



**TechNet-21**  
The Technical Network for  
Strengthening Immunization Services



July 21st, 2022

# Management of Covid-19 vaccine expiry

Maricel Castro (WHO)  
Godiskine Attemenego (WHO)  
Zabihullah Kamran (UNICEF)  
Baboucarr Boye (UNICEF Sierra Leone)

# Agenda



Topic	Presenter	Time
WHO guidance on utilization of COVID-19 vaccines before the expiration date	Maricel CASTRO (WHO)	10 min
System for tracking COVID-19 vaccine supply, utilization and expiration, and use of data to guide decisions and technical assistance (TA)	Godiskine ATTEMENE (WHO)	10 min
A risk-based approach to mitigating risk of expiring COVID-19 vaccines	Zabihullah KAMRAN (UNICEF)	10 min
Example of country strategies in managing COVID-19 vaccine expiry	Baboucarr BOYE (UNICEF Sierra Leone)	10 min
Question and answer		20 min



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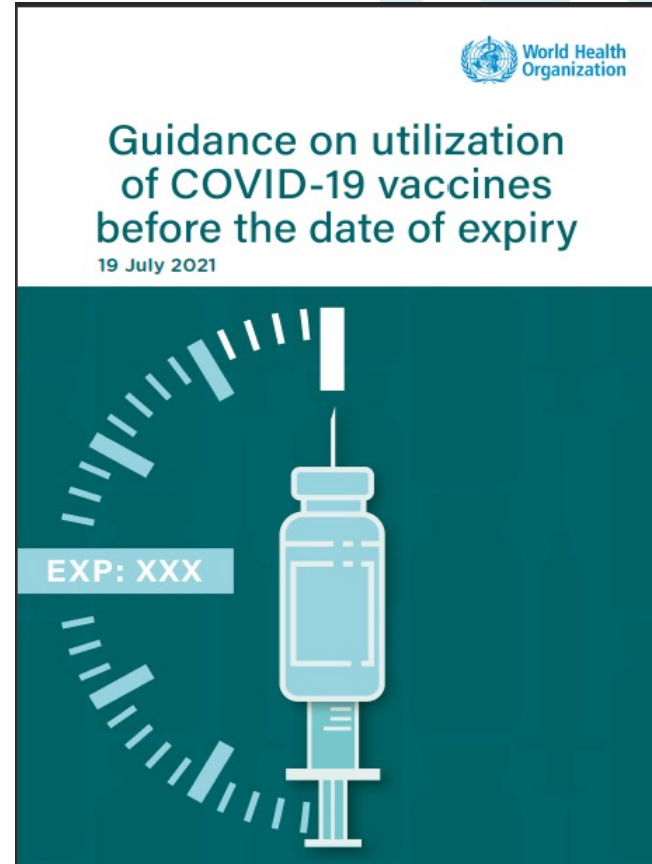


# WHO guidance on utilization of COVID-19 vaccines before the date of expiry

**Maricel de Quiroz-Castro**  
Vaccine Supply Chain and Logistics Team  
WHO HQ/IVB/EPI

## Overview

- The guidance primarily applies to products with a short shelf life - 6 months or shorter - on arrival in the country.
- Intended to guide decisions and actions of immunization managers at all levels, COVID-19 response national coordination committees, and partners.
- The guidance is available at the [COVID-19 vaccine introduction toolkit website](#).



# Key steps to ensure utilization of vaccine doses before the date of expiry



## Step 1

Use monitoring data to estimate capacity to utilize vaccines before expiry

## Step 2

Choose an appropriate strategy to enhance vaccine utilization

## Step 3

Estimate whether the choices made to accelerate utilization will result in consumption of the available vaccine doses before expiry

## Step 4

Monitor utilization rates and take corrective actions when required

# Step 1. Use monitoring data to estimate capacity to utilize vaccines before expiry



## Required monitoring indicators:

1. Number and geographical distribution of **functional vaccination sites**
2. Number/frequency of **sessions conducted** at each vaccination site
3. Average number of vaccine **doses administered per session** at each site (use average for last five sessions).
4. **Vaccine stock levels** – per product at different SC level
5. **Expiry date** of the available vaccine doses per lot
6. **Proportion of planned vaccinations administered** during each session –estimates the uptake of vaccine at the site (use average for last five sessions).

