Report of a workshop to launch the Global Oversight Committee and the Supply Chain Technical Support Mechanism for neglected tropical diseases

Geneva, Switzerland, 18–19 January 2024
Geneva, Switzerland, 18–19 January 2024

Report of a workshop to launch the Global Oversight Committee and the Supply Chain Technical Support Mechanism for neglected tropical diseases

Geneva, Switzerland, 18–19 January 2024
# Contents

**Abbreviations and acronyms** ................................................................. iv

1. **Introduction** .......................................................................................... 1
   1.1 Purpose and objectives of the meeting .................................................. 2
   1.2 Expected outcomes and deliverables ................................................... 2

2. **Launch of the Global Oversight Committee** ........................................ 3
   2.1 Welcome and objectives ....................................................................... 3
   2.2 Background ........................................................................................... 3
   2.3 Scope, function and membership .......................................................... 4
   2.4 Roles and responsibilities and key performance indicators ............... 5
   2.5 Examples of real-life scenarios ............................................................. 6
   2.6 Key messages and action items ............................................................. 7
   2.7 Next steps and timeline ........................................................................ 7

3. **Launch of the Supply Chain Technical Support Mechanism** ............ 8
   3.1 Opening remarks ................................................................................... 8
   3.2 Background ........................................................................................... 8
   3.3 Objectives and approach ...................................................................... 9
   3.4 How both mechanisms will work together ......................................... 10
   3.5 Priorities and 2024 plan of work .......................................................... 11
   3.6 Country scoping overview .................................................................... 12
   3.7 Overview of existing forecasting efforts .............................................. 13
   3.8 Forecasting terminology, methodologies and approaches ................ 14
   3.9 Closing remarks ................................................................................... 15
   3.10 Next steps and timeline ...................................................................... 15

**Annex 1. Concept note** ........................................................................... 17
**Annex 2. Agenda** .................................................................................... 19
**Annex 3. List of participants** ................................................................. 22
**Annex 4. Global Oversight Committee: draft terms of reference** ...... 27
**Annex 5. Global Oversight Committee: real-life scenarios and ideal response** ................................................................................................................. 30
**Annex 6. Supply Chain Compass: list of questions** ........................... 35
# Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGF</td>
<td>Bill &amp; Melinda Gates Foundation</td>
</tr>
<tr>
<td>ESPEN</td>
<td>Expanded Special Project for Elimination of Neglected Tropical Diseases</td>
</tr>
<tr>
<td>GOC</td>
<td>Global Oversight Committee</td>
</tr>
<tr>
<td>JSI</td>
<td>John Snow, Inc.</td>
</tr>
<tr>
<td>MDA</td>
<td>mass drug administration</td>
</tr>
<tr>
<td>NTD</td>
<td>neglected tropical disease</td>
</tr>
<tr>
<td>SCTSM</td>
<td>Supply Chain Technical Support Mechanism</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
1. Introduction

For years, there have been challenges in the donation processes for health products for neglected tropical diseases (NTDs). Unsuccessful attempts have been made to resolve them. At a series of meetings held at the headquarters of the World Health Organization (WHO) in April–June 2023 – in conjunction with the functional review of the Global NTD Programme (WHO/NTD) – many issues were raised by key NTD medicine donation stakeholders. Challenges related to the process for ordering donated medicines and their supply chain management have resulted in wastages of medicines, inefficient production (stock-outs and overstocks), increasing programme costs and subsequent delays in delivering medicines to countries on time for mass drug administration (MDA) campaigns. There is broad agreement that unless these issues are addressed, serious and growing risks to existing and future progress against NTDs will persist.

Dr Ibrahima Socé Fall (Director, WHO/NTD) has committed to ensuring that WHO will prioritize addressing these weaknesses in the system. He has tasked members of WHO/NTD to work with partners to create a Global Oversight Committee for improved coordination, multi-stakeholder decision-making, accountability and transparency. A draft concept note for the Committee was developed based on the discussions at the April–June 2023 meetings and refined through subsequent consultations with stakeholders (Annex 1).

In addition to the Global Oversight Committee (GOC), a new Supply Chain Technical Support Mechanism (SCTSM) is being established to provide technical assistance for strengthening the supply chain in support of NTD programmes in eight priority countries in the WHO African Region, where the disease burden is greatest and where supply chain challenges have previously existed.

SCTSM is a 5-year project (November 2023 to October 2028) funded by the Bill & Melinda Gates Foundation (BMGF). It will collaborate with national NTD programmes, the three levels of WHO (country offices, regional offices and headquarters) as well as with manufacturers and funding and implementation partners to improve NTD supply chains in Africa, focused initially on eight priority countries. SCTSM will report to GOC. By aligning with industry best practices for supply and demand management, SCTSM aims to support delivery of the
1.1 Purpose and objectives of the meeting

The purpose of the meeting was to:

- convene key stakeholders to co-design GOC; and
- introduce and launch SCTSM.

Its objectives were to:

- review and build consensus on the terms of reference for GOC;
- develop priority short- and long-term actions;
- launch SCTSM and clarify how it will support and interact with GOC;
- clarify the objectives and approach of SCTSM;
- gather inputs on country collaborative scoping and planning methodologies, and enable multi-stakeholder decision-making processes built on accountability and transparency in the medicine forecasting approach; and
- identify opportunities for collaboration and coordination.

1.2 Expected outcomes and deliverables

The expected outputs and deliverables of the meeting were to prepare:

- advanced terms of reference for GOC;
- initial RACI (responsible, accountable, consulted and informed) principles for GOC to support and promote outcome-oriented accountability and codify standards for action and communication by all stakeholders;
- a list of metrics of success for GOC; and
- a draft implementation plan for SCTSM.

The meeting agenda is attached as Annex 2 and the participants are listed in Annex 3. The draft terms of reference of GOC are included in Annex 4.
2. Launch of the Global Oversight Committee

2.1 Welcome and objectives

Dr Ibrahima Socé Fall (WHO/NTD) welcomed the participants to the first day of proceedings and explained the need for the meeting. He introduced the two different but complementary mechanisms (GOC and SCTSM) that would be discussed over the following 2 days. He explained that the goal of the meeting was to review the plans made to date and build consensus, adding that there is commitment to resolving the challenges related to medicine donation programmes for NTDs.

GOC is not a static forum but rather a dynamic workspace to address challenges and provide oversight of medicine donation programmes, including critical cross-connections between diseases. Drawing on experiences from WHO’s health emergencies programme, GOC will help WHO/NTD to move from responding to issues and after-action reviews to more proactive engagement that allows for mid-course interventions. It will thus focus on transforming the challenges faced in delivering NTD medicines to those who need them to address the significant risks to progress. Finally, he emphasized the need for accountability and transparency from all partners and asked that the next 2 days serve as an open space for dialogue.

2.2 Background

Since 2011, more than 15 billion doses of NTD medicines have been delivered into NTD-endemic countries globally. There have been many changes since the medicine donation programmes were launched, including within the senior leadership of pharmaceutical companies who began the programmes. With these changes, there has been increasing pressure to show how these programmes are...
demonstrating impact and driving value. Cost increases, manufacturing challenges and other issues have contributed to significant donor fatigue. Given these challenges, there is a need to ensure that the medicine donations (and the value they bring to communities affected by NTDs) are justified.

In response, GOC is being formed as the action-oriented, solution-oriented outcome of the process of co-creation between WHO, pharmaceutical partners, donors and others. GOC will actively collaborate to improve the accuracy and efficiency of forecasting; medicine ordering and manufacturing; and implementation, reporting and creating impact. The formation of this committee introduces a new culture of increased inclusivity, transparency and accountability.

### 2.3 Scope, function and membership

The scope of GOC will be to oversee and facilitate the effective management of global medicine donation programmes for NTDs for which preventive chemotherapy is an important part of the control or elimination strategy, and for which the relevant medicines are donated through WHO. GOC will seek to address and resolve challenges in the donation process, promote alignment across programmes, and make cross-connections of treatment/medicines and epidemiological impact. WHO will serve as the secretariat, with membership representing diverse stakeholders and regions (Fig. 1).

**Fig. 1. Structure of the Global Oversight Committee**

- **Co-chairs:** WHO + 1 pharmaceutical partner
- **Secretariat (WHO)**
- **WHO headquarters**
- **WHO regional and country offices**
- **National health ministries**
- **Pharmaceutical donors**
- **Donors (BMGF, USAID)**
- **Technical experts/SCTSM**
- **Implementing partners**

**BMGF:** Bill & Melinda Gates Foundation; **SCTSM:** Supply Chain Technical Support Mechanism; **USAID:** United States Agency for International Development.
Membership of the committee will represent a diverse range of geographical regions and stakeholders involved in the NTD medicine donation process. It will include experts and representatives from relevant fields, such as public health, pharmaceuticals, logistics and international development, including:

- representatives of WHO and pharmaceutical companies as co-chairs
- WHO representatives across all three levels of the Organization:
  - headquarters,
  - regional offices as needed according to the agenda of the meeting, and
  - country offices as needed according to the agenda of the meeting
- experts in NTDs, procurement, logistics and other technical areas as relevant;
- relevant government bodies (e.g. medicine regulation agencies, import authorities and medicine management agencies);
- pharmaceutical companies;
- implementing donors and partners; and
- national health ministry representatives of NTD-endemic Member States and their partners as needed according to the agenda of the meeting.

