Supported by the Government of Japan, the Access and Delivery Partnership (ADP) is a unique collaboration between UNDP, TDR (the Special Programme for Research and Training in Tropical Diseases, which is co-sponsored by UNICEF, UNDP, the World Bank and WHO) and PATH. Led and coordinated by UNDP, the ADP aims at assisting low- and middle-income countries enhance their capacity to access, deliver and introduce new health technologies for tuberculosis, malaria and neglected tropical diseases.

REFERENCE

PHOTOS
NTDCP
FOREWORD

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), in collaboration with the Access and Delivery Partnership (ADP), for the first time has developed guidelines for district pharmacists for supply chain management of medicines for neglected tropical diseases (NTDs) for use before, during, and after mass drug administration (MDA) in Tanzania Mainland.

The guidelines are intended to help district pharmacists improve their skills in handling, delivering, and managing NTD medicines for MDA. They will also help prepare district pharmacists to orient and train frontline health workers, community drug distributors, and school health teachers in proper administration and management of these medicines.

With the guidelines in place, it is the Ministry’s expectation that inventory management, storage practices, and introduction of new health technologies will be improved, and the cost of operations reduced.

PATH, as part of the ADP project in Tanzania, is working with the MoHCDGEC to strengthen supply chain logistics for medicines in Tanzania. Having developed these guidelines, the Neglected Tropical Diseases Control Program (NTDCP) is now committed to its successful implementation.

It is my sincere wish that these guidelines will provide guidance to district pharmacists in improving NTD medicines supply chain management.

Dr Mpoki M. Ulisubisya
Permanent Secretary - Health
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<th>Description</th>
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<td>ADP</td>
<td>Access and Delivery Partnership</td>
</tr>
<tr>
<td>ADR</td>
<td>adverse drug reaction</td>
</tr>
<tr>
<td>CDD</td>
<td>community drug distributor</td>
</tr>
<tr>
<td>CHMT</td>
<td>Council Health Management Team</td>
</tr>
<tr>
<td>DMO</td>
<td>District Medical Officer</td>
</tr>
<tr>
<td>eLMIS</td>
<td>electronic logistics management information system</td>
</tr>
<tr>
<td>FEFO</td>
<td>first expiring, first out</td>
</tr>
<tr>
<td>FLHW</td>
<td>frontline health worker</td>
</tr>
<tr>
<td>MoHCDGEC</td>
<td>Ministry of Health, Community Development, Gender, Elderly and Children</td>
</tr>
<tr>
<td>MDA</td>
<td>mass drug administration</td>
</tr>
<tr>
<td>MSD</td>
<td>Medical Stores Department</td>
</tr>
<tr>
<td>NTD</td>
<td>neglected tropical disease</td>
</tr>
<tr>
<td>NTDCP</td>
<td>Neglected Tropical Diseases Control Program</td>
</tr>
<tr>
<td>SAE</td>
<td>serious adverse event</td>
</tr>
<tr>
<td>SAFE</td>
<td>surgery, antibiotic, face-washing, and environmental improvement</td>
</tr>
<tr>
<td>TFDA</td>
<td>Tanzania Food and Drugs Authority</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
Neglected tropical diseases (NTDs) are a group of diverse diseases that cause significant morbidity and mortality worldwide but have until recently received only limited attention from affluent regions of the world. NTDs are indicators of poverty and disadvantage. More than 1 billion people—one-sixth of the world’s population—suffer from one or more NTDs. The impact of NTDs on individuals and communities is devastating. Many of these diseases cause severe disfigurement and disabilities, including blindness. The diseases tend to concentrate in remote rural areas, urban slums, and conflict zones. They thrive in conditions of impoverishment, affecting the poor, the powerless, and the most vulnerable populations in low-income countries.

Five NTDs—lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis (ascariasis, hookworm, and whipworm), and trachoma—are considered “tool-ready” in that control programs are equipped with efficient diagnostic, treatment, and follow-up surveillance strategies to implement mass drug administration (MDA) campaigns. These tool-ready or targeted NTDs are the focus of many global NTD efforts. Other NTDs are considered “tool-deficient,” which refers to the lack of one or more components necessary to deliver effective MDA.¹

The World Health Organization (WHO) has prioritized 17 NTDs and put into place a global plan to eliminate or eradicate these diseases, significantly reducing the burden of tool-ready diseases through current interventions, and ensuring that interventions using novel approaches are available, promoted, and accessible for tool-deficient diseases.
Elimination of NTDs in Tanzania

WHO recommends preventive chemotherapy as the public health strategy for lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis, and chlamydial (trachoma) infection. The availability of safe and effective medicines for these diseases makes it feasible to implement large-scale preventive chemotherapy, or MDA.

