCH and Sub-RHC and then equally divided based on the number of RHC and Sub-RHC in the township.

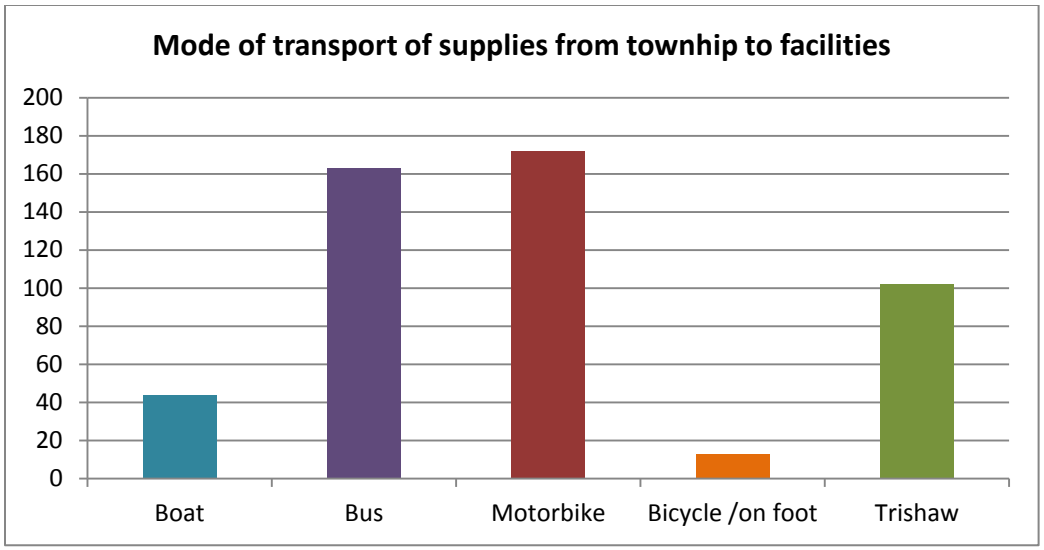
The facilities are not involved in making the 6 monthly forecast / orders and usually find out how much they receive based on information from the Township Medical Office.

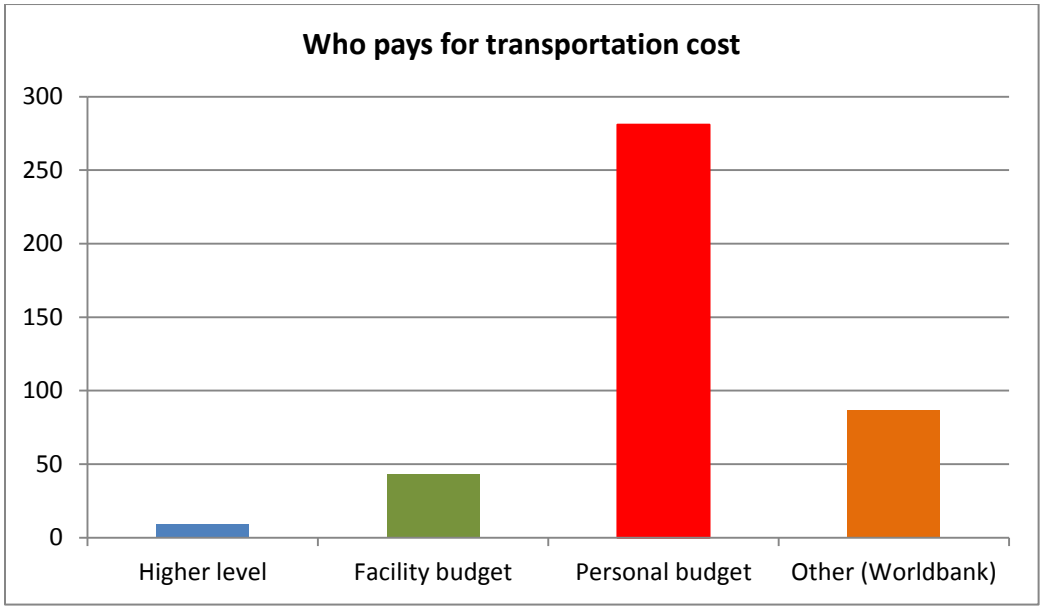
Some practices on allocation of commodities to facilities are the following:

- Main RHC takes the supplies in 10% of total amount and distributes the remaining 90% to sub-centers based on the population ratio (as per instruction from Regional Public Health Department)
- Main RHC takes the supplies based on its population plus 10% buffer and the rest ratio are breakdown for sub-centers based on the individual population.
- Main RHC distributes to sub-centers according to their estimated needs (not based on sub-centers population) and keeps the rest quantities only in main RHC. In case of needed in sub-centers, resupplies to the needed sites from RHC's buffer stock.

## Transportation of supplies

In general all commodities from the 6 monthly procurement orders are transported by the suppliers (vendor) to township level. From there, all health facilities collect their allocated supplies from the township during the monthly CME meeting at the township. The mode of transport used is a mix of public transport (bus, boat) or private vehicle (motorbike).




## Transportation cost

Most facilities do not have a budget for transportation charges for health commodities. Most health staff uses their personal budget to pay for the transportation, which is usually done in combination with their regular monthly visit to the township. Some facilities report that the World Bank is supplying funds for transportation cost. However some facilities in Ayeyarwaddy mentioned that these funds is only for four month and is now being reduced. The World Bank fund is part of a loan project. The MOHS has received a loan from the World Bank that they eventually have to pay back.

### Supply Supervision visits

80% of the health facilities received a supervision visit from township level or higher level within the last 6 month of which approx. 65% included supervision regarding health commodity management such as checking stock ledger books and storage conditions. Before the baseline study we have received copies of supervision checklist that included checks regarding storage conditions, daily register books, patient register books, stock ledger books etc. but we have not seen any copies of these checklists in the health facilities during the study.

## Stock Management & Cold chain storage

This section consists of 5 questions regarding cold chain storage and another 10 questions regarding general storage conditions.

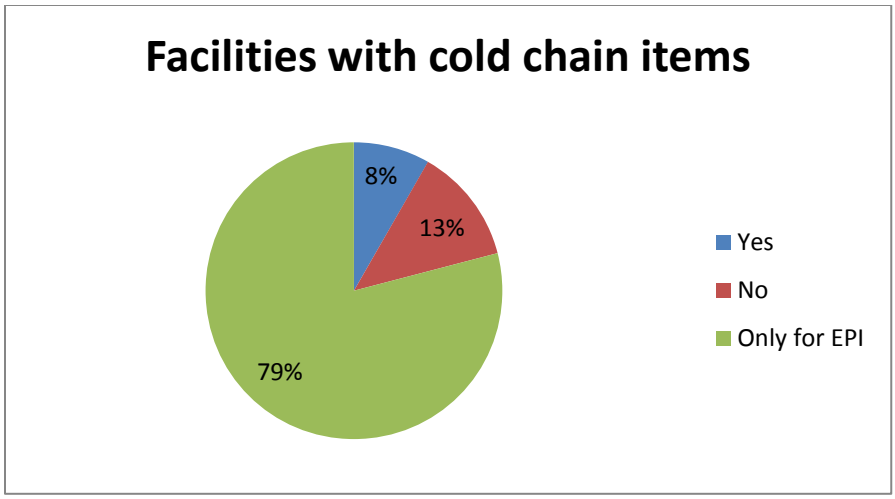
### Cold chain storage

Most of the health facilities only need cold chain storage during EPI activities and do not keep regular cold chain items. Only a few facilities keep Anti-snake venom.

In general, EPI vaccines are kept only 2-3 days in vaccine carrier with ice packs. It is difficult to freeze ice packs in 2nd and 3rd day due to lack of electricity and no freezer in clinics. They therefore, can manage cold chain only with ice instead of ice packs after first day. For the monitoring of vaccine temperature, they use the indicators such as thermometer and freeze tag.

Some health facilities don't need to store EPI vaccines in clinic sites since they complete the immunization activity in only one day.

The EPI vaccines are usually kept at township level and then prepared for transportation to the health facilities in a vaccine carrier with ice-packs. Most facilities (90%) confirmed that the temperature is monitored daily. We have not been able to verify this as there was not EPI activities taking place during the study.