## Step 1.1. Estimate required utilization to consume all the doses 2 weeks before the expiry period

- Calculate the **number of days left** before the expiry date

**Formula:** *Labeled expiration date - the current date*

- Estimate the **required daily utilization rate** to use up the vaccine 14 days before expiry.

**Formula:** *No. vaccine doses in stock ÷ (no. days left to expiry - 14)*

- Estimate the required **weekly utilization rate** to use up the vaccine 14 days before expiry:

**Formula:** *Daily utilization rate × 7*



## Step 1.2. Estimate the current weekly vaccine utilization

- Calculate the weekly utilization of vaccines at each site.

**Formula:** *Average vaccinations administered per session (average of previous five sessions) × number of sessions conducted per week*

- Calculate the weekly utilization nationally

**Formula:** *sum of the weekly utilization of vaccine doses at each site*



## Step 1.3. Estimate if there is a deficit in utilization



If estimated weekly utilization rate to consume the vaccine  $\leq$  current weekly utilization



- Continue monitoring daily utilization rate at the district level.
- Weekly reporting to national level
- Assessing if any actions are required to accelerate utilization.

If estimated weekly utilization rate to consume the vaccine  $\geq$  current weekly utilization



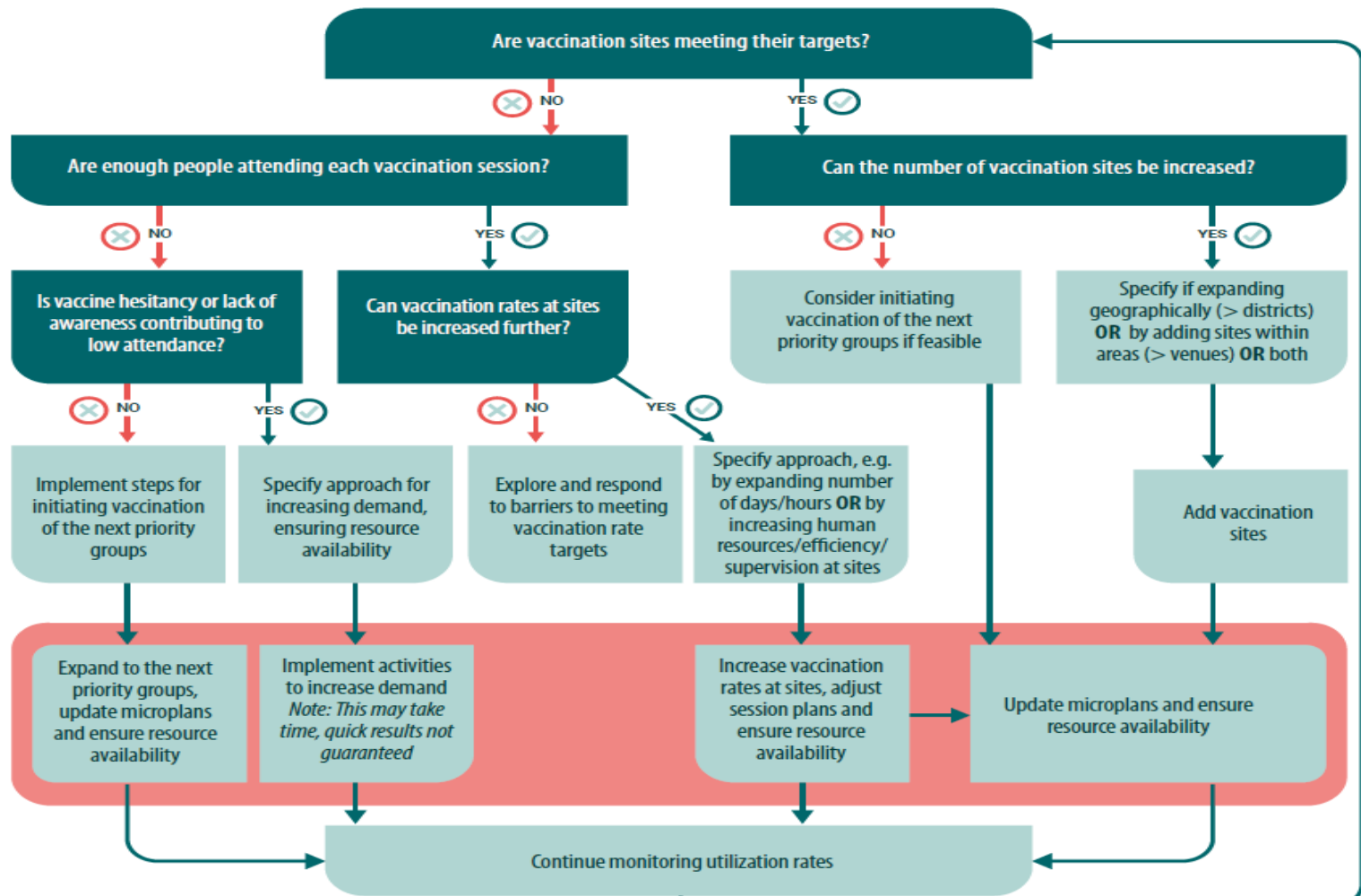
- Perform step 2 to explore the options for enhancing vaccine utilization.