Tanzania’s national Neglected Tropical Diseases Control Program (NTDCP) focuses on 5 of the 17 NTDs prioritized by WHO and implements interventions as outlined in Table 1.
<table>
<thead>
<tr>
<th>Neglected Tropical Disease</th>
<th>Recommended Treatment</th>
<th>Targeted Patients/Location</th>
<th>Treatment Administrator</th>
<th>Frequency/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymphatic filariasis</td>
<td>Ivermectin in combination with albendazole</td>
<td>All eligible individuals in endemic regions, especially Coast, Dar es Salaam, Lindi, Morogoro, Mtwara, and Tanga regions</td>
<td>Occurs annually</td>
<td></td>
</tr>
<tr>
<td>Onchocerciasis</td>
<td>Ivermectin</td>
<td>All eligible individuals in areas where there is both lymphatic filariasis and onchocerciasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schistosomiasis and soil-transmitted helminthiasis</td>
<td>Praziquantel and albendazole</td>
<td>School-age children</td>
<td>Trained school health teachers</td>
<td>Occurs annually with support of health personnel, school health education programs, and environmental sanitation</td>
</tr>
<tr>
<td>Trachoma</td>
<td>SAFE (surgery, antibiotic [Zithromax], face-washing, and environmental improvement)</td>
<td></td>
<td></td>
<td>SAFE is a WHO-recommended strategy</td>
</tr>
<tr>
<td>Schistosomiasis, soil-transmitted helminthiasis, lymphatic filariasis, onchocerciasis, and trachoma</td>
<td>Albendazole, ivermectin, Zithromax, and praziquantel</td>
<td>All eligible individuals in co-endemic regions</td>
<td>Known as integrated preventive chemotherapy</td>
<td></td>
</tr>
</tbody>
</table>
Availability of Essential Medicines for NTDs

To expand preventive chemotherapy, WHO and its partners are working to close the critical gap between demand and supply of essential medicines for NTDs. This partnership leverages the complementary strengths of key actors in health, trade, and finance from endemic countries, donors, funding agencies, pharmaceutical companies, and international organizations. WHO is well-positioned to lead the partnership, based on its vast experience, technical leadership, extensive networks, and existing relationships—including those with pharmaceutical companies donating medicines for NTDs. This has made it possible for endemic countries to provide adequate supplies of free, high-quality medicines for NTDs and to implement an information system to track progress and provide a sound basis for estimating needs.

Accurate and timely forecasts are critical to on-time provision of donations. Due to the planning, production, and shipping time necessary to meet annual needs, donors request forecasts from country programs more than 12 months in advance. Pfizer, for example, requires a five-year forecast to assess the manufacturing scale-up necessary to attain elimination of blinding trachoma by the year 2020. Delay in submission of annual applications can impact the availability of medicines to meet in-country requirements.

Once the supplies are procured, products arrive at the central Medical Stores Department (MSD) and are subsequently transferred to the MSD zonal stores, district medical offices, and health facilities, including dispensaries and health centers. Community drug distributors (CDDs) and/or school health teachers then collect them for distribution.
MDA Campaigns

MDA campaigns for lymphatic filariasis, soil-transmitted helminthiasis, and trachoma are carried out in communities, either house by house or at dosing booths, while administration for schistosomiasis is done at schools. The preferred methodology is for communities to conduct the MDA campaigns, making decisions on the timing and choosing the CDDs, with health services playing a supportive role.

An MDA campaign includes the following key activities, carried out by a number of different people in a cascading manner:

**BEFORE**

- Confirm diseases to be targeted for prevention via MDA campaign.
- Identify target population.
- Map location and number of MDA campaign sites.
- Quantify amount/type of medicines required for MDA campaign.
- Set MDA budget.
- Communicate with key people involved in MDA campaign and determine day(s), time of MDA.
- Confirm availability of medicines.
- Prepare management tools and supplies.
- Train key personnel, including district pharmacists, frontline health workers, and community drug distributors.
- Sensitize communities.
- Conduct census.
- Organize transportation of medicines and personnel.
DURING

• Prepare and administer correct dosages for target populations.
• Conduct appropriate supervision.
• Document process and collect relevant data using management tools.
• Identify, document, and refer anyone with immediate reactions or side effects.