GOC will focus on oversight and transparency and will have visibility into the decisions made and the data underlying those decisions. Although the final scope of GOC has yet to be determined, participants suggested that it continue to explore how it will implement decisions made. GOC also has the opportunity to ensure that details are shared at the appropriate levels. For example, participants suggested that it will have more direct engagement with countries to address challenges with inventory management in advance of submission of the Joint Application Package. GOC will not bypass regional processes; rather, it will work with and support WHO regional offices, regional programme review groups and other support mechanisms without duplicating efforts.

2.4 Roles and responsibilities and key performance indicators

NTD stakeholders should contribute to and understand the tasks and responsibilities of GOC. To promote that understanding, the participants worked in breakout groups to assign role-holders to key tasks from the draft terms of reference. The breakout groups proposed specific actions that GOC should undertake and discussed which stakeholder will be responsible, accountable, consulted or informed (RACI) for each action. Additionally, roles for support and drivers were available for consideration.

The groups also discussed the key performance indicators to be measured to monitor the progress and success of GOC.
The following recommendations of the breakout groups were presented in the plenary:

- Understand that each country faces unique challenges, so the roles and responsibilities will vary for each.
- Focus on process improvements including regular (e.g. monthly) calls with countries and pharmaceutical manufacturers for more real-time updates and proactive resolution of issues, a process for timely reminders, appointment of point of contact to schedule and manage meetings.
- Stay cognizant of resource constraints and capacity challenges within each organization to ensure that GOC’s tasks are addressed in a timely manner.
- Establish key performance indicators that are measurable and allow for monitoring the success of GOC year-over-year as well as in comparison to one another.
- Stay flexible to adapt to changes as necessary. For example, GOC will not be changing any WHO treatment guidance, but it will provide a forum for countries to explore current guidance and discuss planned implementation with key stakeholders.
- Look for opportunities for efficiencies with other activities (e.g. working with the Expanded Special Project for Elimination of Neglected Tropical Diseases (ESPEN) and NTDeliver to promote and enhance data utilization).
- Define tactical changes that can be clearly enabled and enacted.
- Promote visibility across countries and global partners at every stage.

### 2.5 Examples of real-life scenarios

To delve into the more concrete actions GOC may undertake, participants joined in an exercise to propose solutions and activities for it to consider when responding to real-life scenarios (see Annex 5 for the scenarios discussed).

During the plenary discussions, the groups emphasized the following themes:

- GOC can enable medium- and long-term thinking in addition to providing support to address critical immediate needs; its unique value will be in helping countries to prevent adverse scenarios from recurring or happening in the first place.
- GOC will enable partnerships across countries and allow for cross-country solutions when challenges are occurring multiple settings.
- GOC will emphasize and prioritize working with and within existing tools (e.g. LMIS, NTDeliver) and mechanisms (e.g. Regional Programme Review Groups) to empower countries to manage challenges.
- GOC will emphasize the importance of stronger stewardship of the medicine donation programmes to ensure their viability to enable countries meet their 2030 road map targets.
2.6 Key messages and action items

The groups emphasized how GOC will work with other existing support mechanisms in an effort to maximize the value of medicine donation programmes for NTDs (Fig. 2). The groups are committed to continuing to clarify the role and scope of GOC in partnership with stakeholders across the NTD ecosystem.

Fig. 2. Global Oversight Committee launch, 18 January 2024: key messages and action items

<table>
<thead>
<tr>
<th>Key messages</th>
<th>Action items</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Global Oversight Committee is being established to address the challenges faced by medicine donation programmes for neglected tropical diseases. The Committee will introduce a new culture of increased inclusivity, transparency and accountability.</td>
<td>Continue to emphasize what the Committee will do, and enable inclusivity, transparency and accountability.</td>
</tr>
<tr>
<td>The Global Oversight Committee will span all countries; the Supply Chain Technical Support Mechanism will focus initially on eight high-burden countries.</td>
<td>Consider including health ministries as co-chairs.</td>
</tr>
<tr>
<td>The Global Oversight Committee will work with RPRGs with a focus on oversight, ensuring transparency and visibility in decision-making and processes without creating redundancies.</td>
<td>Provide written clarification of (i) the differences between RPRGs, ESPEN and the Committee and (ii) how they will work together.</td>
</tr>
<tr>
<td>The Global Oversight Committee will initially focus on the diseases for which medicines are donated through WHO. The Committee will be the appropriate forum to raise concerns about other diseases (e.g. scabies in Senegal).</td>
<td>Clarify how the Committee will work with the Supply Chain Technical Support Mechanism, the Supply Chain Forum and other existing supporting bodies.</td>
</tr>
<tr>
<td>For countries, effective supply chain management and managing data and programmes across diseases are essential.</td>
<td></td>
</tr>
<tr>
<td>The Global Oversight Committee will emphasize the importance of the stewardship of the medicine donation programme.</td>
<td></td>
</tr>
<tr>
<td>Specific tasks and and roles (e.g. macro-management versus micro-management) will continue to be refined based on group feedback. The Committee will provide oversight and support.</td>
<td></td>
</tr>
</tbody>
</table>

ESPEN: Expanded Special Project for Elimination of Neglected Tropical Diseases; RPRG: Regional Programme Review Group.

2.7 Next steps and timeline

Weekly meetings of GOC have already begun, with a focus on the following next steps:

- Finalize the terms of reference and the RACI matrix (by end of March 2024).
- Develop GOC’s communication plan (by mid-April 2024).
3. Launch of the Supply Chain Technical Support Mechanism

3.1 Opening remarks

Dr Ibrahima Socé Fall (WHO/NTD) opened the second day of the meeting by underscoring the need for supply chain support to the NTD medicine donation programmes and a “systemic way of addressing complex issues”. He asked for thoughtful input and feedback throughout the day. The participants were reminded that, as discussed in the previous meeting to launch GOC, all have a role in ensuring maximum impact. GOC will work at a very high level. The purpose of this discussion was to drill into the details to devise an approach to minimize medicine wastage and ensure that each dose donated has maximum impact.

3.2 Background

During 2023, a group of key NTD stakeholders worked to identify problems faced by NTD donation programmes, co-designed an investment opportunity to help address key challenges and benefit all stakeholders, and ultimately issued a grant to JSI (John Snow Inc.) to pilot test a nimble supply chain support mechanism to eight priority countries in Africa across selected diseases with donation programmes managed by WHO:

**Priority countries**: Nigeria, Democratic Republic of the Congo, Ethiopia, Uganda, Kenya, Tanzania, Madagascar, Mozambique

**Diseases of focus**: lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiases

These eight countries were selected because they contribute significantly to the global disease burden and historically request high volumes of donated medicines (i.e. 350–400 million tablets donated to each country per year). In addition to
burden, the number of stakeholders and/or decentralized systems was considered as a measure for country complexity and need for support. The current focus is on the WHO African Region, but the expectation is that the learnings from these initial eight countries will be shared with and applied to all regions across the global programme.

### 3.3 Objectives and approach

In 2023, WHO, ESPEN, pharmaceutical partners, the United States Agency for International Development (USAID) and the Bill & Melinda Gates Foundation (BMGF) worked together to co-create a new technical support mechanism aimed at strengthening supply chains in eight African countries to ensure timely availability and reduced wastage of medicines for NTD programmes.

Through a competitive process, the JSI Center of Health Logistics was selected. JSI has worked in supply chain for more than 40 years, with expertise in end-to-end supply chain management, including the last mile. It has been at the forefront of integrating vertical programme products into national supply chains with funding from GAVI, the Vaccine Alliance; the Global Fund; USAID; and BMGF. In the NTD space, JSI has worked with the International Trachoma Initiative to strengthen its global systems and has conducted supply chain assessments in 23 countries.

The goal of SCTSM is to be nimble and work with partners to ensure timely availability and reduced wastage of NTD medicines in eight priority African countries. It will contribute to achieving the targets of the 2021–2030 NTD road map by focusing on two key outcomes:

- increase efficiency of NTD supply chain systems from forecasting to drug ordering to distribution and inventory management; and
- improve coordination and allocation of NTD medicines by all stakeholders.

These outcomes will lead to reduced medicine wastage and improved medicine availability.

To achieve these goals, SCTSM:

- will focus on sustainable change without creating dependencies on JSI or its sub-partner InSupply, Health with process reviews and data;
- will strengthen supply chains to achieve sustainable results that benefit the global (first mile) and country (last mile) levels;
- will build the capacity of people in the system;
- will improve supply chain processes and enhance visibility, quality, and use of country level logistics data; and
- will work in an integrated and collaborative way with national NTD programmes and other key stakeholders to prevent duplication of existing efforts and avoid causing confusion at country level.
SCTSM will not procure equipment or fuel, run day-to-day operations, or fund implementations of large-scale interventions such as electronic logistics management information systems (eLMIS).

### 3.4 How both mechanisms will work together

The participants worked in a large group to discuss how GOC and SCTSM will work together. Both are distinct mechanisms. GOC will be managed primarily by WHO and pharmaceutical partners in collaboration with contributions from additional stakeholders. It will cover all countries that receive donated medicines for treatment of NTDs. SCTSM is a specific BMGF-funded project to support eight countries in Africa, with positive spillover to other countries involved in donations. It will contribute to the supply chain-specific work of GOC.