## Step 2. Choose an appropriate strategy to enhance vaccine utilization



- Identifying the context why low utilization is experienced:
- Exploring available options to enhance vaccine utilization depending on the local context and the contributing factors to sub-optimal vaccine utilization

Decision tree to explore operational strategies and optimal solutions for enhancing vaccine utilization



## Additional factors important in making informed choices

- Always use first the product/batch that expires first (e.g. FEFO) unless there are logistical challenges in using the vaccines in certain geographies, interchangeability of products, or there are specific restrictions.
- Explore and address the potential causes of low uptake.
- Implement all efforts to address vaccine hesitancy and generate demand
- When selecting strategic approaches to accelerate utilization, make sure to:
  1. Map effort and resources required to implement each option and projected impact
  2. Choose options that have optimal balance between feasibility (based on available resources) and accelerated vaccine utilization
- Keep in mind the following guiding principles when selecting strategies to increase vaccine uptake:
  1. Maintaining focus on the primary objectives of COVID-19 vaccination
  2. Ensuring equitable vaccine distribution

### Step 3. Choose an appropriate strategy to enhance vaccine utilization



Once decisions on the strategic approach to accelerate vaccine utilization are made, but before implementation:

- **Review the projected utilization** based on the changes made using the planned vaccine administration rates and the formulae shown in Step 1.
- **Assess whether the projected utilization rate is adequate** to ensure consumption of all vaccine doses at least 2 weeks before the expiry date.
- **Assess availability of human and financial resources** to implement the changes.
- **Update the district and local microplans and session plans**, to reflect the changes and ensure that the required resources (supplies, human resources, finances) are distributed to the vaccination sites so they can meet session targets.
- **Communicate to all relevant stakeholders the adjustments** made in the microplans and session plans
- **Adjust vaccine shipment plans** accordingly at the national, regional and local levels.

## Step 4. Monitor utilization rates and take corrective actions when required



- District level should monitor utilization rate daily.
- Districts should report utilization rates to the national level either daily or weekly.
- Immediately report to the national level if the daily utilization rates indicate a sudden drop or there are reports of any issues that pose a risk for timely utilization.
- National level should review stock levels and utilization daily or weekly, and timely take actions to address inadequate utilization at any subnational level.
- Where necessary, consider redistribution of vaccine doses within the country to optimize utilization.