AFTER

• Return unused and/or damaged medicines (reverse logistics).
• Finalize and submit reports on coverage, remaining stock, and other key information.

Figure 1 illustrates the key flow of goods and information in an MDA, including the medicines, data, and necessary paperwork.
Figure 1. Flow of NTD MDA Campaign Medicines and Information.

CDD community drug distributor; DMO District Medical Officer; HF health facility; MoHCDGEC Ministry of Health, Community Development, Gender, Elderly and Children; MSD Medical Stores Department; NTDCP Neglected Tropical Diseases Control Program; RMO Regional Medical Officer

- This is not a fully inclusive diagram of everybody who is involved in NTD MDA campaigns, nor does it necessarily include every movement of the medicines and information or every type of information. The diagram is intended to show the key flow of information and medicines at a higher, rather than detailed, level.
- At times, donors may also be the manufacturers.
- NTDCP is part of the MoHCDGEC but is shown separately for the purposes of this diagram. MoHCDGEC in this diagram is supposed to represent other units within the MoHCDGEC also involved in logistics, such as Pharmaceutical Services Unit.
ROLE OF DISTRICT PHARMACISTS

District pharmacists play a key role in the success of NTD programs. Their duties during an MDA campaign can be divided into three main functions and further subdivided as follows:

Receive, store, and distribute medicines:
- Receive medicines and ensure their quality.
- Store the medicines in good condition to ensure quality before distribution to health facilities.
- Communicate with health facilities and ensure that medicines are delivered intact, in good condition, and in the right quantities to the district facilities.
- Supervise reverse logistics by ensuring that all unused medicines are returned to the district pharmacy after completion of an MDA campaign.
- File periodic reports on the quantity and condition of medicines in the district. This includes completing the District Summary Data Form, which district pharmacists should submit to the regional NTD coordinator within one month of completion of the MDA.

Train lower-level cadres in the handling and dispensing of medicines:
- This is of particular importance in rural areas where the majority of health facility workers who handle medicines have not received any pharmaceutical training and do not necessarily appreciate that the quality of medicines can deteriorate if not properly stored, handled, and dispensed.
• The district pharmacist, as the supervisor of pharmaceutical services in the district, is obliged to make frequent visits to health facilities to assess the situation and design and implement continual quality-improvement interventions.

On behalf of the District Medical Officer (DMO), provide professional advice and report all adverse events occurring within the district during MDA campaigns.

• Frontline health workers (FLHWs) will complete the forms, as they have been trained, if an adverse event occurs and will report such incidences to the DMO.

• The district pharmacist is the DMO’s technical assistant on matters relating to medicine use and has the responsibility to ensure completion of adverse event report forms and send them to the Tanzania Food and Drugs Authority (TFDA).

• The district pharmacist must advise the DMO on how to respond to and manage rumors associated with adverse events.

**REMINDER:** As supervisors and trainers of lower-level health care workers, district pharmacists must be familiar with the instructions provided in NTD training manuals and supply chain guidelines for FLHWs and CDDs. They should keep copies of these manuals and guidelines as a reference in their regular supervisory activities.

This guideline describes in detail the activities specific to district pharmacists that take place before, during, and after an MDA campaign.
ACTIVITIES THAT TAKE PLACE BEFORE AN MDA CAMPAIGN

How to Receive NTD Medicines From the MSD, NTDCP, and Regions

AIM
To ensure that medicines are received intact and in good condition before being entered into the district inventory.

PROCEDURE
MDA program headquarters orders medicines for MDA campaigns based on population forecasts obtained from the National Bureau of Statistics. MDA medicines are calculated to attain a specified administration rate in the targeted population. When medicines arrive, immediately:

• Check the quantity and quality of the medicines in the presence of the Council Health Management Team (CHMT) as follows:
  » Check the quantity against the delivery documents; you may need to open the shipping cartons to count the number of tins or bottles inside.
  » Leave all tins and bottles intact (unopened) and ensure that they are in clean condition.
  » Verify that tins and bottles are of the size stated in the delivery documents (for example, dosage and number of tablets/volume of powder for oral suspension).
  » Confirm that the expiry date and batch number on the tin and/or bottle labels are as stated in the delivery documents.
• If there is a difference between what is on the delivery documents and what has been received, make a comment on the goods delivery note and complete the MSD Verification and Claims Form (form No. 7).
• Immediately reject any suspect medicines and report this to the MSD by completing the Verification and Claims Form (form No. 7) provided by the MSD. Any quality suspect medicines must be quarantined and reported to the TFDA for further intervention.
• Acknowledge medicines that have been received in good condition by signing the goods delivery note(s); maintain a copy of the document(s) for district pharmacy records.
How to Store Medicines

AIM
To ensure the quality of the medicines before distribution to health facilities by storing them in good condition.

