# Annex E: Bin Card sample

**MINISTRY OF HEALTH**
**BELIZE**

**BIN CARD**

Name of Facility _____ Clasification _____
Item Code Maxime Amount
Item Description Minimun Amount
Unit of issue

| Date | Reference | Voucher | Expiration Date | Lot/Batch Number | In | Out | Stock Balance | Signature |
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# Annex F: Methodology to establish max/min levels

## MAXIMUM AND MINIMUM INVENTORY LEVELS

It is an efficient system used to maintain the right amount of medicines and supplies, and the levels are expressed in months of supply.

This system helps prevent oversupply (which leads to the waste of medical supplies) and undersupply or shortages. It also helps maintain stock levels between maximum and minimum amounts.

The maximum and minimum levels are expressed in number of months of supply. For example, you may set a maximum stock level of 4 months for all products in your warehouse and a minimum stock level of 1 month; a regional warehouse might have a maximum level of 6 months and a minimum of 3.

**The purpose of the maximum and minimum system:**

- Determine the amount of medicines and supplies available.
- Maintain an appropriate stock level of supplies.
- Determine inventory levels throughout the system.
- Establish frequency of orders/deliveries

***The Average Monthly Consumption (AMC) is the basis of a max/min inventory control system and the timely, accurate and complete recording and reporting of this piece of data is critical to the success of an inventory control system***. **The source of data for consumption is each of the health facilities that provide medicines and health supplies directly to the population: patients and users of a health system**. ACM is equivalent to the number of units of a product that are used by patients and users of a health facility/hospital ward/pharmacy/dispensary in a month. To calculate it, we usually take the average amount of the total number of units dispensed to patients and users in the last (most recent) 3 months, assuming there hasn't been any product stock-out. These data come from the daily activity register/logbooks kept at health facilities and updated on a daily basis. ***This is the reason why consumption /dispensed-to-patient data should be registered at health facilities on a daily basis.***

**<u>Key terminology; how to calculate the maximum and minimum levels</u>**

In some programs such as family planning, the central level or national program sets the maximum and minimum levels for all health units. If your program does not have a defined policy, it is recommended that you define one. The following instructions apply to a system using a fixed resupply period, meaning that the health units place their product requisitions/orders using a pre-established schedule (i.e. every month, every 2 months, etc.).

To set the maximum and minimum levels, we first need to understand the terminology used for maximum and minimum inventory levels:

Lead time: The time that elapses from the moment the order/requisition of supplies is submitted and when the products are delivered and are available at the facility that needed the products. ***Each supplier may have a different lead time. So, estimating lead time must be done by supplier, and in some cases, by product.***

Review (resupply) Period: The frequency with which any level of distribution (central warehouse, regional, promoters, etc.) is supplied.

Buffer (safety) stock: This stock represents a reserve or buffer that should remain available at any facility to avoid shortages/stock-outs due to delays in delivery. Usually it's expressed as equivalent to 1/2 (half) the time of the review period.

Minimum (stock) Level: This is expressed as the number of months of stocks that a facility must have when it receives a resupply of a product previously requested.

Maximum (stock) Level: This is expressed as the maximum number of months of stocks that a facility must have after receiving a resupply of a product previously requested.

Factors that may influence the definition of maximum minimum levels:

- Efficiency and availability of transportation facilities
- Physical storage capacity
- Cost of Storage
- Cost of medicines, health and medical supplies
- Shelf-life of medicines and health supplies
- Production capacity and availability of medicines and supplies from different sources (donors, manufacturers, local distributors, etc.)
- Management capacity of health and administrative staff

## Formulas to set up maximum and minimum levels

Buffer (safety) stock = ½ of Review Period

Minimum level = Buffer stock + lead time

Maximum Level = Minimum level + Review period

Quantity to order = Maximum level – stock on hand at the end of the review period

**Calculating maximum and minimum levels**. Let's suppose the Ministry of Health of a country has 3 levels: central level, regional level and the health units. Each level receives supplies from either suppliers or higher level. In our example below:

- the health units are resupplied every 2 months;
- it takes 1 month for the regional level to process the order, issue the supplies and have them available for the patients and users;
- the health unit keeps 1 month of consumption as buffer (reserve) stock in case there are delays in receiving the orders and/or there's an unexpected increase in consumption.

| Components | | Health Unit (component expressed in months) | Regional level (expressed in months) | Central level (expressed in months) |
|---|---|---|---|---|
| Review (resupply) Period (RP) | RP | 2 | 3 | 12 |
| Lead time (LT) | LT | 1 | 1 | 6 |
| Buffer stock (BS) | BS = ½ of RP | 1 | 1.5 | 6 |
| **Formulas to set up maximum and mínimum levels** | | Health Unit (component expressed in months) | Regional level (expressed in months) | Central level (expressed in months) |
| Mínimum level | LT + BS | 1 +1= 2 | 1 + 1.5 = 2.5 | 6 + 6 = 12 |
| Maximum level | Minimum level (LT + BS) + RP | 2 +2 = 4 | 2.5 + 3 = 5.5 | 12 + 12= 24 |

**How to convert max/min levels to amounts of products. Example: Microgynon (oral contraceptive)**

Lead time (LT) 1 month

Review (resupply) Period (RP) 2 months

Buffer stock period (BS) 1 month

Average Monthly Consumption (AMC) 140 cycles

Stock on hand at the end of the period 420 cycles

What quantity should I order for the next period?

**Minimum level** = 1 (LT) + 1 (BS) = 2 months
*Buffer stock + review period*

**Maximum level** = 2 + 2 = 4 months
*Minimum level + Review Period*

**Minimum Quantity** = 140 x 2 = 280 cycles of Microgynon
*AMC x Minimum level*

**Maximum Quantity** = 140 x 4 = 560 cycles of Microgynon
*AMC x Maximum level*

**Order quantity** = 560-420 = 140 cycles of Microgynon
*Maximum amount – stock on hand end of period*

**In this example, the minimum quantity indicates the minimum stock a facility should use as an order point in order to avoid a stockout.**

**The maximum quantity indicates the maximum amount that a facility should keep in stock to guarantee enough supplies are available to meet present and unexpected demand for a product.**

## Annex G: Logbook sample

**GOVERMENT OF BELIZE**
**MINISTRY OF HEALTH**
**MATERNAL AND CHILD HEALTH SERVICES**
**Logbook**

**Year/ month:**

| Date | Name | Age | | | | | | | Type of methods/dispensed quantities to end users/patients | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | Injectables | | | IUD | Pills | | Condoms | | Tubal ligation | Vasectomy | Other |
| | | | | | | | | | 1-month | 2-month | 3- month | | Microlut | Microgynon | Male | Female | | | |
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| **Totales** | | | | | | | | | | | | | | | | | | | |

# Annex H: Monthly Report

## MONTHLY REPORT

### FAMILY PLANNING

| Service provided | No. of users | Type of Methods | Quantity dispensed | First visit in the year | | | Follow-up visit | | | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Counseling | | | | HC | Mobile | Private | Quantity dispensed | HC | Mobile | Private | First | Subsequent visit |
| Inyectable | | 1-month | | | | | | | | | | |
| | | 2-month | | | | | | | | | | |
| | | 3-month | | | | | | | | | | |
| Oral pill | | Microlut | | | | | | | | | | |
| | | Microgynon | | | | | | | | | | |
| Condoms | | Female condom | | | | | | | | | | |
| | | Male condom | | | | | | | | | | |
| IUD | | Copper T 380A | | | | | | | | | | |
| Implant | | Implanon | | | | | | | | | | |
| Tubal Ligation | | Sterilization | | | | | | | | | | |
| Vasectomy | | Sterilization | | | | | | | | | | |
| Other | | | | | | | | | | | | |

### HC= health center

## Annex I: Physical Inventory form

**GOVERMENT OF BELIZE**
**MINISTRY OF HEALTH**
**MATERNAL AND CHILD HEALTH SERVICES**
**PHYSICAL INVENTORY**

Program: Warehouse/location:

| Commodity | Lot Number | Expiry date | Physical Inventory Quantity | Balance on Bin Card | Difference | Comments |
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