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# COVID 19 Vaccine Supply and Utilization Tracking System. Guide to decision-making and technical assistance (TA)

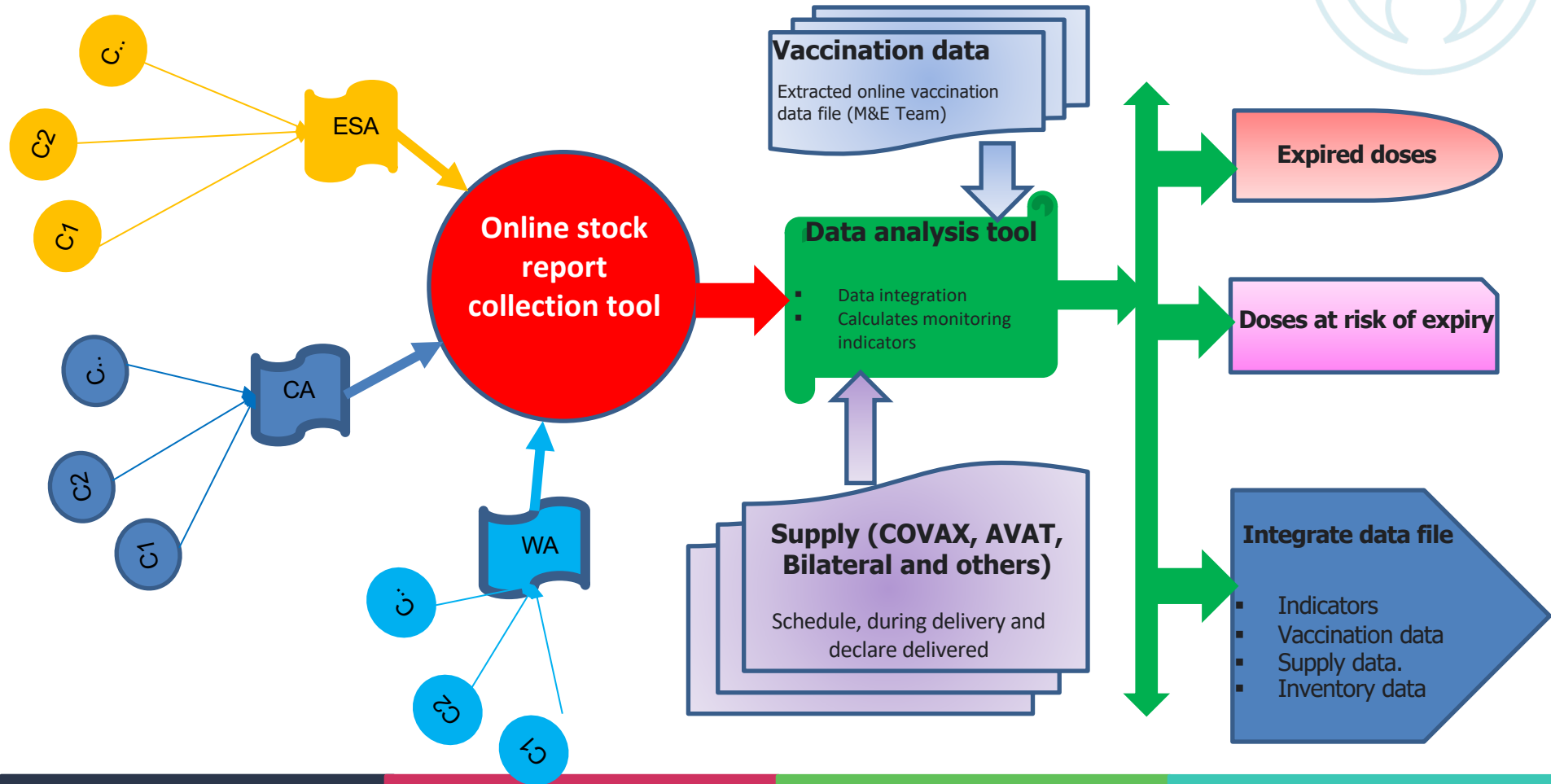
Godiskine Attemene (WHO)

# 1. **Goal:** Contribute to the effective deployment of COVID-19 vaccines and vaccination consumables. Specifically, it will involve:

1. Ensure that vaccines planned by COVAX, AVAT and others have actually arrived in the central warehouses of the beneficiary countries and have been received in accordance with the procedures in force
2. Check each time (weekly) that the quantities of vaccines received are sufficient to meet the vaccination coverage targets set
3. Ensure that vaccines at national level are managed in accordance with the rules of the art
4. Improve stock visibility to facilitate strategic and operational decisions
5. Identify vaccines at risk of expiration for appropriate decision-making to anticipate expiry losses
6. Have the status of expired vaccine doses to track their elimination by country according to appropriate procedures
7. Be able to take stock of the vaccination situation at the end of the pandemic for each country and at the regional level