PROCEDURE
The district pharmacist must comply with good warehousing practices during the time the medicines are in the district store:

• Immediately after receiving the goods, enter the medicines and quantities received in the stores ledger and bin cards. If you have access to the electronic logistics management information system (eLMIS) database, enter the data immediately. Note: Record MDA campaign medicines separately from routine medicines.
• Store the medicines on pallets in a well-ventilated room under lock and key, where they will be safe from extreme temperatures, rain, high humidity, vermin, and theft. Do not store them in corridors.
• Ensure cartons are labeled clearly and visibly with product name, quantity, expiration date, and batch number.
• Do not mix medicines with different batch numbers in one carton.
• Only authorized personnel may access the medicines.
• Clean the store regularly.
• Regularly check for expired medicines; remove these from the shelves and store them separately in isolated bins.
• Maintain temperature records as required.
• The district may have to store medicines returned from the previous campaign. To effectively implement first in, first out (FIFO) and first expiring, first out (FEFO), keep these medicines apart from newly received MDA campaign medicines.
How to Calculate the Amount of Medicines to Be Delivered to Health Facilities

AIM
To calculate the amount of medicines to be issued to health facilities using population estimates.

PROCEDURE
Calculate the amount of medicines to be delivered to health facilities using the following formulas:

Table 2: Formulas for calculating quantities of medicines.
For community MDA:

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albendazole tabs</td>
<td>Population x 0.8 x 1.1</td>
</tr>
<tr>
<td>Ivermectin tabs</td>
<td>Population x 0.8 x 2.7</td>
</tr>
<tr>
<td>Zithromax tabs</td>
<td>Population x 0.8 x 3</td>
</tr>
<tr>
<td>Zithromax powder for oral suspension</td>
<td>Population x 0.18 / 4</td>
</tr>
</tbody>
</table>

For school MDA:

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Praziquantel tabs</td>
<td>Total number of school-age children x 2.5</td>
</tr>
<tr>
<td>Albendazole tabs</td>
<td>Total number of school-age children x 1.1</td>
</tr>
</tbody>
</table>

NOTE THAT:
0.8 = 80 percent (i.e., targeted population required to achieve MDA)
0.18 = 18 percent (i.e., the percentage of the population that are children required to achieve MDA)
How to Use Dose Poles to Determine Individual Doses

AIM
To use dose poles to calculate individual doses in order to effectively train and supervise FLHWs.

PROCEDURE
To use the height-dose pole:

• Ask the person to stand erect/upright, without shoes, on a flat floor.
• Place the pole vertically against the person’s back, with the ground end touching the floor. Be sure the pole is vertical, not leaning to one side.
• Use the horizontal level at the top of the individual’s head to determine the number of tablets or milliliters of suspension to dispense.
• For adults or children with disorders that prevent full extension, give the same dose as someone of similar age and build.
• Record in the register the number of tablets or amount of powder for oral suspension.
• From time to time, check the pole for bending or warping.
Table 3: Example of dosing tables.

Dosing tables for albendazole, ivermectin, and praziquantel using height-dose poles

<table>
<thead>
<tr>
<th>Height</th>
<th>ALB</th>
<th>IVM</th>
<th>PZQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 119 cm</td>
<td>1 tablet (3 mg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120 – 139 cm</td>
<td>2 tablets (6 mg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>141 – 159 cm</td>
<td>3 tablets (9 mg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 159 cm</td>
<td>4 tablets (12 mg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>94 – 109 cm</td>
<td></td>
<td>1 tablet (600 mg)</td>
<td></td>
</tr>
<tr>
<td>110 – 124 cm</td>
<td></td>
<td>1½ tablets (900 mg)</td>
<td></td>
</tr>
<tr>
<td>125 – 137 cm</td>
<td></td>
<td>2 tablets (1200 mg)</td>
<td></td>
</tr>
<tr>
<td>138 – 149 cm</td>
<td></td>
<td>2½ tablets (1500 mg)</td>
<td></td>
</tr>
<tr>
<td>150 – 159 cm</td>
<td></td>
<td>3 tablets (1800 mg)</td>
<td></td>
</tr>
<tr>
<td>160 – 177 cm</td>
<td></td>
<td>4 tablets (2400 mg)</td>
<td></td>
</tr>
<tr>
<td>&gt; 177 cm</td>
<td></td>
<td></td>
<td>5 tablets (3000 mg)</td>
</tr>
</tbody>
</table>
Calculating Zithromax dose from 6 months of age using height-dose poles