SCTSM will not replace the Supply Chain Forum or ESPEN. Rather, these entities will work together to define respective roles and responsibilities, but SCTSM will not duplicate processes or efforts. To this point, Dr Ibrahima Socé Fall reminded all stakeholders to be adaptable and open-minded to maximize the value that SCTSM will bring.

SCTSM will work closely with WHO, ESPEN and pharmaceutical partners to understand country processes and apply learnings across countries, and be joined by InSupply, its technical, in-country partner in Africa. It will not create a supply chain officer role for the 5-year project but will focus on strengthening existing systems so that they outlast this project. It will work closely with all partners on the ground to promote supply chain support and understand the needs of the different diseases and products. To illustrate the approach, key first-year priorities will focus on:

- engaging the countries in rapid scoping of key bottlenecks and co-developing action plans;
- developing 1–3 year medicine forecasts in each country;
- supporting completion of the JRSM and JAP and their submissions; and
- improving inventory management processes and data collection on the ground.

Finally, it was re-emphasized that no new software will be created; rather, new opportunities for standardization of data collected and integration or enhancement of existing systems (e.g. NTDeliver) will be prioritized. In short, the team will consistently prioritize sustainability over novel approaches.
3.5 Priorities and 2024 plan of work

An interactive exercise was led to engage participants and gather feedback. Participants were asked to consider priorities across five domains at three geographical levels. The participants then plotted their inputs using sticky notes to allow for a visual emphasis of the larger priorities of the group (see Table).

From this exercise, general themes of priorities emerged:

- capacity building,
- data quality,
- digitization and
- promotion of public health basics (e.g. programme review of MDA and learnings).

Further, the discussion emphasized the need to keep the needs of the countries as the primary focus.

| Table. Recommended priorities for the Supply Chain Technical Support Mechanism |
|---|---|---|
| **Country** | **Regional** | **Global** |
| **Transportation** | - Reverse logistics  
- Leverage other supply chain mechanisms  
- Leverage automated alerts  
- Coordinate to ensure delivery by government transport system down to point of distribution  
- Transport integration with MOH supply chain | - Frequent rolling forecasts with regular updates  
- Automated shipping status alerts | |
| **Forecasting** | - Poor quality data for decision-making (responsiveness, completeness, accuracy)  
- Target for 3-year forecasts in each of the eight countries by end of 2024  
- Frequent rolling or dynamic forecasts with regular updates | - Frequent rolling forecasts with regular updates  
- Standardization of country forecasts | - Use epidemiological models  
- Apply 3-year forecasting based on epidemiological models, disease prevalence, expected number of MDA rounds |
### Table. (continued)

<table>
<thead>
<tr>
<th>Country</th>
<th>Regional</th>
<th>Global</th>
</tr>
</thead>
</table>
| **LMIS** | • Mainstream and integrate with national system  
• Triangulate data to ensure quality  
• Digitization of data collection | • Training module creation | • Provide inputs on eLMIS standards to WHO |
| **Inventory management** | • Digitize inventory management  
• Review inventory management practices in the country  
• Reverse logistics: consolidating remaining stock, ensuring accurate balances are factored into forecasting  
• Accurate and routine inventory counts  
• Capacity support in ensuring FEFO | • Working with ESPEN to ensure monthly touchpoints with countries for regular updates on MDAs, delays, etc.  
• Visibility at regional level country inventories | • Standardize inventory tools to be used at peripheral levels  
• Understand capacity restrictions regionally and in country |
| **Other** | • Weekly touchpoints on reallocation opportunities  
• Improve accountability for improved JAP submission  
• Mapping data and stakeholders | • Improve trainings  
• Strengthen JAP  
• Track funding for implementation | • Improve communications  
• Allow countries to utilize their own systems versus standardized tools and templates  
• Supply chain assessments and capacity building |

eLMIS: electronic logistics management information system; ESPEN: Expanded Special Project for Elimination of Neglected Tropical Diseases; FEFO: first to expire first out; JAP: Joint Application Package; MDA: mass drug administration; MOH: Ministry of Health or equivalent; SCTSM: Supply Chain Technical Support Mechanism.
3.6 Country scoping overview

One of the first priorities of SCTSM is to understand the needs of the countries. SCTSM presented its high-level scoping plans, which include country visits to interview key stakeholders and visit warehouses and facilities, leading to a 2-day co-design workshop. Following each mission, the findings and plans will be reviewed with WHO/NTD and partners to confirm roles and responsibilities as well as funding availability, after which a comprehensive road map will be developed. As the team begins its country scoping exercises, it will engage with countries and WHO to discuss timing but aim to complete visits within the first half of 2024. The team will also look to existing findings that can be leveraged, including previous assessments of NTD supply chain systems.

To allow countries to quickly identify the areas of supply chain that require the most focus and support, SCTSM will use the Supply Chain Compass. The Compass spans seven functional areas and provides a scoring mechanism to visualize the areas that require the most attention. The Compass was presented to the participants and each breakout group reviewed one area of focus for feedback. Annex 6 lists the questions included in the Compass.

The groups provided detailed feedback on the Compass with the following key themes identified:

• Explore if and how the other existing tools (e.g. WHO Gap Assessment Tool) could be included in the Supply Chain Compass approach.
• Define all terminology upfront and do not make assumptions about availability or quality of data.
• Suggested participants: anyone with roles or users of specific supply chain areas, both WHO/NTD staff and health ministry supply chain staff, implementers, WHO data managers, NTD partners, district level logisticians, procurement (who is required for political buy in).
• Clarify details of each question and provide guidance on scoring where some of the metrics have been met.
• Consider including case management products and product selection (regulatory requirements for procuring products) component of the Compass tool with a view towards sustainability.

3.7 Overview of existing forecasting efforts

Pharmaceutical manufacturers need forecasts to ensure efficient production, inventory management and distribution, while aligning with regulatory compliance and programmatic trends. A key priority for SCTSM is to support and enhance the current forecasting efforts in order to meet the requirements from pharmaceutical companies. These requirements include level of detail (i.e.
disease-specific forecasts), length of forecast (i.e. 36 months) and timeliness of submission (i.e. receipt more than one year in advance to allow for appropriate manufacturing time). The final requirements for forecasts will be defined through further discussion.

At WHO headquarters, the current approach is to build a country forecast using disease trends, supply quantity, operational funds available and any data known about remaining balances. The country-level forecasts are then aggregated by WHO region and submitted to disease leads, supply chain officers and regional NTD focal points to finalize with corresponding countries. This approach faces challenges because of a lack of common review from all relevant stakeholders, a lack of transparency in operational funds and missing or delayed information about changes to MDA plans.

ESPEN currently focuses on medium and long-term forecasts. The ESPEN team collects data from the Joint Application Package, cleans the data and adds them to a repository which is used to generate the forecasts. It also integrates trachoma data held in the GET2020 database which belongs jointly to WHO and ITI. The ESPEN portal includes IU (implementation unit) Forecasting Dashboards, which allow for quick updates but relies on static treatment data and broad assumptions on surveys, and Forecast Dashboards projecting to 2030 driven by country data and the NTD 2021–2030 road map.

Uncertainty in funding also presents considerable challenges for projections relating to some national programmes. Currently, the funding gaps range from 11% to 41%, which could lead to 142 million people who require preventive chemotherapy missing treatments in 2024.

3.8 Forecasting terminology, methodologies and approaches

To begin the conversation around forecasting and planning, participants discussed the collective aim to generate forecasts for medicines that are standardized and consistent in their terminology. The following terms were presented and defined:

- Forecast: demand by customer.
- Supply plan: how demand will be fulfilled.
- Forecast accuracy: mathematical measure of the difference between forecast and actuals.
- Safety stock: inventory to hedge against variability in supply or demand.

Examples of forecasting were presented to demonstrate differences in methodologies with audience-dependent results. These case studies demonstrated:
3. Launch of the Supply Chain Technical Support Mechanism

- that forecasting should include multiple methods, each model providing different strengths and weaknesses, with the combined outlook providing a view of the most likely scenario and reflecting better information to assess risk; and
- that each stakeholder may have a different decision to make from a forecast and this will influence the methodology applied and the data used.

SCTSM will work with countries to build 3-year forecasts and extrapolate the output using existing WHO headquarters/ESPEN approaches. SCTSM will be agile both in forecast development and in updating the forecasts appropriately. On the latter, monthly touchpoints were emphasized as the key to the Mectizan Donation Program’s success in managing ivermectin donated by the Program.

3.9 Closing remarks

The differences between GOC and SCTSM were again emphasized, as were the needs for all to be stronger stewards of NTD medicine donation programmes. Feedback from participants and breakout groups was summarized, and next steps on country-scoping; forecasting working groups; and clarification of terms, tools and approaches were recapped (Fig. 3).