## 2. Synoptic diagram of the system



## 2. Data to be collected



1. Produit/Product Type
2. Packaging/Presentation
3. Doses reçues/Doses Received
4. N° Lots/Batch Number
5. Date de péremption/Expiry Date
6. Stock Disponible utilisable/Usable Available Stock
7. Doses Expirées non détruites/Expired Doses not destroyed
8. Date Dernière Mise à Jour/Last Update Date
9. Fabricant/Manufacturer/Laboratory
10. Source
11. Date de Reception/Date of receipt
12. Qte Reaffectée/Qty Reallocated to other countries
13. Doses expirées détruites/Expired doses destroyed
14. Technique de destruction/Destruction technique
15. Observations/Remarques

### 3. Monitoring indicators (1/2)



1. Expired vaccine doses =  $\frac{\text{Doses expired over a period of time}}{\text{Doses received over the same period}}$

2. Expired doses destroyed =  $\frac{\text{Doses expired over a period of time}}{\text{Doses received over the same period}}$

3. Adequacy of vaccine supply against the 70% target =  $\frac{\text{Doses received over a period of time}}{\text{Doses needed to vaccinate the target of 70\% of the population}}$

4. Adequacy of the supply of injection syringes =  $\frac{\text{Number of injection syringes received over a periode of time}}{\text{Doses received over the same periode}}$

### 3. Monitoring indicators (2/2)



5. Doses received with an early expiration date

$$= \frac{\text{Doses received expiring within 45 days of receipt}}{\text{Total doses received}}$$

6. Doses with an early expiration date, deployed

$$= \frac{\text{Doses received expiring within 45 days of receipt, deployed}}{\text{Total deployed doses}}$$

7. Absorption rate

$$= \frac{\text{Doses administered over a period of time}}{\text{Doses received over the same period}}$$

8. Utilisation rate

$$= \frac{\text{Doses administered over a period of time}}{(\text{Doses received} - \text{Doses remaining over the same period})}$$

# 4. Collection Tool/Stock Report

## STATUS OF COVID-19 VACCINES RECEIVED BY AFRICAN COUNTRIES/ETAT DES STOCKS DE VACCINS CONTRE LA COVID-19 RECUS PAR LES PAYS D'AFRIQUE

Pays/Countries	Produit/Product Type	Packaging/Presentation	Doses reçues/Dose Received	N° Lots/Batch Number	Date de péremption/Expiry Date	Stock Disponible utilisable/Usable Available Stock	Doses Expirées non détruites/Expired Doses not destroyed	Date Mise à Jour/Update Date	Fabricant/Manufacturer/Laboratory	Source	Date de Reception/Date of receipt	Qte Réaffectée/Qty Reallocated to other countries	Doses expirées détruites/Expired doses destroyed	Technique de destruction/Destruction technique	Observations/Remarques
<b>Guinea</b>	Vaccin	10	48,800	2 021 010 033	18-01-2023	0	0	09-06-2022	SINOPHARM	BILLATERAL	03-03-2021	0	0		
	Vaccin	10	2 021 010 032	18-01-2023	18-01-2023	0	0	09-06-2022	SINOPHARM	BILLATERAL	03-03-2021	0	0		
	Vaccin	10	10,000	F-210321	01-09-2021	0	0	09-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	10,000		01-07-2021	0	0	09-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	69,000	41202004	13-04-2021	0	0	09-06-2022	ASTRAZENECA	AVATT	26-03-2021	0	48,000	Disinfection and landfill	
	Vaccin	10	42,200	F-180521	01-11-2021	0	0	09-06-2022	SPOUTNIK V	BILLATERAL	12-07-2021	0	0		ACHAT GOUVERNEMENT
<b>Total Vaccin Guinea</b>			<b>180,000</b>			<b>0</b>	<b>0</b>					<b>0</b>	<b>48,000</b>		
<b>Mali</b>	Vaccin	10	396,000	41212006	10-07-2021	0	0	06-06-2022	AstraZeneca	COVAX	03-05-2021	97,250	0		97250 to cote d'ivoire, aucun stock physique à ce jour dans le pays
	Vaccin	1	16,800	1822804		0	0	06-06-2022	Johnson	COVAX	05-08-2021	0	0		700 Doses disponibles au niveau central
	Vaccin	1	134,400	214C21A	15-12-2021	0	0	06-06-2022	Johnson	COVAX	05-08-2021	0	0		500 doses disponibles au niveau central
	Vaccin	10	79,200	ABZ6077	03-11-2021	0	0	06-06-2022	AstraZeneca	COVAX	11-09-2021	0	0		
	Vaccin	10	58,360	B202107094	20-06-2022	70,000	0	06-06-2022	Sinovac	COVAX	04-10-2021	0	0		
	Vaccin	10	337,920	C202107134	17-06-2022	0	0	06-06-2022	Sinovac	COVAX	04-10-2021	0	0		
<b>Total Vaccin Nigeria</b>			<b>0</b>			<b>0</b>	<b>0</b>					<b>0</b>	<b>0</b>		
<b>TOTAL AFRO VACCINE</b>			<b>1,202,680</b>			<b>70,000</b>	<b>0</b>					<b>97,250</b>	<b>48,000</b>		