<table>
<thead>
<tr>
<th>Height</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 137.7 cm</td>
<td>4 tablets (1000 mg)</td>
</tr>
<tr>
<td>120.4 – 137.6 cm</td>
<td>3 tablets (750 mg)</td>
</tr>
<tr>
<td>87.9 – 120.3 cm</td>
<td>2 tablets (500 mg)</td>
</tr>
<tr>
<td>74.0 – 87.8 cm</td>
<td>1 tablet (250 mg)</td>
</tr>
<tr>
<td>122.3 – 130 cm</td>
<td>16 ml</td>
</tr>
<tr>
<td>110.3 – 122.2 cm</td>
<td>14 ml</td>
</tr>
<tr>
<td>98.4 – 110.2 cm</td>
<td>12 ml</td>
</tr>
<tr>
<td>87.5 – 98.3 cm</td>
<td>10 ml</td>
</tr>
<tr>
<td>76.5 – 87.4 cm</td>
<td>8 ml</td>
</tr>
<tr>
<td>65.5 cm – 76.4 cm</td>
<td>6 ml</td>
</tr>
<tr>
<td>53.8 – 65.4 cm</td>
<td>4 ml</td>
</tr>
<tr>
<td>50.6 – 53.7 cm</td>
<td>2 ml</td>
</tr>
</tbody>
</table>

How to Issue Medicines and Deliver Them to Health Facilities

AIM
To communicate with health facilities and ensure that medicines are delivered to the facilities in good condition.

PROCEDURE
The district pharmacist must comply with the following procedures:

• Issue medicines on a FEFO basis; for this reason, it is important to record the expiry date of each consignment in the bin card and stores database.
• Issue medicines to health facilities according to the calculating formulas provided. Reference Table 2.
• There is no special transport provided for NTD medicines. Districts are required to provide a route matrix or distribute medicines using zonal leaders in a cascading manner; for this reason, liaise early with the district NTD coordinator to arrange transport from the DMO.
• Prepare delivery documents (issue vouchers) in triplicate and hand them over to the person delivering the medicines to health facilities; conduct a count during the hand-over.
• Enter the issue in the stores ledger/eLMIS database and bin card by indicating the name of the health facility, quantity issued, and issue voucher number.
• Telephone the person in charge of the health facility at least 24 hours before the delivery to alert him or her of the planned delivery.
• You should receive a copy of the signed voucher from the CHMT delivering the medicines within 24 hours of return; file the voucher as a record of the delivery.
How to Report Adverse Events

AIM
To provide professional advice and report adverse events.

PROCEDURE
The district pharmacist is responsible for completing an Adverse Drug Reaction Reporting Form when information is reported from a peripheral staff member or patient. If the district pharmacist receives a completed form from a peripheral staff member or patient, the pharmacist must check the form and report to the TFDA. A simplified reporting form is available to report a suspected adverse drug reaction (ADR). Health care providers should encourage patients to report adverse events and seek medical attention.

The procedure for reporting adverse reactions is as follows:

• Unless otherwise established in national policy, report only serious adverse events (SAEs). However, some events, even when not serious—such as choking without dramatic consequences—may be indicators of the quality of the intervention or of operational error and should be reported. Examples of SAEs include:
  » Any adverse event leading to hospitalization.
  » Anaphylactic reaction.
  » Mazzotti reaction (fever, urticaria, swollen and tender lymph nodes, tachycardia, hypotension, edema, and joint or abdominal pain).
  » Fits, convulsion, or seizures.
• Choking.
• Death.