3.10 Next steps and timeline

SCTSM has already begun outreach to counties and will focus on the following key next steps:

1. Circulate the draft workplan to gather feedback from key stakeholders (by early February 2024).
2. Conduct in-country rapid scoping and action planning exercises with national NTD programmes and partners (March–June 2024).
3. Develop initial 3-year drug forecast in close collaboration with WHO, funders, pharmaceutical partners, national NTD programme representatives, and the NTD modelling consortium (by July/August 2024).
Fig. 3. Supply Chain Technical Support Mechanism launch, 19 January 2024: key messages and action items

Scope and role
Countries: Democratic Republic of the Congo, Ethiopia, Kenya, Madagascar, Mozambique, Nigeria, Uganda, United Republic of Tanzania
Diseases: lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiases

Group discussion and exercises
Priorities to consider

General themes
- Capacity-building
- Data quality
- Digitization
- Promote public health basics (e.g. review of mass drug administration and learnings).

Review of country scoping plan and methodology

General themes
- Define all terminology upfront.
- Invite all stakeholders involved in each area of focus.
- Clarify details of each question and provide guidance on scoring where some of the metrics have been met.

Forecasting
- It is critical to understand the question being asked and for whom.
- Typically, the combined output of multiple forecasting models will produce the most accurate measure.
- Forecasting should be iterative, involving regular meetings, updates and appropriate adjustments.

Action items
Continue to clarify how the Supply Chain Technical Support Mechanism will differ from and work with the Global Oversight Committee, the NTD Supply Chain Forum and others.

Define terminology upfront and provide details and definitions.

Keep countries at the centre of the work and prioritize their needs.

For forecasting, consider the outputs from various models, and be specific on the question and the intended audience.

Continue to iterate on the forecasting approach.
Background

For years, there have been challenges in the donation processes for health products for neglected tropical diseases (NTDs). Unsuccessful attempts have been made to resolve them. Through a series of meetings held at the World Health Organization (WHO) from April through June 2023, and in conjunction with the functional review of the Global NTD Programme, many issues were raised by key NTD drug donation stakeholders. Items of particular concern relate to weaknesses in the drug donation ordering process and supply chain management of donated medicines; these shortcomings contribute to drug wastages, inefficient drug production (stock-outs and overstocks), increasing programme costs and causing delays in getting drugs into country in time for mass drug administration campaigns. Without addressing these issues, there is broad agreement that serious and growing risks will accrue to existing and future progress against NTDs.

Dr Ibrahima Socé Fall, Director, Global NTD Programme, has committed to ensuring that WHO will prioritize addressing these weaknesses in the system. Dr Fall committed to the creation of a Global Oversight Committee to enable multi-stakeholder decision-making processes built on accountability and transparency. He tasked members of the WHO team to work with partners to create a Global Oversight Committee for improved coordination. A draft concept note for the Global Oversight Committee has been developed based on the discussions at the April and June 2023 meetings and refined through subsequent consultations with stakeholders.

The Supply Chain Technical Support Mechanism for NTD Programs (SCTSM) is a five-year project (November 2023 to October 2028), funded by the Bill & Melinda Gates Foundation, that will collaborate with country NTD programmes, WHO at global, regional and country levels, manufacturers, funding and implementation partners to improve NTD supply chains in Africa, with a focus on eight priority countries. It will be responsive to the nascent Global Oversight Committee identified above. By aligning with industry best practices for supply and demand management, the SCTSM aims to support delivery of the NTD road map, address
supply chain bottlenecks, and ensure timely availability and reduced wastage of donated preventive chemotherapy medicines in NTD programmes, in the countries it supports.

**Purpose of meeting**

Day 1: Convene key stakeholders to co-design and finalize the NTD Global Oversight Committee.

Day 2: Launch and introduce the new NTD Supply Chain Technical Support Mechanism.

**Objectives**

**Day 1**

1. Review and build consensus on the terms of reference for the Global Oversight Committee.

2. Develop priority short- and long-term actions for the Global Oversight Committee.

**Day 2**

3. Launch the new Supply Chain Technical Support Mechanism and clarify how it will support and interact with the Global Oversight Committee.

4. Clarify the objectives and approach of the Supply Chain Technical Support Mechanism.

5. Gather inputs on country collaborative scoping and planning methodology and forecasting approach.

6. Identify opportunities for collaboration and coordination.

**Outputs/deliverables**

1. Final terms of reference for the Global Oversight Committee.

2. Finalized RACI (Responsible, Accountable, Consulted and Informed) principles for the Global Oversight Committee to support and promote outcome-oriented accountability and codify standards for action and communication by all stakeholders.

3. List of metrics of success for the Global Oversight Committee.

## Day 1: Thursday 18 January 2024

<table>
<thead>
<tr>
<th>Time</th>
<th>Session objectives</th>
<th>Moderator</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00–09:15</td>
<td>Welcome and objectives</td>
<td>C. Ducker</td>
<td>C. Ducker</td>
</tr>
<tr>
<td></td>
<td>Set expectations for the next 2 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:15–09:45</td>
<td>Opening remarks</td>
<td>C. Ducker</td>
<td>I. S. Fall</td>
</tr>
<tr>
<td>09:45–10:30</td>
<td>TOR and governance of GOC mechanism</td>
<td>C. Ducker</td>
<td>WHO/</td>
</tr>
<tr>
<td></td>
<td>Discussion</td>
<td></td>
<td>L. Leonard</td>
</tr>
<tr>
<td></td>
<td>Clarify what GOC is and is not</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30–11:00</td>
<td>Coffee break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00–12:00</td>
<td>Discussion in breakout groups</td>
<td>C. Ducker</td>
<td>J. Waltz</td>
</tr>
<tr>
<td></td>
<td>• RACI</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• List of metrics of success (KPIs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gather inputs on RACI and KPIs for GOC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00–13:00</td>
<td>Readout from breakout groups with discussion</td>
<td>C. Ducker</td>
<td>J. Waltz</td>
</tr>
<tr>
<td>13:00–14:00</td>
<td>Lunch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00–15:30</td>
<td>Real-life scenarios Discussion</td>
<td>P. Smith</td>
<td>WHO/</td>
</tr>
<tr>
<td></td>
<td>Determine how GOC will handle real-life scenarios</td>
<td></td>
<td>P. Smith</td>
</tr>
<tr>
<td></td>
<td>Coffee break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00–17:00</td>
<td>Finalization of GOC and statements from partners</td>
<td>P. Smith</td>
<td>C. Ducker/</td>
</tr>
<tr>
<td></td>
<td>Reach consensus on GOC TORs, way forward, next steps</td>
<td></td>
<td>P. Smith</td>
</tr>
<tr>
<td>Time</td>
<td>Session objectives</td>
<td>Moderator</td>
<td>Facilitator</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>09:00–09:15</td>
<td>Launch of SCTSM</td>
<td>E. Juma</td>
<td>I. S. Fall</td>
</tr>
<tr>
<td>09:15–09:45</td>
<td>Background on SCTSM (invite questions on post-its)</td>
<td>Reiterate GOC objectives/ key responsibilities Why the SCTSM is needed and how it has been co-designed</td>
<td>E. Juma</td>
</tr>
<tr>
<td>9:45–10:15</td>
<td>Presentation and large group discussion Objectives and approach of SCTSM</td>
<td>Provide an overview of the SCTSM, what it will and will not do</td>
<td>E. Juma</td>
</tr>
<tr>
<td>10:15–11:00</td>
<td>Large group discussion: (collect post-its) How GOC and SCTSM will work together</td>
<td>Gather inputs on how GOC and SCTSM will work together</td>
<td>E. Juma</td>
</tr>
<tr>
<td>11:00–11:30</td>
<td>Coffee break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30–12:15</td>
<td>Interactive session • Priorities for SCTSM • 2024 plan • Discussion of feedback</td>
<td>Gain input on stakeholder priorities for the SCTSM</td>
<td>E. Juma</td>
</tr>
<tr>
<td>12:15–13:00</td>
<td>Discussion in breakout groups: • Review country scoping and planning methodology • 20 min group discussion • 20 min report out to plenary</td>
<td>Gather inputs on methodology for rapid scoping to inform planning in each priority country</td>
<td>E. Juma</td>
</tr>
<tr>
<td>13:00–14:00</td>
<td>Lunch break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00–14:30</td>
<td>• Presentation on forecasting approaches and challenges to date (short- and long-term) • (HQ and ESPEN joint presentation)</td>
<td>Provide an overview of existing forecasting efforts</td>
<td>L. Leonard</td>
</tr>
</tbody>
</table>
### Day 2: Friday 19 January 2024

<table>
<thead>
<tr>
<th>Time</th>
<th>Session objectives</th>
<th>Moderator</th>
<th>Facilitator</th>
</tr>
</thead>
</table>
| 14:30–15:30   | Presentation with discussion (SCTSM)  
Forecasting terminology, methodologies, approaches  
How SCTSM will address existing challenges (short- and long-term)  
Discussion | Establish understanding of forecasting terminology, approaches, and opportunities for collaboration | L. Leonard | JSI (L. Akhlaghi)         |
| 15:30–16:00   | Coffee break                                                                       |           |                           |
| 16:00–17:00   | Next steps and closing session                                                      | Outline key take-aways from the day and next steps   | L. Leonard | WHO/JSI                   |

ESPEN: Expanded Special Project for Elimination of Neglected Tropical Diseases; GOC: Global Oversight Committee; HQ: headquarters (WHO); KPI: key performance indicator; SCTSM: Supply Chain Technical Support Mechanism; TOR: terms of reference; WHO: World Health Organization.
Annex 3. List of participants