- Protected "Excel" sheet, Unable to delete rows
- Active validation rules for cell format and data consistency
- Pink highlighting for rows of data that are not consistent in terms of format, fill, and consistency
- Pre-defined ISO country names, not editable
- Always keep two empty rows at the end of a country's data, before the country's total

## 6. Adding a new arrival

Insert a short story between the last two pink lines

STATUS OF COVID-19 VACCINES RECEIVED BY AFRICAN COUNTRIES/ETAT DES STOCKS DE VACCINS CONTRE LA COVID-19 RECUS PAR LES PAYS D'AFRIQUE

Pays/Countries	Produit/Product Type	Packaging/Presentation	Doses reçues/Dose Received	N° Lots/Batch Number	Date de péremption/Expiry Date	Stock Disponible utilisable/Usable Available Stock	Doses Expirées non détruites/Expired Doses not destroyed	Date Mise à Jour/Update Date	Fabricant/Manufacturer/Laboratory	Source	Date de Réception/Date of receipt	Qty Reaffectée/Qty Reallocated to other countries	Doses expirées détruites/Expired doses destroyed	Technique de destruction/Destruction technique	Observations/Remarques
Guinea	Vaccin	10	48,800	2 021 010 033	18-01-2023	0	0	07-06-2022	SINOPHARM	BILLATERAL	03-03-2021	0	0		
	Vaccin	10	45,600	2 021 010 032	18-01-2023	0	0	07-06-2022	SINOPHARM	BILLATERAL	03-03-2021	0	0		
	Vaccin	10	10,000	I-210321	01-09-2021	0	0	07-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	10,000	AZE2345	01-07-2021	0	0	07-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	69,000	41202004	13-04-2021	0	0	07-06-2022	ASTRAZENECA	AVATT	26-03-2021	0	48,000	Disinfection and landfill	
	Vaccin	10	42,200	I-180521	01-11-2021	0	0	07-06-2022	SPOUTNIK V	BILLATERAL	12-07-2021	0	0		ACHAT GOUVERNEMENT

Fill in the line and insert a new line if there are other products. Please always keep two empty rows at the end of the data. Update update date

STATUS OF COVID-19 VACCINES RECEIVED BY AFRICAN COUNTRIES/ETAT DES STOCKS DE VACCINS CONTRE LA COVID-19 RECUS PAR LES PAYS D'AFRIQUE