- Report SAEs and cases of serious community concern as soon as possible.
- Make reports on the standard Adverse Drug Reaction Reporting Form. The form can be found in Appendix A of the Ministry of Health and Social Welfare’s Guidelines for Assuring Safety of Preventive Chemotherapy, National Program for Control of NTDs and TFDA. The minimum essential information a district pharmacist should obtain from a caretaker or person experiencing an adverse event includes:
  » Description of the event.
  » Time and date of the event and time and date of administration of medicine(s).
  » Medicines given; include the brand, batch number, and other relevant information, such as original/non-original container.
  » Site of treatment and name and contact information of treatment provider.
  » Affected person’s relevant data, including name, age, gender, and contact information.
- Provide the above information also to FLHWs, school health teachers, and CDDs involved in the MDA campaign.
- Advise any persons known to react adversely to specific medicines to fill out and carry a pink ADR card (Patient ADR Alert Card). Instruct CDDs and school health teachers to look for such cases and encourage patients who react adversely to NTD medicines during the campaign to fill out and carry such cards.
• Give the green form for reporting adverse reactions and product problems by non–health care providers to persons responding adversely to NTD medicines during the MDA campaign. (The patient should complete the form and hand it over to the CDD/school health teacher/FLHW.)
• Send all information regarding adverse events to the CHMT and later to the Regional Health Management Team.

Beyond the purview of the district pharmacist, the following takes place:

• If a person reacting adversely to NTD medicines is sent to a health facility for treatment, the health care worker at the health facility should complete the yellow form (ADR Reporting Form) and report the incident to the CHMT.
• The Regional Health Management Team sends the information it receives on adverse events either to the zonal pharmacovigilance centers or directly to the TFDA.
• The TFDA sends periodic reports to WHO.
**ACTIVITIES THAT TAKE PLACE AFTER AN MDA CAMPAIGN**

**How To Manage Reverse Logistics**

**AIM**
To manage reverse logistics to ensure that all unused medicines are returned to the district pharmacy.

**PROCEDURE**
Medicines remaining from MDA campaigns must be returned to the district pharmacy store for storage until the next campaign and for disposal where necessary. Members of the CHMT should collect the medicines from health facilities and return them to the district pharmacy store, especially if the health facility is unable to return the medicines themselves. Unused medicines should be returned to the district pharmacy within one month of completion of the MDA campaign.

District pharmacists must:

- Verify the quantity and quality of returned medicines and enter them in the district inventory. Note: MDA campaign medicines must be recorded separately from routine use medicines on their own stores ledger pages.
  - Quantity: Check the quantities against the delivery documents. You may have to open the cartons to verify the number of tins or bottles inside.
  - Quality: Check the medicines visually for signs of damage or caking, and check for expired medicines. Separate damaged and expired tins of medicines from good medicines and record them in the suspension ledger. Dispose of expired and damaged medicines according to government guidelines.
» Unopened tins and bottles: DO NOT open unopened tins and bottles. Calculate the number of tablets by multiplying the number of tablets written on the tin by the number of tins.

» Opened tins: Estimate the number of tablets remaining to the nearest quarter of a tin. For example, an opened tin of 500 tablets will be counted as follows: One quarter of a tin = 125 tablets, one half of a tin = 250 tablets, three-quarters of a tin = 375 tablets. DO NOT physically count or touch the tablets. DO NOT mix tablets from one tin with another.

» Opened suspension bottles: Dispose of opened suspension bottles and record them per government guidelines.

» Expiry dates: Record expiry dates in the eLMIS database and bin cards.

» Storage: Label cartons clearly and visibly with product name, quantity, expiry date, and batch number. Store the medicines on pallets or shelves in a well-ventilated room under lock and key, where they will be safe from extreme temperatures, rain, high humidity, vermin, and theft. Do not store them in corridors.

• When required for use in the next MDA, issue returned medicines first before issuing fresh stock. Use the FEFO principle.

**REMINDER:** MDA medicines are not for routine care. Do not issue or dispense MDA medicines for any purpose other than administration during an MDA campaign.
How to Complete District Summary Data Forms

**AIM**
To complete District Summary Data Forms and submit them to the regional NTD coordinator.

**PROCEDURE**
Ensure that all Health Facility Summary Data Forms are returned to the district within two weeks of the MDA by frequently urging the health facility in-charge to bring the reports. For hard-to-reach health facilities, take special note of their problems and make provisions where necessary (for example, by providing them with bus fare and other means of transport).

Carefully check the data on all forms from health facilities and seek clarification from the respective health facility in-charge where necessary.

Complete the “Coverage” and “Medicines” sections of the District Summary Data Form and submit the form to the district coordinator within one month after the completion of the MDA campaign.