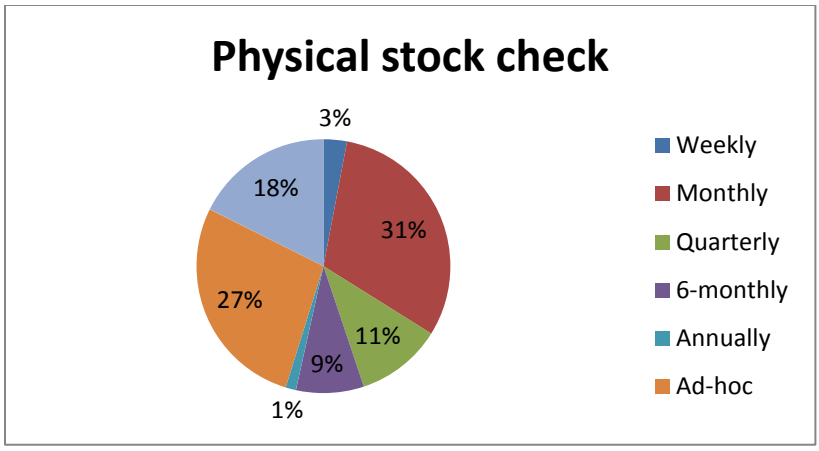



**Stock management**

This section addresses the physical storage condition and management.

Depending on the facility and volume of supplies, the storage spaces vary from separate store room to cupboards, shelves or storage boxes. Most of the stores were properly organized with labels and expiry dates clearly visible.

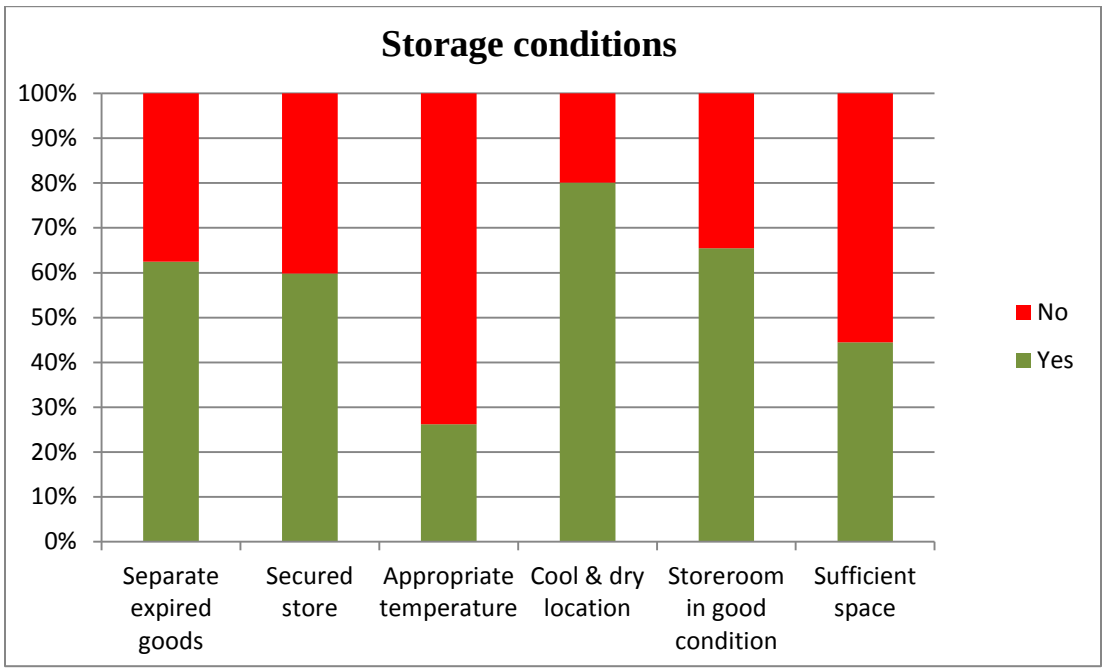
93% of the facilities confirmed that they use the FEFO (First Expiry First Out) system and 83% confirmed that they do physical stock checks albeit that the frequency differs between facilities. Some do regular (weekly, monthly etc.) stock checks and other do ad-hoc stock checks. There does not seem to be a clear instruction or procedure on how frequent physical stock checks need to be done.




## Storage conditions

It is challenging to keep all pharmaceuticals stored in perfect storage conditions. Most pharmaceuticals need to be stored in a dry location, not exposes to sunlight and at the temperature of not more the 25°C. As the ambient temperature in Myanmar is often more than 35°C with a very high humidity rate it will be difficult meet appropriate storage conditions without climate control (air conditioning and reliable power supply). In rural areas this is not feasible.

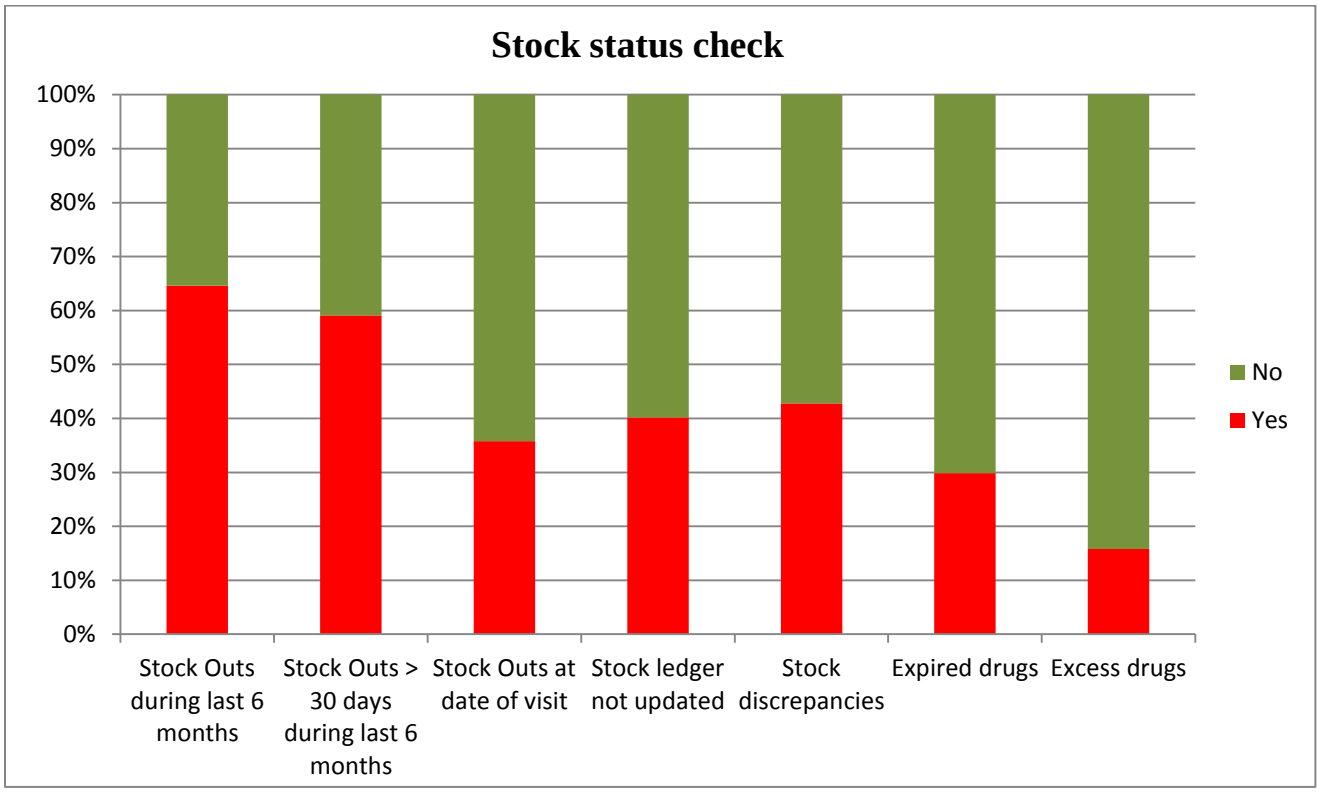
The best that can be achieved is to store pharmaceuticals in the 'coolest and dry' place in the health facility away from direct sunlight.



**Note:** 25% of the facilities (mostly RHC's and S-RHC's) reported that the products are stored at the appropriate temperature (according to product specification). This seems highly unlikely and we may have to assume that the staff is not aware about the recommended storage temperature according to the product specifications.

## Stock Status

In each facility the study team did a verification check of 10 tracer commodities (see paragraph 3.3). This included verification of stock transactions in the stock ledger books as well as a physical stock check of each item. The main purpose of this stock check is to determine a baseline for the stock out, expired drugs and excess stock incidence rates.




### Stock Outs

The verification of stock out incidences during the last 6 months was done by checking the stock ledger books. One or more zero stock balances of an item is considered as a stock out. It should be noted that 40% facilities had not updated their stock ledger books with the latest transactions so a margin of error with information based on stock ledger books should be taken into account. However, in our opinion, the information on stock out data and nr. of days of stock out is representative for all items.

65% of the items checked experienced a stock out during the last 6 months, and 59% had stock outs of more than 30 days. The team also did a physical check of the tracer commodities in stock. Approx. 36% of items were out of stock during the time of visit.