**Country representatives of neglected tropical disease (NTD) programmes**

**Botswana**
Tuduetso Molefi*, NTD Programme Manager, Gaborone

**Democratic Republic of the Congo**
Pitchouana Awaca Uvon, NTD Programme Manager, Kinshasa

**Ethiopia**
Fikre Siefe, NTD Programme Manager, Addis Ababa

**Kenya**
Wyckliff Omondi, NTD Programme Manager, Nairobi

**Madagascar**
José Alphonse Nely, NTD Programme Manager, Antananarivo

**Mozambique**
Henis Sitoe, NTD Programme Manager, Maputo

**Nigeria**
Nseobong Akpan, NTD Programme Manager, Abuja

**Senegal**
Ndanye Mbacke Kane, NTD Programme Manager, Dakar

**Uganda**
Alfred Mubangizi, NTD Programme Manager, Kampala
United Republic of Tanzania
Fatma Kabole**, NTD Programme Manager, Zanzibar
George Kabona, NTD Programme Manager, Dodoma

Partners

Bill & Melinda Gates Foundation
Simon Brooker, Seattle, United States of America
Christy Hanson, Seattle, United States of America
Lungi Okoko, Seattle, United States of America
Julia Velasco, Seattle, United States of America

The Carter Center
Gregory Noland, Atlanta, United States of America

Clinton Health Access Initiative
Theodooor Visser (representing T. Matika on site)
Sebastian Ilomuanya*
Tafadzwa Matika*

The END Fund
Caroline Karutu, New York (NY), United States of America
Louise Makau-Barasa*, New York (NY), United States of America

FHI 360
Kisito Ogoussan, Durham (NC), United States of America

InSupplyHealth
Matiko Machagge, Dar es Salaam, United Republic of Tanzania

John Snow, Inc.
Laila Akhlaghi, Arlington (VA), United States of America
Sarah Andersson, Arlington (VA), United States of America

Mectizan Donation Program
Yao Sodahlon, Decatur (GA), United States of America

RTI
Laura Friedman, Durham (NC), United States of America
Andrew Kyambadde*, Durham (NC), United States of America
Upendo Mwingira*, Durham (NC), United States of America
Lisa Rotondo**, Durham (NC), United States of America
Standard Co
T.J. Muehleman, Seattle (WA), United States of America

The Taskforce for Global Health
Cassandra Holloway, Decatur (GA), United States of America
Carla Johnson, Decatur (GA), United States of America

Unlimit Health
Lynsey Blair, London, United Kingdom of Great Britain and Northern Ireland

United States Agency for International Development
Penny Smith, Washington (DC), United States of America
Ploi Swatdisuk**, Washington (DC), United States of America

Pharmaceutical companies

Bayer
Ulrich-Dietmar Madeja, Berlin, Germany

Eisai
Alison Jordan, Tokyo, Japan
Kyoko Nakano, Tokyo Japan

GlaxoSmithKline
Tijana Williams, London, United Kingdom of Great Britain and Northern Ireland

Johnson & Johnson
Lynn Leonard, Raritan (NJ), United States of America
Shirley Sylvester, Raritan (NJ), United States of America

Merck
Marilyn Mainardi*, Rahway (NJ), United States of America

Merck Group
Jan Klauenfluegel*, Darmstadt, Germany
Johannes Waltz, Darmstadt, Germany
Willemijn Zaadnoordijk, Darmstadt, Germany

Novartis
Su Bin Yu*, Basel, Switzerland
Annex 3. List of participants

**Pfizer**
Cinthya Ramirez, Nyon, Switzerland
Julie Jensen**, New York (NY), United States of America

**Sanofi**
Philippe Neau**, Paris France

**World Health Organization**
Hye Lynn Choi, Prequalification of Medicines Programme, Geneva, Switzerland
Daniel Argaw Dagne,** Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Abdulai Daribi,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Camilla Ducker, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Bocar Diop,** WHO Regional Office for Africa, ESPEN, Brazzaville, Democratic Republic of the Congo
Dmitry Esin,** Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Ibrahima Socé Fall, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Albis Francesco Gabrielli,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Amadou Garba, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Abdikadir Hassan,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Xiaoxian Huang,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Saurabh Jain,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Elizabeth Juma, WHO Regional Office for Africa, ESPEN, Brazzaville, Democratic Republic of the Congo
Jonathan King, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Tuan Le Ahn, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Pamela Sabina Mbabazi,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Alexei Mikhailov,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Jose Ramon Franco Minguell,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Denise Mupfasoni, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Olatunde Oladimeji,** WHO Regional Office for Africa, ESPEN, Brazzaville, Democratic Republic of the Congo
Jorge Cano Ortega, WHO Regional Office for Africa, ESPEN, Brazzaville, Democratic Republic of the Congo
Priya Pathak,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Prabha Rajamani,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Maria Rebollo Polo, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Dieudonné Sankara,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Anthony Solomon, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Afework Tekle, Global Neglected Tropical Diseases Programme, Geneva, Switzerland
Qingxia Zhong,* Global Neglected Tropical Diseases Programme, Geneva, Switzerland

* Participated online
** Invited but unable to attend.
Annex 4. Global Oversight Committee: draft terms of reference

Purpose and scope

- To oversee and facilitate the effective management of medicine donations for neglected tropical diseases (NTDs) globally.
- To address and resolve longstanding challenges in the donation process identified through meetings and reviews conducted by the WHO Global NTD Programme.
- To promote alignment of and efficient and effective implementation of NTD investments (e.g. financial, in-kind, programmatic, management) in the delivery of the NTD road map 2021–2030.

Roles and responsibilities

These include, but are not limited to:

- Strategic oversight: Provide strategic guidance and oversight to ensure the effective and efficient distribution of medicine donations.
- Policy development: Contribute to the formulation and revision of policies related to NTD medicine donations.
- Coordination and collaboration: Enhance coordination among stakeholders, including donors, recipient countries and implementing partners.
- Problem resolution: Identify and address challenges in the medicine donation programmes, and propose and implement solutions.
- Monitoring and evaluation: Regularly monitor and evaluate the effectiveness of the medicine donation programme and suggest improvements.
- Advocacy and communication: Serve as champions for the Global NTD Programme, and advocate for effective medicine donation practices and transparent communication among all stakeholders.
- Forum provision: Create a space for all stakeholders to openly address any issues pertaining to supply chain management and connected areas,
as they arise, including cross-connection of treatment/medicines and epidemiological impact.

**Membership**

- Represent a diverse range of geographical regions and stakeholders involved in the NTD medicine donation process.
- Comprise experts and representatives from relevant fields, including public health, pharmaceuticals, logistics and international development:
  - World Health Organization (WHO) and pharmaceutical company representatives as Co-chairs
  - WHO across all three levels, may include members of staff from:
    - headquarters
    - regional Offices as needed according to the agenda of the meeting
    - country offices as needed according to the agenda of the meeting
  - Experts in NTDs, procurement, logistics and other technical areas as relevant
  - Relevant government bodies (e.g. medicine regulation agencies, import authorities and medicine management agencies)
  - Pharmaceutical companies
  - Implementing donors and partners
  - National health ministry representatives of NTD-endemic Member States and their partners as needed according to the agenda of the meeting
- WHO will serve as the secretariat of the Committee.

**Meetings and reporting**

- Convene regular meetings to discuss progress, challenges and strategies.
- Publish agendas in advance of meetings.
- Prepare and circulate outputs summarizing activities, decisions and recommendations to the Global NTD Programme after meetings.
- Determine participation at meetings based on agenda topics.

**Duration of appointment**

- Members will be appointed for a term to be determined, with the possibility of reappointment based on performance and needs of the Committee.
- Co-chairs will rotate annually (WHO and pharmaceutical company representatives).
Conflict of interest

• All members must complete the WHO declaration of interest form before meetings, disclose any potential conflicts of interest and abstain from decisions where a conflict exists.

This draft serves as a foundational guide for the roles and expectations of the members of the Global Oversight Committee. The specific details and responsibilities may be further refined in consultation with WHO and relevant stakeholders.
### Scenario 1: National NTD Programme from Country X routinely submits its JAP late and incomplete, causing delays in PO approvals by frequent ESPEN attempts to collect the information needed. What could be GOC’s response to address this issue, knowing that this body does not have the authority to compel national programmes to submit their reports?

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Ideal GOC response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1</strong>: National NTD Programme from Country X routinely submits its JAP late and incomplete, causing delays in PO approvals by frequent ESPEN attempts to collect the information needed. What could be GOC’s response to address this issue, knowing that this body does not have the authority to compel national programmes to submit their reports?</td>
<td>This could have short-term and longer-term solutions for the NTD programme manager and stakeholders to resolve. Key contributions may include competing campaigns, a lack of availability of data for treatment and low human resources capacity to fill because of high staff turnover. However, many countries have challenges with time, human resources and the timely collection of data, and manage to submit a complete JAP. GOC may convene a virtual meeting with ESPEN, the Country X NTD programme manager, relevant NTD programme staff and implementing partners to discuss key challenges with timely and complete submissions, understanding the rationale for the delays at country level and seeing what support is needed, while also stressing the impact of these delays. From that discussion, GOC could suggest the development of a joint action plan and timetable with the stakeholders to submit outstanding data now and to prevent delayed submissions in the future.</td>
</tr>
</tbody>
</table>
Scenario 2: A persistent challenge is the lack of visibility of expiring stock. Countries W, X and Y have informed WHO that they each have between 1–5 million tablets of a medicine expiring in 2–3 months. MDA just occurred in the past few months with good coverage, so it may not be feasible for donors to support an ad hoc MDA.