### Expired & Excess drugs

30% of the tracer commodities had one or more expired batches in stock. Approx. 16% of items had excess quantities in stock. Excess is defined as more the 12 months of stock based on average consumption. This two indicator are linked as excess or unused commodities will eventually expire. This further indicates that distributed quantities are not necessarily based on real needs of facilities and that an early warning system to avoid expiry drugs either does not function properly or does not exist

## Data summary and rating

This section presents a detailed overview of all answers and score per category and question. The Baseline Study questionnaire contains 58 questions for 5 different categories:

- Human Resources
- LMIS
- Supply
- Stock Management (incl. Cold Chain storage)
- Stock Status check

In general all categories and questions have equal weight in the overall score with a few exceptions. For example, Cold Chain only has a small part in the performance of supply chain as it is related to a few items and only relevant during EPI activities (1 or 2 days per month). We have incorporated the score of the Cold Chain Category in the stock management score and allocated 20% of the score to the overall stock management score.

Some of the questions we deemed 'not as important as the other questions to the overall supply chain performance and therefore lower their weight to 50% (instead of 100%) to the overall average score. These questions are: 204, 205, 209, 310 & 315.

| Category | Score |
|---|---|
| **Human Resources** | 48% |
| **LMIS** | 35% |
| **Supply** | 39% |
| **Storage Conditions** | 58% |
| **Stock Status Check** | 55% |
| **Total Average Score** | **47%** |

# Recommendations

**Human Resources**

- Provide Basic Health Care staff with clear instruction and tools regarding Supply Chain Management (including, but not limited to)
  - Procedure on dealing with losses & adjustments (expired drugs, damaged goods)
  - Procedure on dealing with Excess drugs & supplies (re-allocation to other facilities)
  - Procedure for Emergency/Urgent order to avoid Stock outs

- Provide Basic Health Care staff with proper training on:
  - LMIS system
  - Stock Management
  - Forecasting & Planning

- Create Logistic Management Units (LMU) at township level and above with dedicated and trained staff for Supply Chain Management

**LMIS**

- Reduce the number of Stock Ledger Book in facilities.
  - One stock ledger book for all commodities (not separate per source)
  - From Main & Sub stock book to One Stock Ledger Book only

- Implement basic LMIS reporting system for health facilities including data such as :
  - Monthly / Quarterly consumption data, stock balance, nr. of stock out days and losses & adjustments)
  - Provide sufficient reporting forms to avoid staff using their own budget

- Use LMIS data for more accurate Forecasting and Quantification:
  - Based on real needs
  - Not based on fixed quantities per facility

- In coordination with Auditing department, re-organize and standardize recording and reporting procedures
  - Standard stock ledger book (including Losses & Adjustments)

- Standard reporting procedure and tool (including consumption data, stock level, nr of stock out days, losses & adjustments)

**Supply**

- Supply of commodities to health facilities should be based on real needs / requisition forms coming from health facility (not based on quantities pre-fixed by higher level)
- Implement LMIS reporting system for stock level to re-allocate excess commodities to other facilities in order to:
  - Reduce number of Stock Outs
  - Reduce Excess drugs / Wastage / Expired drugs
  - Improve rational use of drug supplies

- Consider keeping buffer stock at Township level on behalf of health facilities (storage space permitting) in order to use township as transfer stock/hub for supplies to health facilities
  - Use township to store excess commodities and to re-allocate to other facilities (with low stocks)
  - Supply health facilities based on real needs and keep remaining stock at township as buffer stock

- Create budget for commodity transportation from township to health facilities in order to avoid basic health staff using their personal budget.

**Stock Management**

- Provide budget in order to improve / standardize storage conditions:
  - Lockable cupboard as minimum requirement
- Implement standard procedure for regular (monthly or quarterly) physical stock check (ground check) including reporting of expiry date

# Data Summary Overview

| No. | | Questions | | Code | Answers | Rating | Weight per question | | | Weight per category | 47% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Human Resources** | | | | | | | | | | | **48%** |
| 101 | I | Can we continue? | Yes | 1 | 301 | | | Data Valid | | | |
| | | | No | 0 | 0 | | | | | | |
| 102 | I | Job Title of interviewee | | TEXT | 301 | | | Data Valid | | | |
| 103 | P | How long you have worked at this facility? | Less than 6 months | 1 | 25 | 25% | 2% | Data Valid | 88% | 100% | 88% |
| | | | Between 6 and 12 months | 2 | 34 | 50% | 6% | | | | |
| | | | More than 1 year | 3 | 242 | 100% | 80% | | | | |
| 104 | I | Who is the principal person responsible for managing medical supplies at this facility? | Medical Officer 1 | 1 | 5 | | | Data Valid | | | |
| | | | Health Assistant 2 | 2 | 79 | | | | | | |
| | | | Nurse 3 | 3 | 3 | | | | | | |
| | | | Lady Health Visitor 4 | 4 | 22 | | | | | | |
| | | | Midwife 5 | 5 | 174 | | | | | | |
| | | | Compounder 6 | 6 | 0 | | | | | | |
| | | | Public Health Supervisor I 7 | 7 | 10 | | | | | | |
| | | | Public Health Supervisor II 8 | 8 | 1 | | | | | | |
| | | | Other (Specify) 9 | 9 | 7 | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | P | Did you or any of the Health Facility Staff receive any training, instructions or Guidelines on? | | | | | | | | | |
| | | A. Use of LMIS forms (Stock Ledger Book, Stock Reporting forms, Request Forms, Issue & Receipt Voucher | Yes 1 | 1 | 164 | 100% | 54% | Data Valid | 54% | 100% | 54% |
| | | | No 0 | 0 | 137 | 0% | 0% | | | | |
| | | B. Stock Management (FEFO system, How to Store Pharmaceuticals, How to manage your store | Yes 1 | 1 | 167 | 100% | 55% | Data Valid | 55% | 100% | 55% |
| | | | No 0 | 0 | 134 | 0% | 0% | | | | |
| | | C. Forecasting & Quantification (how to calculated the quantities of commodities needed for the future) | Yes 1 | 1 | 54 | 100% | 18% | Data Valid | 18% | 100% | 18% |
| | | | No 0 | 0 | 247 | 0% | 0% | | | | |
| | | D. other training/instructions on Health Commodity Supply Management | Yes 1 (specify: Waste disposal) | 1 | 5 | 75% | 1% | Data Valid | 26% | 100% | 26% |
| | | | No 0 | 0 | 296 | 25% | 25% | | | | |
| **LMIS** | | | | | | | | | | | **35%** |
| 201 | P | Do you use the following stock keeping logistics forms to manage health products in this facility? | | | | | | | | | |
| | | A. stock cards/bin card/ inventory control card | Yes | 1 | 44 | 100% | 15% | Data Valid | | | |
| | | | No | 0 | 257 | 0% | 0% | | | | |
| | | B. stock book ledger | Yes | 1 | 299 | 100% | 99% | Data Valid | | | |
| | | | No | 0 | 2 | 0% | 0% | | | | |
| | | C. other | Yes | 1 | 31 | 100% | 10% | Data Valid | | | |
| | | | No | 0 | 270 | 0% | 0% | | | | |
| | | | | | | | 124% | | 100% | 100% | 100 % |
| 202 | I | How many different MAIN stock | CMSD | A | 217 | | | Multi | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| /a | | books do you have in the facility? Specify each source | TENDER (region) | B | 276 | | | **ple answers** | | | |
| | | | RH | C | 171 | | | | | | |
| | | | Nutrition | D | 201 | | | | | | |
| | | | Malaria | E | 133 | | | | | | |
| | | | Other (Specify) | W | 134 | | | | | | |
| 202 /b | P | How many different MAIN stock books do you have in the facility? Specify each source | | 1 | 42 | 100% | 14% | **Data Valid** | | | |
| | | | | 2 | 32 | 75% | 8% | | | | |
| | | | | 3 | 44 | 50% | 7% | | | | |
| | | | | 4 | 58 | 25% | 5% | | | | |
| | | | | 5 | 88 | 10% | 3% | | | | |
| | | | | 6 | 37 | 5% | 1% | | 38% | 100% | 38% |
| 203 | P | How frequently does the facility transfer commodities from MAIN Stock book to SUB stock book (or Lady Health Visitor / Midwife / Outreach activities)? | SUB stock book not used | 0 | 31 | 100% | 10% | Data Valid | | | |
| | | | All QTY after reception | 1 | 112 | 0% | 0% | | | | |
| | | | Daily | 2 | 0 | 0% | 0% | | | | |
| | | | Weekly | 3 | 1 | 50% | 0% | | | | |
| | | | Monthly | 4 | 25 | 75% | 6% | | | | |
| | | | Only when SUB stock QTY is low | 5 | 130 | 75% | 32% | | | | |
| | | | Other (Specify) | 9 | 2 | 0% | 0% | | 49% | 100% | 49% |
| 204 | P | From which stock do the Lady Health Visitor, Midwife of other outreach activities get there Health Commodities from? | From MAIN stock book | 1 | 70 | 100% | 23% | Data Valid | | | |
| | | | From SUB stock book | 2 | 208 | 75% | 52% | | | | |
| | | | From both main & sub stock | 3 | 14 | 25% | 1% | | | | |
| | | | Other (specify) | 9 | 9 | 25% | 1% | | 77% | 50% | 38% |
| 205 | P | How frequently does the facility transfer commodities from stock to Lady Health Visitor, Midwife of other outreach activities? | All QTY after reception | 1 | 27 | 0% | 0% | Data Valid | | | |
| | | | Daily | 2 | 7 | 25% | 1% | | | | |
| | | | Weekly | 3 | 8 | 100% | 3% | | | | |
| | | | Monthly | 4 | 32 | 25% | 3% | | | | |
| | | | Only when stock QTY is low | 5 | 178 | 100% | 59% | | | | |
| | | | Other (Specify) | 9 | 49 | 25% | 4% | | 69% | 50% | 35% |
| 206 | P | Is the above transfer a physical | Paper transaction only | 0 | 132 | 0% | 0% | **Data** | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | transfer (with update of stock books) of commodities from one location to another or is it just a transaction recorded on paper (and commodities stay in one location)? | Physical transfer & stock update | 1 | 166 | 100% | 55% | Valid | | | |
| | | | Other (Specify) | 9 | 3 | 0% | 0% | | 55% | 100% | 55% |
| 207 | I | Does this facility transfer commodities to other facility (for example from RHC to S-RHC)? | Yes | 1 | 109 | | | Data Valid | | | |
| | | | No | 0 | 192 | | | | | | |
| 208 | I | If yes, how frequent do they transfer to other/lower facilities (for example from RHC to Sub RHC)? | Only upon special request | 1 | 48 | | | Data Valid | | | |
| | | | All supplies to S-RHC come via RHC | 2 | 61 | | | | | | |
| 209 | P | Does this facility record this transfer to other / lower facility in their stock books (for example from RHC to S-RHC)? | No | 0 | 4 | 0% | 0% | Data Valid | | | |
| | | | Yes in Main Stock book | 1 | 63 | 100% | 58% | | | | |
| | | | Yes in Sub Stock book | 2 | 42 | 50% | 19% | | 77% | 50% | 39% |
| 210 | P | Does this facility use any LMIS form for Basic Health Care drugs to report or order Stock levels, Consumption data or Requested Quantities to higher (township) level? | Yes | 1 | 76 | 100% | 25% | Data Valid | | | |
| | | | No | 0 | 225 | 0% | 0% | | 25% | 100% | 25% |
| 211 | P | What LMIS forms do you use for reporting/ordering? | | | | | | | | | |
| | | A. Health Facility Stock Report *(Recording opening and closing balances and Ins & Outs)* | Yes | 1 | 65 | 100% | 22% | Data Valid | | | |
| | | | No | 0 | 236 | 0% | 0% | | | | |
| | | B. Indent/Requisition form | Yes | 1 | 7 | 50% | 1% | Data Valid | | | |
| | | | No | 0 | 294 | 0% | 0% | | | | |
| | | C. other | Yes | 1 | 12 | 50% | 2% | Data Valid | | | |
| | | | No | 0 | 289 | 0% | 0% | | | | |
| | | | | | | | 25% | | 25% | 100% | 25% |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 212 | P | Does the LMIS report forms include the following columns? | | | | | | | | | |
| | | A. stock on hand (Closing Balance) | Yes | 1 | 75 | 30% | 7.5% | Data Valid | | | |
| | | | No | 0 | 226 | 0% | 0.0% | | | | |
| | | B. quantities used (QTY Consumed) | Yes | 1 | 74 | 30% | 7.4% | Data Valid | | | |
| | | | No | 0 | 227 | 0% | 0.0% | | | | |
| | | C. losses and adjustments | Yes | 1 | 2 | 30% | 0.2% | Data Valid | | | |
| | | | No | 0 | 299 | 0% | 0.0% | | | | |
| | | D. Request / Indent for next period | Yes | 1 | 8 | 10% | 0.3% | Data Valid | | | |
| | | | No | 0 | 293 | 0% | 0.0% | | | | |
| | | | | | | | 15% | | 15% | 100% | 15% |
| 213 | P | Does a completed LMIS report include the following data? (must be verified with completed report) | | | | | | | | | |
| | | A. stock on hand (Closing Balance) | Yes | 1 | 62 | 30% | 6% | Data Valid | | | |
| | | | No | 0 | 226 | 0% | 0% | | | | |
| | | | Completed report not available | 9 | 13 | 0% | 0% | | | | |
| | | B. quantities used (QTY Consumed) | Yes | 1 | 61 | 30% | 6% | Data Valid | | | |
| | | | No | 0 | 227 | 0% | 0% | | | | |
| | | | Completed report not available | 9 | 13 | 0% | 0% | | | | |
| | | C. losses and adjustments | Yes | 1 | 1 | 30% | 0% | Data Valid | | | |
| | | | No | 0 | 299 | 0% | 0% | | | | |
| | | | Completed report not available | 9 | 1 | 0% | 0% | | | | |
| | | D. Request / Indent for next period | Yes | 1 | 7 | 10% | 0% | Data Valid | | | |
| | | | No | 0 | 293 | 0% | 0% | | | | |
| | | | Completed report not available | 9 | 1 | 0% | 0% | | | | |
| | | | | | | | 13% | | 13% | 100% | 13% |
| 214 | P | How often are these LMIS reports sent to the higher level? (Circle all | Monthly | A | 47 | 100% | 16% | Multiple | | | |
| | | | Quarterly | B | 7 | 75% | 2% | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | that apply) | Semi-annually | C | 9 | 50% | 1% | **answers** | | | |
| | | | Annually | D | 0 | 25% | 0% | | | | |
| | | | Other | W | 13 | 5% | 0% | | 19% | 100% | 19% |
| 215 | P | When was the last time you sent an order/report for Basic Health Commodities at this facility? | Never | 1 | 225 | 0% | 0% | **Data Valid** | | | |
| | | | According to above schedule | 2 | 60 | 100% | 20% | | | | |
| | | | Irregular | 3 | 16 | 20% | 1% | | | | |
| | | | | | | | 21% | | 21% | 100% | 21% |