What would your group propose as solutions to prevent these situations from occurring? Consider also why and how there is so much stock left over in the first place.

What, if anything, do you think GOC’s role should be in this situation? Recall that GOC includes donating pharmaceutical companies, WHO and donors.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Ideal GOC response</th>
</tr>
</thead>
</table>
| There are two areas to consider: how to respond to the situation now, and how to prevent it in the future. Responding to the immediate need of expiring medicines:
GOC recognizes that scheduling an ad hoc MDA to use up expiring stock is not necessarily feasible for programme donors, nor is transferring the medicines to another country in time to be used; therefore, GOC could recommend (where allowed by the donating pharmaceutical company), that the medicines be donated to government health clinics for appropriate use. The pharmaceutical company would likely need to approve this request, which WHO and the GOC could facilitate.
| Responding to the immediate need of expiring medicines: GOC recognizes that scheduling an ad hoc MDA to use up expiring stock is not necessarily feasible for programme donors, nor is transferring the medicines to another country in time to be used; therefore, GOC could recommend (where allowed by the donating pharmaceutical company), that the medicines be donated to government health clinics for appropriate use. The pharmaceutical company would likely need to approve this request, which WHO and the GOC could facilitate.
| GOC may also seek to set performance standards, especially for a country where expiring donated stock is a repeated problem, to determine whether additional oversight of drug management is needed. Additional data would be required before making such a decision.
| Longer term planning for prevention, as it is unacceptable for donated stocks to expire given their relatively long shelf-lives.
| GOC can leverage its expertise to build a decision tree to determine the best path options forward on type of medicine, volume, etc., akin to an SOP.
| GOC could work with ESPEN, the SCTSM project, the Supply Chain Forum, NTD programmes and implementers to:

determine the reasons for overstocks in the country (whether situational or persistent), which may include poor forecasting, lack of visibility of expiring stock, reverse logistics;

develop/adapt monitoring tools to track expiring stock with sufficient time for decision-making prior to expiry (including existing expiry alarms); and

work to better quantify and forecast medicine needs to prevent overstocks.

GOC may also seek to set performance standards, especially for a country where expiring donated stock is a repeated problem, to determine whether additional oversight of drug management is needed. Additional data would be required before making such a decision.

Longer term planning for prevention, as it is unacceptable for donated stocks to expire given their relatively long shelf-lives.

GOC can leverage its expertise to build a decision tree to determine the best path options forward on type of medicine, volume, etc., akin to an SOP.

GOC could work with ESPEN, the SCTSM project, the Supply Chain Forum, NTD programmes and implementers to:

determine the reasons for overstocks in the country (whether situational or persistent), which may include poor forecasting, lack of visibility of expiring stock, reverse logistics;

develop/adapt monitoring tools to track expiring stock with sufficient time for decision-making prior to expiry (including existing expiry alarms); and

work to better quantify and forecast medicine needs to prevent overstocks.
Scenario 3: A persistent challenge is the lack of visibility of expiring stock. Countries W, X and Y have informed WHO that they each have between 1–5 million tablets of a medicine expiring in 6–8 months. MDA has just occurred, and the country will not be due for another round before the medicines expire. It may not be feasible for donors to support an ad hoc MDA.

What would your group propose as solutions to prevent these situations from occurring? Consider also why and how there is so much stock leftover in the first place.

What, if anything, do you think GOC’s role should be in this situation? Recall that GOC includes donating pharmaceutical companies, WHO and donors.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Ideal GOC response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 3</td>
<td>There are two areas to consider: how to respond to the situation now, and how to prevent it in the future. Responding to the immediate need of expiring medicines: Avoiding waste is the priority, as well as reaching people in need. If feasible, GOC could encourage (where allowed by the donating pharmaceutical company) the transfer of stock to a neighbouring country with a confirmed need for additional stock. The mechanism of the transfer would need to be agreed upon by the two countries, potentially with the support of their implementing partners and WHO. GOC recognizes that scheduling an ad hoc MDA to use up expiring stock is not necessarily feasible; therefore, GOC could recommend (where allowed by the donating pharmaceutical company) that the medicines be donated to government health clinics for appropriate use, including for other age groups. The pharmaceutical company would likely need to approve this request, which WHO and GOC could facilitate. GOC may also seek to set performance standards, especially for a country where expiring donated stock is a repeated problem, to determine whether additional oversight of drug management is needed. Additional data would be required before making such a decision. Longer term planning for prevention of expired donated stock: GOC may work to create an SOP for transfer of donated, eligible stock between countries. GOC could work with ESPEN, the SCTSM project, the Supply Chain Forum, NTD programmes and implementers to: determine the reasons for overstocks in the country (whether situational or persistent), which may include poor forecasting, lack of visibility of expiring stock, reverse logistics; develop/adapt monitoring tools to track expiring stock with sufficient time for decision-making prior to expiry (including existing expiry alarms); and work to better quantify and forecast medicine needs to prevent overstocks.</td>
</tr>
</tbody>
</table>
### Scenario 4: Country W does not monitor its NTD medicine inventory outside of post-MDA reverse logistics, missing opportunities for decision-making around medicines that may expire before the next scheduled MDA.

What approaches would your group use to encourage more frequent monitoring of stocks and decision-making to avoid expiries, with only the resources available now in country?

What, if anything, do you think GOC’s role should be in this situation? Recall that GOC includes donating pharmaceutical companies, WHO and donors.

First, GOC recognizes that conducting physical inventory counts are time-consuming and potentially expensive, and that good stewardship of donated stock is everyone’s responsibility. GOC aims to provide oversight more than policing, so some suggestions GOC might make include:

- Use of phone calls and SMS by those working at/near the storage facilities to provide periodic updates and information on pending expiries to the national programme, which would be more cost effective and quicker outside of established reporting systems which may not happen frequently enough; and
- Encouraging the NTD programme to create and use standards of oversight (e.g. NTDeliver expiry alarm as a reminder to check stocks on hand and verify whether received batches have been distributed or are still planned for distribution).

Second, GOC could recommend that each national NTD programme and its implementing partners include stock-on-hand data in its regular meeting agendas (no need for a separate meeting on this) and include decision-making and action steps on stock that may expire before it can be used in a planned MDA.

Third, the stock data and decisions should be shared with WHO/ESPEN to assist in facilitating the transfer of expiring medicines (as applicable).

### Scenario 5: Country A has conducted surveys in 15 districts, showing clear prevalence reductions in at least one disease. Additional surveys in other areas are planned.

What steps are needed for WHO to create accurate long- and short-term forecasts knowing this information?

What other information is needed?

How can WHO look 2–3 years ahead to provide longer-term forecasts to pharmaceutical companies?

Having current as well as historical data in the ESPEN portal is crucial for WHO to make accurate forecasts for the donating pharmaceutical companies. This responsibility rests with the country, with support provided by WHO and implementing partners.

There are decision points to stopping MDA, typically in accordance with WHO guidelines, which may require wider discussion. GOC could help facilitate discussions with NTD programmes, WHO disease focal points and implementing partners to ensure all are aware and have consensus with country decision-making about whether to continue or stop MDA. Different stakeholders will have different priorities which need to be taken into account; GOC’s main priority is to ensure the right target audiences receive the donated medicines, in accordance with WHO guidelines.

Proactively, countries and WHO should have awareness of when surveys are planned and the likelihood of the districts in reaching stop-MDA status. With that, they should be able to look ahead 2–3 years to reduced need for donated medicines.
### Scenario 6: Country J is working towards NTD programme sustainability, including integration into its HMIS and LMIS. The HMIS and LMIS leadership require that they take over the JAP and drug management processes, creating concerns of cutting the NTD programme out of their programme.

What actions would the NTD programme need to take in this situation?

What could be GOC’s role here, if any?

**Ideal GOC response**

A situation like this would need to allow for internal operational discussions within the country, where needs/strategy may be unique. However, where the NTD programme needs support, the WHO country office would be better placed to help negotiate, escalating to the WHO regional office, WHO headquarters and then GOC, as needed. GOC could help with coordination as needed and visibility on the issue to ensure it is addressed but need not play an integral role.

All would need to recognize that eLMIS solutions that integrate into national programmes will be a key tool to support drug management.

All also need to consider the importance of disease management integration across sectors (e.g. schools delivering MDA to SAC) per country sustainability planning to ensure NTDs continued to be addressed.

### Scenario 7: WHO has recently approved 10 country orders for one medicine, totalling 175 million tablets. They all want the shipment to arrive by March–April and the donating pharmaceutical company cannot produce and ship that amount in time.

How would you propose to solve this problem?

How could GOC assist in this?

**Ideal GOC response**

It is important for all stakeholders to recognize that lead times for production are at least 6–9 months so forecasts must be completed at least 12 months in advance. To this specific problem, various options can be considered by the pharmaceutical company, potentially with advice from GOC, including:

- partial delivery to each country, with the assumption that no country is using all of its stock immediately;
- prioritization of countries based on current MDA plan and stock-on-hand viability; and
- looking to neighbouring countries with excess stock that could transfer stock and be repaid in-kind with a future delivery.