| 216 | P | How did you learn to complete the forms/records used at this facility? (Circle all that apply) | During a logistics workshop | A | 44 | 100% | 15% | **Multiple answers** | | | |
| | | | On-the-job training | B | 21 | 100% | 7% | | | | |
| | | | Never been trainied | C | 10 | 0% | 0% | | | | |
| | | | Other (specify) | W | 1 | 50% | 0% | | | | |
| | | | | | | | 22% | | 22% | 100% | 22% |
| **Supply** | | | | | | | | | | | **39%** |
| 301 | P | Were there any Stock Outs of Basic Health Care Commodities in the last 6 months? | Yes | 1 | 234 | 0% | 0% | **Data Valid** | | | |
| | | | No | 0 | 67 | 100% | 22% | | 22% | 100% | 22% |
| 302 | P | Are there any Excess or Unused Basic Health Care Commodities in Stock? | Yes | 1 | 192 | 0% | 0% | **Data Valid** | | | |
| | | | No | 0 | 109 | 100% | 36% | | 36% | 100% | 36% |
| 303 | P | Were there any Expired Drugs in the last 6 months? | Yes | 1 | 156 | 0% | 0% | **Data Valid** | | | |
| | | | No | 0 | 145 | 100% | 48% | | 48% | 100% | 48% |
| 304 | P | If 303 = Yes, what did they do with these expired drugs? | Return to higher level | A | 5 | 100% | 3% | **Multiple answers** | | | |
| | | | Keep in normal stock | B | 88 | 0% | 0% | | | | |
| | | | Stored in separate location in facility | C | 44 | 50% | 11% | | | | |
| | | | Disposal at Facility | D | 59 | 50% | 15% | | | | |
| | | | Other (specify) | W | 4 | 0% | 0% | | 28% | 100% | 28% |
| 305 | P | How many Urgent / Emergency orders for Basic Health Care | None | 0 | 203 | 0% | 0% | **Data Valid** | | | |
| | | | Only 1 | 1 | 14 | 75% | 4% | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Commodities have you placed in the last 6 months? ( this question shows the responds to the hight stock out incidents shows in question 301) | 2 | 2 | 2 | 100% | 1% | | | | |
| | | | More than 2 | 3 | 2 | 100% | 1% | | | | |
| | | | Don't know | 9 | 14 | 0% | 0% | | 6% | 100% | 6% |
| 306 | P | Who determines this facility's resupply quantities? (Circle all that apply) | The facility itself | A | 8 | 100% | 3% | **Multiple answers** | | | |
| | | | Higher-level facility | B | 297 | 50% | 49% | | 52% | 100% | 52% |
| 307 | P | How are the facility's resupply quantities determined? | Formula (based on facility needs) | 1 | 86 | 100% | 29% | **Data Valid** | | | |
| | | | Formula (not based on facility needs) | 2 | 142 | 25% | 12% | | | | |
| | | | Don't Know | 3 | 72 | 0% | 0% | | | | |
| | | | Other means (Specify) | 9 | 1 | 10% | 0% | | 40% | 100% | 40% |
| 308 | P | On average, approximately how long does it take between ordering and receiving products? | This facility does not make orders | 0 | 288 | 25% | 24% | **Data Valid** | | | |
| | | | Less than 1 month | 1 | 11 | 100% | 4% | | | | |
| | | | Between 1 and 3 months | 2 | 1 | 50% | 0% | | | | |
| | | | More than 3 months | 3 | 0 | 25% | 0% | | | | |
| | | | Don't Know | 9 | 1 | 0% | 0% | | 28% | 100% | 28% |
| 309 | P | Who is responsible for transporting of Basic Health Care Commodities to your facility? (Circle all that apply) | Supplier delivers | A | 4 | 100% | 1% | **Multiple answers** | | | |
| | | | Higher level delivers | B | 5 | 100% | 2% | | | | |
| | | | This facility collects | C | 297 | 25% | 25% | | | | |
| | | | Other (specify) | W | 0 | 10% | 0% | | 28% | 100% | 28% |
| 310 | I | Which mode of transportation are often used for these commodities? | Facility vehicle | A | 2 | | | **Multiple answers** | | | |
| | | | Public transportation | B | 288 | | | | | | |
| | | | Private vehicle | C | 123 | | | | | | |
| 311 | I | Which types of vehicles are often used for these commodities? | Boat | A | 44 | | | **Multiple answers** | | | |
| | | | Car | B | 163 | | | | | | |
| | | | Motorcycle | C | 172 | | | | | | |
| | | | Bicycle | D | 9 | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On foot | E | 4 | | | | | | |
| | | | Other | W | 102 | | | | | | |
| 312 | P | Who pays for the transportation of commodity charges? | Higher level | A | 9 | 100% | 3% | **Multiple answers** | | | |
| | | | Facility Budget | B | 43 | 100% | 14% | | | | |
| | | | Personal Budget | C | 281 | 0% | 0% | | | | |
| | | | Other (specify) | W | 87 | 75% | 22% | | 39% | 100% | 39% |
| 313 | P | When was the last time you received a supervision visit from Township or higher level? | Never received | 1 | 15 | 0% | 0% | **Data Valid** | | | |
| | | | Within the last month | 2 | 132 | 100% | 44% | | | | |
| | | | 1 - 6 months ago | 3 | 120 | 75% | 30% | | | | |
| | | | More than 6 months ago | 4 | 31 | 50% | 5% | | | | |
| | | | Don't remember | 9 | 3 | 0% | 0% | | 79% | 100% | 79% |
| 314 | P | Did this last supervision visit include drug management (e.g., stock cards checked, reports checked, expired stock removed, storage conditions checked)? | Yes | 1 | 194 | 100% | 64% | **Data Valid** | | | |
| | | | No | 0 | 86 | 0% | 0% | | | | |
| | | | Don't Know | 9 | 21 | 0% | 0% | | 64% | 100% | 64% |
| 315 | I | Do you have a copy of the last Supervision Check List? | Yes | 1 | 6 | | | **Data Valid** | | | |
| | | | No | 0 | 258 | | | | | | |
| | | | N/A | 9 | 37 | | | | | | |
| **Cold Chain Storage** | | | | | | | | | | **49%** | |
| 401 | I | Do you keep items that need Cold Chain (Cool Storage)? | Yes | 1 | 25 | | | **Data Valid** | | | |
| | | | No | 0 | 38 | | | | | | |
| | | | Only for EPI (vaccination) | 2 | 238 | | | | | | |
| 402 | P | How do you store Cold Chain items? | Vaccine Carrier (+ Icepacks) | A | 245 | 100% | 93% | **Multiple answers** | | | |
| | | | Cold Storage Box (+ Ice packs) | B | 31 | 100% | 12% | | | | |
| | | | Refrigerator (electrical/solar) | C | 23 | 100% | 9% | | | | |
| | | | Other (Specify) | W | 3 | 25% | 0% | | 100% | 50% | 50% |
| 403 | P | Do you monitor the temperature daily? | Yes | 1 | 252 | 100% | 96% | **Data Valid** | | | |
| | | | No | 0 | 11 | 0% | 0% | | 96% | 50% | 48% |
| 404 | P | Check the actual temperature. Is the | Lower than required (2 °C) | 0 | 1 | 0% | 0% | **Data** | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | temperature between 2 and 8 °C ? | Correct (between 2 and 8 °C) | 1 | 63 | 100% | 24% | Valid | | | |
| | | | Higher than required (8 °C) | 2 | 4 | 0% | 0% | | | | |
| | | | Don't Know, no indicator present | 3 | 2 | 0% | 0% | | | | |
| | | | Currently no EPI activity | 9 | 193 | 100% | 73% | | 97% | 50% | 49% |
| 405 | P | Is the temperature chart up-to-date? (to be up-to-date, there must be an entry for the day before the visit). | Yes | 1 | 4 | 100% | 2% | Data Valid | | | |
| | | | No | 0 | 13 | 0% | 0% | | | | |
| | | | Currently no EPI activity | 9 | 246 | 100% | 94% | | 95% | 50% | 48% |
| **Stock Management** | | | | | | | | | | **60%** | **58%** |
| 501 | I | What type of storage does this facility have? | Separate Store Room | A | 150 | | | Multiple answers | | | |
| | | | Lockable Cupboard in Common Space | B | 127 | | | | | | |
| | | | Open shelves in Common space | C | 64 | | | | | | |
| | | | Storage box | D | 77 | | | | | | |
| | | | Other (specify) | W | 31 | | | | | | |
| 502 | P | Products are stored in an organized manner. Labels and expiry dates are clearly visible. (for example: alphabetically or by category) | Yes | 1 | 202 | 100% | 67% | Data Valid | 67% | 100% | 67% |
| | | | No | 0 | 99 | 0% | 0% | | | | |
| 503 | P | The Facility uses the FEFO (First Expiry, First Out) method with issuing or dispensing drugs to patients or sub-stocks. | Yes | 1 | 270 | 100% | 90% | Data Valid | 90% | 100% | 90% |
| | | | No | 0 | 31 | 0% | 0% | | | | |
| 504 | P | Does the facility do a regular physical stock count (of the MAIN stock)? If yes, specify the interval | Yes | 1 | 248 | | | Data Valid | | | |
| | | | No | 0 | 53 | 0% | 0% | | | | |
| | | | Ad-hoc | A | 83 | 5% | 1% | | | | |
| | | | Weekly | B | 9 | 25% | 1% | Data Valid | | | |
| | | | Monthly | C | 93 | 100% | 31% | | | | |
| | | | Quarterly | D | 33 | 75% | 8% | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-monthly | E | 26 | 50% | 4% | | | | |
| | | | Annually | F | 4 | 25% | 0% | | 46% | 100% | 46% |
| 505 | P | The facility separates damaged and/or expired products from usable products and removes them from inventory. | Yes | 1 | 188 | 100% | 62% | **Data Valid** | | | |
| | | | No | 0 | 113 | 0% | 0% | | 62% | 100% | 62% |
| 506 | P | Storage area is secured with a lock and key, but is accessible during normal working hours; access is limited to authorized personnel only. | Yes | 1 | 180 | 100% | 60% | **Data Valid** | | | |
| | | | No | 0 | 121 | 0% | 0% | | 60% | 100% | 60% |
| 507 | P | Products are stored at the appropriate temperature according to product temperature specifications. | Yes | 1 | 79 | 100% | 26% | **Data Valid** | | | |
| | | | No | 0 | 222 | 0% | 0% | | 26% | 100% | 26% |
| 508 | P | Products are stored in the cool and dry location of the building away from direct sunlight. | Yes | 1 | 241 | 100% | 80% | **Data Valid** | | | |
| | | | No | 0 | 60 | 0% | 0% | | 80% | 100% | 80% |
| 509 | P | Storage space is maintained in good condition (clean, all trash removed, sturdy shelves, organized boxes) and protected from pest, water and direct sunlight. | Yes | 1 | 197 | 100% | 65% | **Data Valid** | | | |
| | | | No | 0 | 104 | 0% | 0% | | 65% | 100% | 65% |
| 510 | P | The current space and organization is sufficient for existing products and reasonable expansion | Yes | 1 | 134 | 100% | 45% | **Data Valid** | | | |
| | | | No | 0 | 167 | 0% | 0% | | 45% | 100% | 45% |

| **Stock Status** | | | | | | | | | **55%** |
|---|---|---|---|---|---|---|---|---|---|
| **Physical stock status check of 10 tracer commodities** | | | | **nr. of checks** | **yes** | **No** | **% No** | **Weight** | **Score** |
| 601 | P | Nr of items with Stock Outs | between 0 - 10 | 3010 | 1945 | 1065 | 35% | 30% | 11% |
| 602 | P | Nr of items with stock out of more than 30 days | between 0 - 10 | 3010 | 1779 | 1231 | 41% | 20% | 8% |
| 603 | P | Nr of items not updated in Stock | between 0 - 10 | 3010 | 1210 | 1800 | 60% | 5% | 3% |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Ledger Book | | | | | | | | |
| 604 | P | Nr of items with Stock Discrepancies | between 0 - 10 | 3010 | 1288 | 1722 | 57% | | 5% | 3% |
| 605 | P | Nr of expired items in stock | between 0 - 10 | 3010 | 899 | 2111 | 70% | | 25% | 18% |
| 606 | P | Nr of unused or Excess stock (>12 months) in stock | between 0 - 10 | 3010 | 476 | 2534 | 84% | | 15% | 13% |
| | | | | | | | | | 100% | 55% |

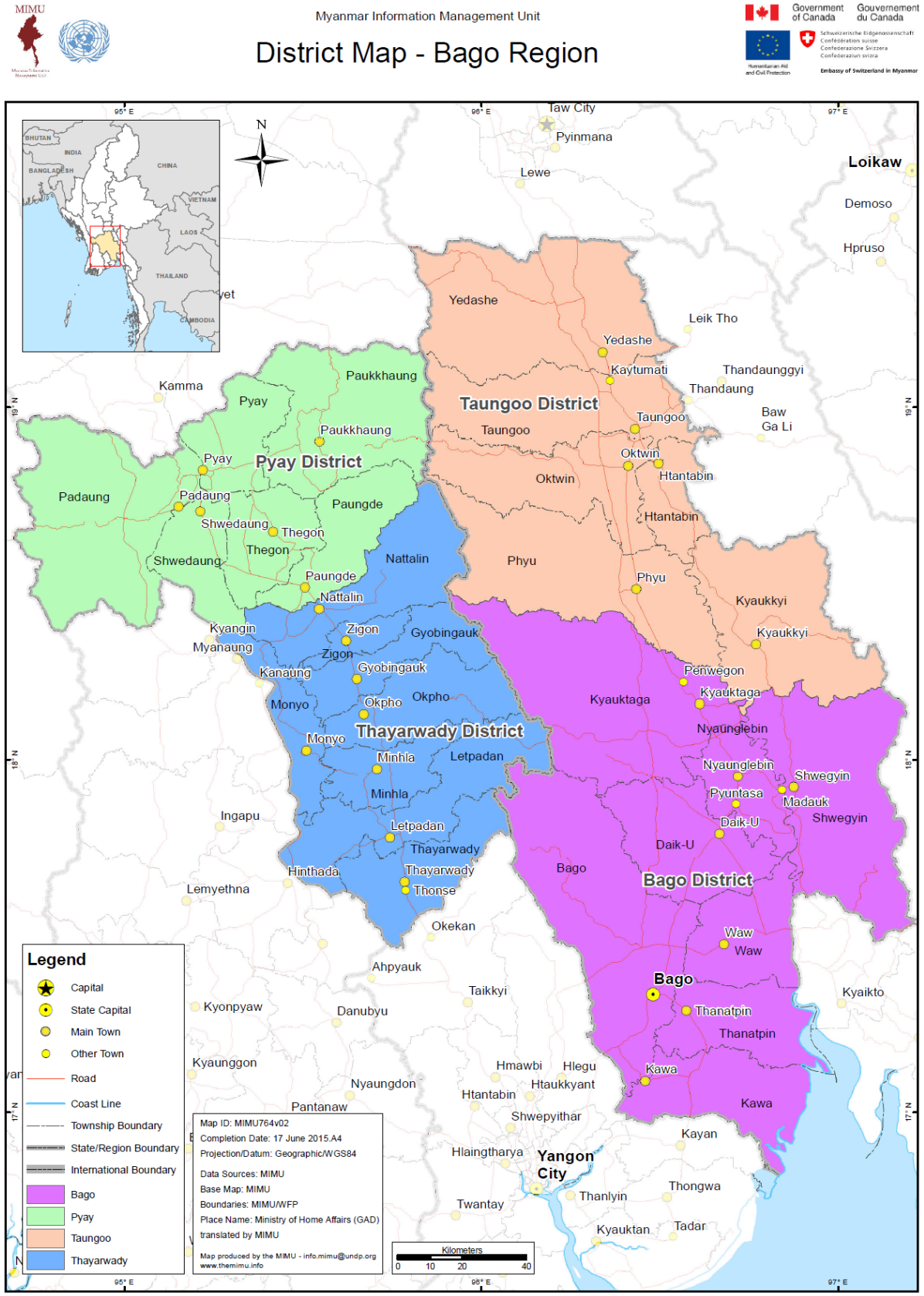
# List of Facilities

| | | Total | 35 | 55 | 7 | 2 | 2 |
|---|---|---|---|---|---|---|---|
| # | Region | Township | RHCs | Sub RHCs | MCH T/S | UHC T/S | School HC T/S |
| 1 | Bago | Bago | Phayar Gyi SH | Shwe Tan | Bago | Bago | Bago |
| 1 | Bago | Bago | | Ah Wine | | | |
| 1 | Bago | Bago | Inn Ta Kaw | Se Maing Kone | | | |
| 1 | Bago | Bago | | Kha Meik | | | |
| 1 | Bago | Bago | Zee Taw | Ah Seik Taung | | | |
| 1 | Bago | Bago | Htone Gyi | Chan Thar Kone | | | |
| 1 | Bago | Bago | | Shan Kone | | | |
| 1 | Bago | Kawa | Tha Yet Kone RHC | Htee Tan | | | |
| 1 | Bago | Kawa | | Kan Htoo | | | |
| 1 | Bago | Kawa | Ohn Ne | Pha Lay SC | | | |
| 1 | Bago | Kawa | | Kyar Tet SC | | | |
| 1 | Bago | Kawa | Neik' Van | Kha Mel Pyin | | | |
| 1 | Bago | Kyauktaga | Taw Kywe Inn | Kyar Inn Kone | | | |
| 1 | Bago | Kyauktaga | | Kan Pun Kin | | | |
| 1 | Bago | Kyauktaga | Tha Min Inn Kone | Nan Za | | | |
| 1 | Bago | Kyauktaga | | Ga Net | | | |
| 1 | Bago | Kyauktaga | Myo Chaung | Gway Kone | | | |
| 1 | Bago | Daik-U | Ka Toke | Kyaik Sa Kaw (West) | Daik-U | | |
| 1 | Bago | Daik-U | Sit Bo Gyi | Tar Gwa | | | |
| 1 | Bago | Daik-U | Doe Tan RHC | Let Pan Thone Wa SC | | | |
| 1 | Bago | Daik-U | | Ta Kaung SC | | | |
| 1 | Bago | Shwegyin | Than Seik | Ma Bee | Shwegyin | | |
| 1 | Bago | Shwegyin | | Anout Phet | | | |
| 1 | Bago | Taungoo | Doe Thaung RHC | Myo Gyi SC | Taungoo | | |
| 1 | Bago | Taungoo | | Put Su SC | | | |
| 1 | Bago | Taungoo | Sin Ywar | Ma Hin | | | |
| 1 | Bago | Taungoo | Su Tat | Kan Yoe | | | |
| 1 | Bago | Taungoo | Lel Bu | Bo Ka Taw | | | |
| 1 | Bago | Phyu | Lel Pyin Gyi RHC | Oak Phyat SC | Phyu | | Phyu |
| 1 | Bago | Phyu | | Site Tan Khin | | | |
| 1 | Bago | Phyu | Wel Gyi | Kyu Inn SC | | | |
| 1 | Bago | Phyu | | Zee Khone | | | |
| 1 | Bago | Phyu | Hpa Yar La Har | In Pin Thar SC | | | |
| 1 | Bago | Pyay | Paung Ta Lei (SH) | Let Pan Taw | Pyay | Pyay | |
| 1 | Bago | Pyay | Kone Thar Lin | Thit Chi Tin | | | |
| 1 | Bago | Pyay | Ti Tut | Mein Ma Ye | | | |
| 1 | Bago | Pyay | | Kya Khat | | | |
| 1 | Bago | Pyay | Pein Taw | Hnyaw Kone | | | |
| 1 | Bago | Pyay | | Ywar Thit Gyi | | | |
| 1 | Bago | Shwedaung | Kyee Thea | Taung Kone SC | | | |
| 1 | Bago | Shwedaung | | Kyaung Su | | | |
| 1 | Bago | Shwedaung | Nyaung Sar Yay | Shar Taing | | | |
| 1 | Bago | Shwedaung | | Kyauk Hta Yan | | | |
| 1 | Bago | Shwedaung | Htan Kone | Inn Gu | | | |
| 1 | Bago | Okpho | Oe Thei Kone (SH) | Ka Mun Chon | Okpho | | |
| 1 | Bago | Okpho | Tha Hpan Pin Seiik | Kyun Kone | | | |
| 1 | Bago | Okpho | Kan Thar Yar | Tha Yet Pin Seik | | | |
| 1 | Bago | Okpho | | Pyi Taw Tha | | | |
| 1 | Bago | Nattalin | Kwin Kyei (SH) | Kyauk Saung | | | |
| 1 | Bago | Nattalin | | Nyaung Hla SC | | | |
| 1 | Bago | Nattalin | Pauk Tone | But Taw | | | |
| 1 | Bago | Nattalin | Chin Yoke Kwin | Shwe Kyar Pin SC | | | |
| 1 | Bago | Nattalin | | Nyaung Ngoke To | | | |
| 1 | Bago | Nattalin | Kyoet Kyar Kan | Oke Hpo Su | | | |
| 1 | Bago | Nattalin | | Hlar Phyu Kone | | | |