This would benefit from visibility into cross-country inventory; other programmes may have software that can be adapted for NTD needs, which GOC can explore.

---

eLMIS: electronic logistics management information system; ESPEN: Expanded Special Project for Elimination of Neglected Tropical Diseases; GOC: Global Oversight Committee; HMIS: health management information system; JAP: Joint Application Package; LMIS: logistics management information system; MDA: mass drug administration; NTD: neglected tropical disease; PO: purchase order; SAC: school-aged children; SCTSM: Supply Chain Technical Support Mechanism; SOP: standard operating procedure.
## Annex 6. Supply Chain Compass: list of questions

<table>
<thead>
<tr>
<th>Area 1 of 6: Strategic planning and performance management</th>
<th>Ad hoc</th>
<th>Ad hoc</th>
<th>Organized</th>
<th>Organized</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td># Question</td>
<td>(To become organized)</td>
<td>(To become organized)</td>
<td>(To become integrated)</td>
<td>(To become integrated)</td>
<td>(To sustain integration)</td>
</tr>
<tr>
<td>1</td>
<td>An NTD supply chain strategy provides a long-term vision of the NTD supply chain design, oversight and performance monitoring</td>
<td>Strategy has not been developed</td>
<td>Strategy is being developed</td>
<td>Strategy has been developed and incorporates some key actors, activities and levels</td>
<td>Strategy has been developed, consistently incorporates most key actors, activities and levels, and has been adequately resourced (financial and human)</td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>2</td>
<td>Key performance indicators are used to monitor, communicate and improve NTD supply chain performance</td>
<td>Indicators have not been defined</td>
<td>Indicators are being defined</td>
<td>Indicators have been defined for some supply chain activities and implemented by some key actors at various levels</td>
<td>Indicators have been defined, implemented, and evaluated for all supply chain activities and shared among all key actors and levels to help make supply chain management decisions and are periodically updated to reflect changing environmental conditions and objectives</td>
</tr>
<tr>
<td></td>
<td>Sufficient budget for NTD supply chain strengthening activities (e.g. human resources, capacity-building, information systems) is determined, allocated, and effectively disbursed and expended</td>
<td>Budget has not been determined or allocated</td>
<td>Budget is being determined and allocated</td>
<td>Budget has been allocated and expended to cover the cost of some supply chain activities at various levels</td>
<td>Budget has been allocated, expended to cover the cost of all supply chain activities at all levels (central, regional, district, and/or municipal) and can be adapted and quickly mobilized to address changing supply chain challenges as they arise</td>
</tr>
</tbody>
</table>
4. A coordinating body, including key actors across sectors (e.g. donors, MOH, NGOs, commercial partners) can support coordinated efforts to improve product availability and respond effectively to supply chain challenges.

<table>
<thead>
<tr>
<th>Area of 2 of 6: Information management information systems</th>
<th>Ad hoc</th>
<th>Ad hoc</th>
<th>Organized</th>
<th>Organized</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td># Question</td>
<td>(To become organized)</td>
<td>(To become organized)</td>
<td>(To become integrated)</td>
<td>(To become integrated)</td>
<td>(To sustain integration)</td>
</tr>
<tr>
<td>1. Real-time NTD supply chain data from all levels is managed using a reliable information management system (eLMIS) and are integrated with other relevant tools</td>
<td>Tools for collecting data have not been designed</td>
<td>Tools for collecting data are being designed</td>
<td>Tools for collecting data have been designed, implemented for some supply chain activities, actors and levels via automated processes</td>
<td>Tools for collecting data have been designed, implemented and integrated for most supply chain activities, actors and levels via automated processes</td>
<td>Tools for collecting data have been designed, implemented and integrated for all supply chain activities, actors and levels via automated processes, and are routinely updated to respond to changing environmental conditions and supply chain objectives</td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>2</td>
<td>LMIS data are reported consistently in a complete, timely and accurate manner, and are available to the personnel making NTD supply chain decisions</td>
<td>Data are not collected</td>
<td>Data are starting to be collected</td>
<td>Data are available and timely from some NTD supply chain actors, activities and levels</td>
<td>Data are consistently available and timely from most supply chain actors, activities and levels, and are used to make supply chain operational management decisions</td>
</tr>
<tr>
<td>3</td>
<td>Key performance indicators are used to monitor, communicate and improve performance of LMISs</td>
<td>Indicators have not been defined</td>
<td>Indicators are being defined</td>
<td>Indicators have been defined for some activities and implemented by some key actors at various levels</td>
<td>Indicators have been defined, implemented, evaluated and are routinely updated to reflect changing environmental conditions and supply chain objectives for all activities, and data are shared among all key stakeholders at various levels</td>
</tr>
</tbody>
</table>

Indicators have been defined, implemented, evaluated and are routinely updated to reflect changing environmental conditions and supply chain objectives for all activities, and data are shared among all key stakeholders at various levels.
<table>
<thead>
<tr>
<th></th>
<th>Ad hoc</th>
<th>Ad hoc</th>
<th>Organized</th>
<th>Organized</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>NTD supply chain data; Key performance indicators are regularly reviewed during routine meetings to make supply chain decisions and address supply chain challenges, and actions are taken.</td>
<td>No supply chain data are reviewed during routine meetings</td>
<td>Procedures for routinely reviewing supply chain data are being defined</td>
<td>Some NTD supply chain data and key performance indicators are regularly reviewed during occasional routine meetings; some decisions are made and actions are taken</td>
<td>Most NTD supply chain data and key performance indicators are regularly reviewed during occasional routine meetings, and decisions are made and most actions are taken to improve the supply chain.</td>
</tr>
<tr>
<td>5</td>
<td>High-quality and complete NTD supply chain data are available for completing the JRSM (stock data).</td>
<td>No supply chain data are available for JRSM.</td>
<td>Procedures for collecting supply chain data are being defined</td>
<td>Some NTD supply chain data are available in timely way and used for completing the JRSM</td>
<td>Most NTD supply chain data are available in a timely way and are used to complete the JRSM</td>
</tr>
</tbody>
</table>
### Area 3 of 6: Human resources