| | | Total | 35 | 55 | 6 | 2 | 2 |
|---|---|---|---|---|---|---|---|
| # | Region | Township | | | MCH T/S | UHC T/S | School HC T/S |
| 2 | Magway | Magway | Nyaung Kan RHC | Than Bo Lay | Magway | Magway | Magway |
| 2 | Magway | Magway | | Tha PyayYin S-RHC | | | |
| 2 | Magway | Magway | Myin Kun RHC | Myin Kin | | | |
| 2 | Magway | Magway | | Shar Saung Kan S-RHC | | | |
| 2 | Magway | Magway | Tha Yet Lay Pin RHC | Ma Gyi Kan | | | |
| 2 | Magway | Magway | | Tha Pyay San(South) | | | |
| 2 | Magway | Yenangyaung | Hpa Yar Kone RHC | Mye Ni Khin | Yenangyaung | | |
| 2 | Magway | Yenangyaung | | Sein Pan Pin (SC) | | | |
| 2 | Magway | Yenangyaung | Kamma (RHC) | Bae Mae (SC) | | | |
| 2 | Magway | Yenangyaung | Kangyi (RHC) | Sel (SC) | | | |
| 2 | Magway | Yenangyaung | | Chaing (SC) | | | |
| 2 | Magway | Taungdwingyi | Kan Bay Gyi RHC | Thea Hpyu S-RHC | Taungdwingyi | | |
| 2 | Magway | Taungdwingyi | Sat Thwar RHC | Wet Ka Thay | | | |
| 2 | Magway | Taungdwingyi | | Kan Thar | | | |
| 2 | Magway | Taungdwingyi | Nga Min RHC | Pan Thwin Lay | | | |
| 2 | Magway | Minbu | Kyauk San RHC | Mei Bayt Kone | | | |
| 2 | Magway | Minbu | Khan Kone RHC | U Yin Zin S-RHC | | | |
| 2 | Magway | Minbu | | Kyauk Sit Pon S-RHC | | | |
| 2 | Magway | Minbu | U Yin RHC | Pan Taung | | | |
| 2 | Magway | Pwintbyu | Kone Zaung RHC | Ywar Khaing (SC) | | | |
| 2 | Magway | Pwintbyu | Kyaung Taw Yar RHC | Min Myay | | | |
| 2 | Magway | Pwintbyu | | Hpa Lan Taw | | | |
| 2 | Magway | Salin | Sin Phyu Kyun SHU | Nwe Ta Min S-RHC | Salin | | |
| 2 | Magway | Salin | | Moe Wun S-RHC | | | |
| 2 | Magway | Salin | Ta Nyaung SHU | Zee Phyu Bin S-RHC | | | |
| 2 | Magway | Salin | Ohn Shit Kone RHC | Yae Paw Kyun S-RHC | | | |
| 2 | Magway | Salin | | Chaung Phyu S-RHC | | | |
| 2 | Magway | Thayet | Ta La Par RHC | Thatyet Myin | | | |
| 2 | Magway | Thayet | Ma Din RHC | Sin Te | | | |
| 2 | Magway | Thayet | | Htone Taung | | | |
| 2 | Magway | Thayet | Baw RHC | Taung Poe Gyi | | | |
| 2 | Magway | Kamma | Yae Nant Thar RHC | Myauk Pin | | | |
| 2 | Magway | Kamma | Kyoe Pin RHC | Pyin Htaung | | | |
| 2 | Magway | Kamma | | Kyauk Mae | | | |
| 2 | Magway | Kamma | Kyauk Saung RHC | Taung Myint S-RHC | | | |
| 2 | Magway | Aunglan | Shwe Pan Taw RHC | Haing Gyi Doe S-RHC | | | |
| 2 | Magway | Aunglan | | Ba Ye (SC) | | | |
| 2 | Magway | Aunglan | Kyauk Pa Taung RHC | Myo Hla | | | |
| 2 | Magway | Aunglan | | Ywar Ma Htone | | | |
| 2 | Magway | Aunglan | Tharbala RHC | Ye Baw | | | |
| 2 | Magway | Aunglan | | Thit Khaung Tee | | | |
| 2 | Magway | Pakokku | Kan Ma RHC | Nyaung Kyit Pin S-RHC | | Pakokku | Pakokku |
| 2 | Magway | Pakokku | Kun Ywar RHC | Kyee S-RHC | | | |
| 2 | Magway | Pakokku | Hpa Lan Oh RHC | Kan Taw | | | |
| 2 | Magway | Pakokku | | Kyauk Sa Yit Kan | | | |
| 2 | Magway | Yesagyo | Ma Au RHC | Zee Taw S-RHC | Yesagyo | | |
| 2 | Magway | Yesagyo | | Thar Si S-RHC | | | |
| 2 | Magway | Yesagyo | Khway Hmyoke RHC | Kan Pauk | | | |
| 2 | Magway | Yesagyo | Kyu (RHC) | Si Thar (SC) | | | |
| 2 | Magway | Yesagyo | | Myay Phyu (SC) | | | |
| 2 | Magway | Saw | Kyauk Htu RHC | Kan Gyi | Saw | | |
| 2 | Magway | Saw | | Lay Ywar | | | |
| 2 | Magway | Saw | Long Shay RHC | Taung Bo Gyi S-RHC | | | |
| 2 | Magway | Saw | Mi Ae RHC | A Kyi Pan Pa Lun | | | |
| 2 | Magway | Saw | | Nwar Thoe | | | |

| | | Total | 35 | 55 | 6 | 2 | 2 |
|---|---|---|---|---|---|---|---|
| # | Region | Township | | | MCH T/S | UHC T/S | School HC T/S |
| 3 | Ayeyarwady | Pathein | Chaung Thar-RHC | Thea Kone | Pathein | Pathein | Pathein |
| 3 | Ayeyarwady | Pathein | Kyet Paung-RHC | Let Pan | | | |
| 3 | Ayeyarwady | Pathein | | Kwet Pyin Gyi | | | |
| 3 | Ayeyarwady | Pathein | Myin Ka Kwin-RHC | Ywar Haung Gyi | | | |
| 3 | Ayeyarwady | Kyaunggon | Wet Chaung-RHC | Ah Su Gyi | | | |
| 3 | Ayeyarwady | Kyaunggon | Chaung Gyi-RHC | Min Ma Naing | | | |
| 3 | Ayeyarwady | Kyaunggon | Wet Chan Ga Yet-RHC | Yaung Pyit Kwin | | | |
| 3 | Ayeyarwady | Yegyi | Ah Thoke-RHC | Kwin Thone Sint | Yegyi | | |
| 3 | Ayeyarwady | Yegyi | Chaung Phyar-RHC | Kan Chaung | | | |
| 3 | Ayeyarwady | Yegyi | Kone Pyin-RHC | Gway Tauk | | | |
| 3 | Ayeyarwady | Ngapudaw | Ngayokekaung-RHC | Thayar Chaung | Ngapudaw | | |
| 3 | Ayeyarwady | Ngapudaw | | Yay Kyaw | | | |
| 3 | Ayeyarwady | Ngapudaw | Kyauk Chaung-RHC | Zee Chaing | | | |
| 3 | Ayeyarwady | Ngapudaw | | Kan Chaing | | | |
| 3 | Ayeyarwady | Ngapudaw | Thet Kei Thaung_RHC | Ohn Chaung | | | |
| 3 | Ayeyarwady | Ngapudaw | | Gway Chaung | | | |
| 3 | Ayeyarwady | Hinthada | Ta Loke Htaw-RHC | In Ga Po | | Hinthada | |
| 3 | Ayeyarwady | Hinthada | Dammi-RHC | Oke Shit Kone-SC | | | |
| 3 | Ayeyarwady | Hinthada | | Kyee Taw Kwet | | | |
| 3 | Ayeyarwady | Hinthada | Yon Tha Lin-RHC | Inn Gyi-SC | | | |
| 3 | Ayeyarwady | Ingapu | Me Za Li Kone-RHC | Oke Twin | | | |
| 3 | Ayeyarwady | Ingapu | | Zaung Tan | | | |
| 3 | Ayeyarwady | Ingapu | Htu Gyi-RHC | Hpa Yar Ngoke To | | | |
| 3 | Ayeyarwady | Ingapu | | Htu Wa | | | |
| 3 | Ayeyarwady | Ingapu | Leik Paung Swea-RHC | Tha Bawt | | | |
| 3 | Ayeyarwady | Ingapu | | Kyat Gyi | | | |
| 3 | Ayeyarwady | Zalun | Yae Le-RHC | Kyun Gyi | Zalun | | |
| 3 | Ayeyarwady | Ingapu | | Yae Le (Ingapu) | | | |
| 3 | Ayeyarwady | Zalun | Pyin Ma Kone-RHC | Gway Kone | | | |
| 3 | Ayeyarwady | Labutta | Kan Bet-RHC | Kyu Taw | Labutta | | |
| 3 | Ayeyarwady | Labutta | | Shan Chaung | | | |
| 3 | Ayeyarwady | Labutta | Shwe Pyay Thar-RHC | Htan Pin Kwin | | | |
| 3 | Ayeyarwady | Labutta | | Sar Ma Lauk | | | |
| 3 | Ayeyarwady | Labutta | Kyar Kan | Kyauk Hpyu | | | |
| 3 | Ayeyarwady | Labutta | | Kyauk Hmaw | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | Kyaik Pi-RHC | Pan Tee Yoe | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | | See Pwar Chaung | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | Kyon La Mu-RHC | Thone Gwa Chun | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | | Myin Ka Kone-SC | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | Ah Lel Yae Kyaw-RHC | Si Thar Kan U | | | |
| 3 | Ayeyarwady | Mawlamyinegyun | | Shauk Chaung | | | |
| 3 | Ayeyarwady | Maubin | Kywe Done-RHC | Byaing Se | | | |
| 3 | Ayeyarwady | Maubin | | Sit Kone | | | |
| 3 | Ayeyarwady | Maubin | Let Pan Kone-RHC | Aung Heik-SC | | | |
| 3 | Ayeyarwady | Maubin | | Pauk Kone | | | |
| 3 | Ayeyarwady | Maubin | Hta Yaw Pay Kone-RHC | Nyaung Waing Gyi | | | |
| 3 | Ayeyarwady | Maubin | | Hta Yaw Wa | | | |
| 3 | Ayeyarwady | Pantanaw | Min Ta Su-RHC | Daw War | | | |
| 3 | Ayeyarwady | Pantanaw | Ma Yan | Za Yat Hla | | | |
| 3 | Ayeyarwady | Pantanaw | | Ah Su Gyi | | | |
| 3 | Ayeyarwady | Pantanaw | Yae Paw Daunt Gyi-RHC | Ba Waing | | | |
| 3 | Ayeyarwady | Bogale | Myin Ka Kone-RHC | Boe Yaung | Bogale | | Bogale |
| 3 | Ayeyarwady | Bogale | Ma Gu-RHC | Ka Nyin Chaung | | | |
| 3 | Ayeyarwady | Bogale | | Bin Ga Lar | | | |
| 3 | Ayeyarwady | Bogale | Kyein Chaung Gyi-RHC | Ma Lawt | | | |

# Regional Maps




Disclaimer: The names shown and the boundaries used on this map do not imply official endorsement or acceptance by the United Nations.

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# District Map - Magway Region


Disclaimer: The names shown and the boundaries used on this map do not imply official endorsement or acceptance by the United Nations.

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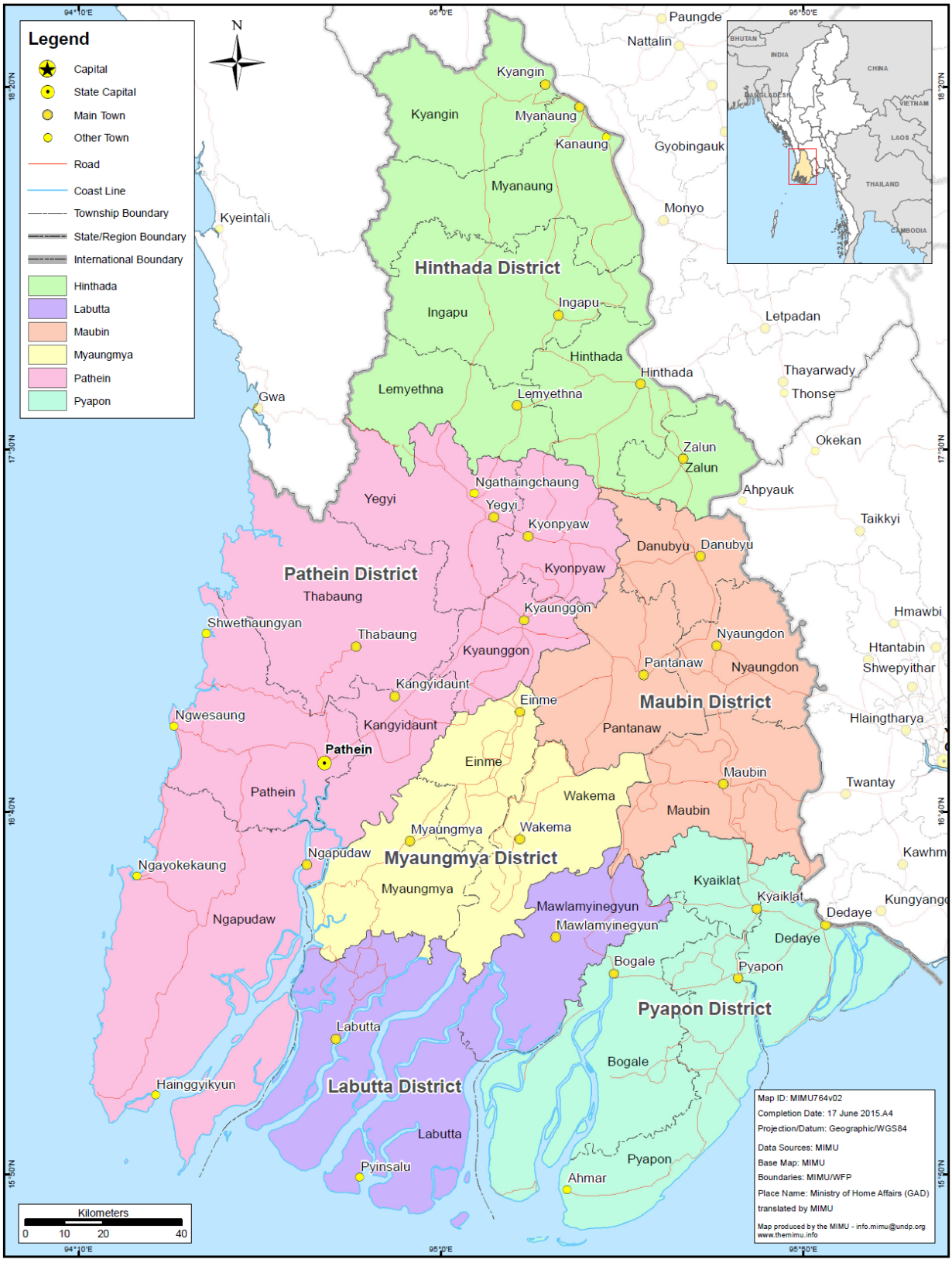
# District Map - Ayeyarwady Region

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