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Ad hoc</th>
<th>Ad hoc</th>
<th>Organized</th>
<th>Organized</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>(To become organized)</em></td>
<td><em>(To become organized)</em></td>
<td><em>(To become integrated)</em></td>
<td><em>(To become integrated)</em></td>
<td><em>(To sustain integration)</em></td>
</tr>
<tr>
<td>1</td>
<td>Staff filling positions with NTD supply chain responsibilities receive training (e.g. in-service, mentoring, distance) designed to build knowledge, skills and abilities</td>
<td>Training does not exist</td>
<td>Training is being developed</td>
<td>Training is developed, linked to supply chain knowledge, skills and abilities, and is administered and available to some workers</td>
<td>In-service training is developed, linked to supply chain knowledge, skills, and abilities, and is administered and available to most workers who manage various supply chain activities and levels</td>
<td>Pre- and in-service training is developed, linked to supply chain knowledge, skills, and abilities, is administered and available to all workers who manage various supply chain activities and levels, and is routinely updated to respond to changing environmental conditions and objectives</td>
</tr>
<tr>
<td>2</td>
<td>Performance of staff with NTD supply chain responsibilities is assessed annually in a fair and consistent manner according to standard operating procedures and stated competencies</td>
<td>Methods for assessing performance have not been developed</td>
<td>Methods for assessing performance are being developed</td>
<td>Competency-based methods for assessing performance have been established, implemented and linked to training opportunities and career growth for some supply chain actors</td>
<td>Competency-based methods for assessing performance have been established, implemented and linked to training opportunities and career growth for most supply chain actors</td>
<td>Competency-based methods for assessing performance have been established, implemented and linked to training opportunities and career growth for all supply chain actors, and are updated to respond to changing environmental conditions and objectives</td>
</tr>
<tr>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>There is an adequate number of qualified personnel operating and managing NTD supply chain functions</td>
<td>A workforce plan has not been developed, and positions are mainly vacant and/or staffed with unqualified personnel</td>
<td>A workforce plan is being developed to link positions and competencies to supply chain goals and operations</td>
<td>A workforce plan has been developed and implemented, linking positions and competencies to supply chain goals and operations, and some positions are filled appropriately</td>
<td>A workforce plan has been developed, implemented and can be adapted to changing environmental conditions and objectives, and positions are filled appropriately for most supply chain actors and activities at various supply chain levels</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Incentives (financial or non-financial) are in place that encourage personnel performance to align with NTD supply chain goals</td>
<td>Incentives do not exist</td>
<td>An incentive plan is being developed and/or informal incentives exist</td>
<td>An incentive plan has been developed and implemented that links personnel performance to supply chain goals for some supply chain activities, actors and levels</td>
<td>An incentive plan has been developed, implemented and funded that links personnel performance to supply chain goals across most supply chain activities, actors and levels, and can be adapted to changing environmental conditions and objectives</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Question</td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Timing and order of activities, reporting and data management associated with forecasting and supply planning are defined</td>
<td>(To become organized)</td>
<td>(To become organized)</td>
<td>(To become integrated)</td>
<td>(To become integrated)</td>
<td>Forecasting and supply planning management process has been defined, implemented and integrated using automated tools by all supply chain actors at various levels and is routinely updated to respond to changing environmental conditions and supply chain objectives</td>
</tr>
<tr>
<td></td>
<td><strong>Forecasting and supply planning management process has not been defined</strong></td>
<td>Forecasting and supply planning management process is being defined</td>
<td>Forecasting and supply planning management process has been defined and implemented using some automated tools by some supply chain actors at various levels</td>
<td>Forecasting and supply planning management process has been defined and implemented using mostly automated processes and tools by most supply chain actors at various levels</td>
<td>Forecasting and supply planning management process has been defined and implemented using mostly automated processes and tools by most supply chain actors at various levels</td>
<td><strong>Forecasting and supply planning management process has been defined, implemented and integrated using automated tools by all supply chain actors at various levels and is routinely updated to respond to changing environmental conditions and supply chain objectives</strong></td>
</tr>
<tr>
<td>2</td>
<td>Key performance indicators are used to monitor, communicate and improve forecasting, supply planning and procurement</td>
<td>Indicators have not been defined</td>
<td>Indicators are being defined</td>
<td>Indicators have been defined for some activities and implemented by some key actors at various levels</td>
<td>Indicators have been defined, implemented and evaluated for most activities and shared among most key stakeholders at various levels to help make supply chain management decisions</td>
<td>Indicators have been defined, implemented, evaluated and are routinely updated to reflect changing environmental conditions and supply chain objectives for all activities and data is shared among all key stakeholders at various levels</td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Multi-year NTD medicine forecasts are implemented and used to inform annual medicine requests</td>
<td>A process for developing multi-year forecasts has not been developed</td>
<td>A process for developing multi-year forecasts is being developed</td>
<td>A process for developing multi-year forecasts has been developed and implemented; analysis is shared with some key actors at various levels</td>
<td>A process for developing multi-year forecasts has been developed, implemented, and routinely updated to adapt to changing environmental conditions and objectives; analysis is shared with all key actors at various levels; and all financing has been mobilized to cover estimated product needs</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Forecasts and supply plans are updated regularly with up-to-date demographic and logistics data</td>
<td>Process and tools for updating forecasts and supply plans have not been defined</td>
<td>Process and tools for updating forecasts and supply plans are being defined</td>
<td>Process and tools for updating forecasts and supply plans have been defined and implemented; updated plans are shared with some key actors at various levels</td>
<td>Process and tools for updating forecasts and supply plans have been defined, implemented, and optimized to address changing environmental conditions and objectives; updated plans are shared with all key actors at various levels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Timing and order of activities, reporting and information management associated with completing the JRSM are coordinated and submitted on time</td>
<td>JRSM completion and submission processes and tools have not been identified or defined</td>
<td>JRSM completion and submission processes and tools are being identified and defined</td>
<td>JRSM completion and submission have been defined, and implemented and coordinated with most supply chain actors (government and other partners)</td>
<td>JRSM completion and submission have been defined, implemented and coordinated with most supply chain actors (government and other partners)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>NTD medicines are cleared through customs and delivered to a designated national receipt point within 30 working days</td>
<td>Procedures for customs clearance of NTD medicines have not been defined</td>
<td>Procedures for customs clearance of NTD medicines are being defined</td>
<td>Procedures for customs clearance of NTD medicines have been defined and sometimes implemented</td>
<td>Procedures for customs clearance of NTD medicines have been defined and always implemented</td>
<td></td>
</tr>
</tbody>
</table>
### Area 5 of 6: Warehousing and inventory management

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Ad hoc (To become organized)</th>
<th>Ad hoc (To become organized)</th>
<th>Organized (To become integrated)</th>
<th>Organized (To become integrated)</th>
<th>Integrated (To sustain integration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information management tool is available to coordinate processes, reporting and data management associated with warehousing and inventory management</td>
<td>Tools for collecting data have not been designed</td>
<td>Tools for collecting data are being designed</td>
<td>Tools for collecting data have been designed and implemented for some activities, at various levels (central, regional, district and/or municipal), via automated processes</td>
<td>Tools for collecting data have been designed, implemented and integrated for most activities at various levels (central, regional, district, and/or municipal) via automated processes</td>
<td>Tools for collecting data have been designed, implemented and integrated for all activities at various levels (central, regional, district, and/or municipal) via automated processes and are routinely updated to respond to changing environmental conditions and supply chain objectives</td>
</tr>
<tr>
<td>2</td>
<td>Key performance indicators are used to monitor, communicate and improve performance of warehouse and inventory management</td>
<td>Indicators have not been defined</td>
<td>Indicators are being defined</td>
<td>Indicators have been defined for some activities and implemented by some key actors at various levels</td>
<td>Indicators have been defined, implemented and evaluated for most activities and shared among most key actors at various levels to help make supply chain management decisions</td>
<td>Indicators have been defined, implemented, evaluated and are routinely updated to reflect changing environmental conditions and supply chain objectives for all activities; data are shared among all key stakeholders at various levels</td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Adequate, high-quality storage space or warehousing that meets WHO standards is available at all levels and used for NTD supplies</td>
<td>Warehousing and storage management process and standards have not been defined</td>
<td>Warehousing and storage management process and standards are being defined</td>
<td>Warehousing and storage management process and standards have been defined and implemented by some supply chain actors at various levels</td>
<td>Warehousing and storage management process and standards have been defined and implemented by all supply chain actors at various levels and are routinely optimized to respond to changing environmental conditions and supply chain objectives</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Procedures for allocation of supplies to lower levels is defined, and quantities are calculated using demographic and logistics data, lead time and buffer stock</td>
<td>Inventory control procedures have not been defined</td>
<td>Inventory control procedures are being defined</td>
<td>Inventory control procedures have been defined and implemented by some supply chain actors at various levels</td>
<td>Inventory control procedures have been defined and implemented by all supply chain actors at various levels and are routinely updated to respond to changing environmental conditions and supply chain objectives</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Procedures are in place for collecting and reporting on remaining supplies post MDA and storing in adequate, high-quality storage until next MDA (reverse logistics)</td>
<td>Reverse logistic process has not been defined</td>
<td>Reverse logistic process is being defined</td>
<td>Reverse logistic process has been defined and implemented by some supply chain actors at various levels</td>
<td>Reverse logistic process has been defined and implemented by all supply chain actors at various levels and is routinely updated to respond to changing environmental conditions and supply chain objectives</td>
<td></td>
</tr>
</tbody>
</table>
## Area 6 of 6: Transportation

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Ad hoc</th>
<th>Ad hoc</th>
<th>Organized</th>
<th>Organized</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transportation procedures for NTD supplies are developed and documented</td>
<td>Transportation procedures for NTD supplies have not been defined</td>
<td>Transportation procedures for NTD supplies are being defined</td>
<td>Transportation procedures for NTD supplies have been defined and implemented by some supply chain actors at various levels</td>
<td>Transportation procedures for NTD supplies have been defined and implemented by most supply chain actors at various levels</td>
<td>Transportation procedures for NTD supplies and standards have been defined and implemented by all supply chain actors at various levels and are routinely optimized to respond to changing environmental conditions and supply chain objectives</td>
</tr>
<tr>
<td>2</td>
<td>Key performance indicators are used to monitor, communicate and improve transportation</td>
<td>Indicators have not been defined</td>
<td>Indicators are being defined</td>
<td>Indicators have been defined for some activities and implemented by some key actors at various levels</td>
<td>Indicators have been defined, implemented and evaluated for most activities and shared among most key actors at various levels to help make supply chain management decisions</td>
<td>Indicators have been defined, implemented and evaluated and are routinely updated to reflect changing environmental conditions and supply chain objectives for all activities; data are shared among all key stakeholders at various levels</td>
</tr>
<tr>
<td></td>
<td>Ad hoc</td>
<td>Ad hoc</td>
<td>Organized</td>
<td>Organized</td>
<td>Integrated</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Adequate and reliable transport are available when required to deliver NTD supplies</td>
<td>Adequate and reliable transport has not been identified and teams look for transport on an ad hoc basis</td>
<td>Adequate and reliable transport has been identified but not implemented</td>
<td>Adequate and reliable transport has been identified and implemented at some levels</td>
<td>Adequate and reliable transport has been identified and implemented at most levels</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sufficient funds are made available to operate transport when required to deliver NTD supplies including fuel and maintenance costs</td>
<td>Budget has not been determined or allocated</td>
<td>Budget is being determined and allocated</td>
<td>Budget has been allocated and extended to cover the cost of transportation at various levels</td>
<td>Budget has been allocated and extended to cover the cost of most transportation at all levels</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adequate and reliable transport has been identified and implemented at some levels</td>
<td>Adequate and reliable transport has been identified and implemented at most levels</td>
<td>Budget has been allocated and extended to cover the cost of all transportation at all levels and can be quickly mobilized to address changing NTD supply chain needs as they arise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

JRSM: Joint Request for Selected Medicines; KSA: knowledge, skills and abilities; KPI: key performance indicator; LMIS: logistics management information system; MOH: Ministry of Health or equivalent; NGO: nongovernmental organization; NTD: neglected tropical disease.