Pays/Countries	Produit/Product Type	Packaging/Presentation	Doses reçues/Dose Received	N° Lots/Batch Number	Date de péremption/Expiry Date	Stock Disponible utilisable/Usable Available Stock	Doses Expirées non détruites/Expired Doses not destroyed	Date Mise à Jour/Update Date	Fabricant/Manufacturer/Laboratory	Source	Date de Réception/Date of receipt	Qty Reaffectée/Qty Reallocated to other countries	Doses expirées détruites/Expired doses destroyed	Technique de destruction/Destruction technique	Observations/Remarques
Guinea	Vaccin	10	48,800	2 021 010 033	18-01-2023	0	0	12-06-2022	SINOPHARM	BILLATERAL	03-03-2021	0	0		
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	Vaccin	10	10,000	I-210321	01-09-2021	0	0	12-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	10,000	AZE2345	01-07-2021	0	0	12-06-2022	SPOUTNIK V	BILLATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
	Vaccin	10	69,000	41202004	13-04-2021	0	0	12-06-2022	ASTRAZENECA	AVATT	26-03-2021	0	48,000	Disinfection and landfill	
	Vaccin	10	42,200	I-180521	01-11-2021	0	0	12-06-2022	SPOUTNIK V	BILLATERAL	12-07-2021	0	0		ACHAT GOUVERNEMENT
	SAB/ADS 0.3ml	50	23,450	A2234	01-01-2023	23,450	0	12-06-2022	S21	Bilateral	12-04-2022	0	0		
Total Vaccin Guinea			225,600			0	0					0	48,000		

## 7. Inventory update

Edit data as needed and update report update date

### STATUS OF COVID-19 VACCINES RECEIVED BY AFRICAN COUNTRIES/ETAT DES STOCKS DE VACCINS CONTRE LA COVID-19 RECUS PAR LES PAYS D'AFRIQUE

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	Vaccin	10	45,600	2 021 010 032	18-01-2023	0	0	12-04-2022	SINOPHARM	BILATERAL	03-03-2021	0	0		
	Vaccin	10	10,000	T-210321	01-09-2021	0	0	12-04-2022	SPOUTNIK V	BILATERAL	06-03-2021	0	0		ACHAT GOUVERNEMENT
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	Vaccin	10	69,000	41202004	13-04-2021	0	0	12-04-2022	ASTRAZENECA	AVATT	26-03-2021	0	48,000	Disinfection and landfill	
	Vaccin	10	42,200	T-180521	01-11-2021	0	0	12-04-2022	SPOUTNIK V	BILATERAL	12-07-2021	0	0		ACHAT GOUVERNEMENT
	SAB/ADS_0.3ml	50	23,450	AZ234	01-01-2023	23,450	0	12-04-2022	S2I	Bilateral	12-04-2022	0	0		
Total Vaccin Guinea			225,600			0	0					0	48,000		

# 8. Résultats pour guider les décisions et l'AT

11/17 countries reported on time. The Gambia has stopped reporting for more than ten weeks.

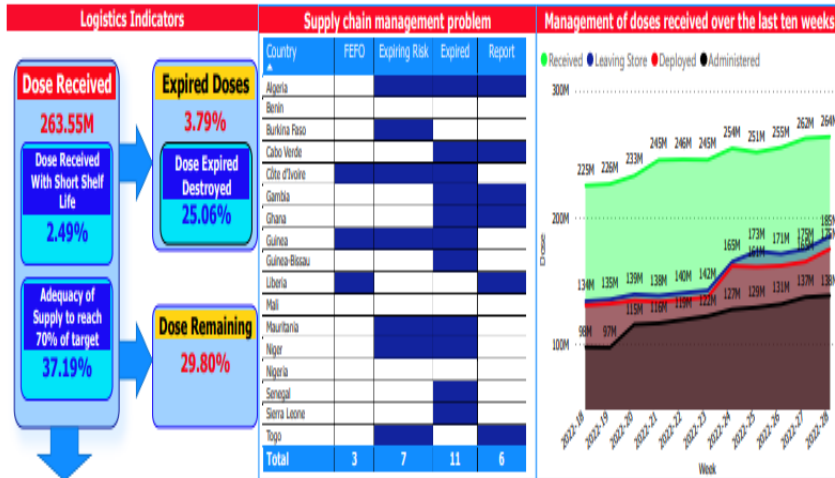
264 million doses have been received to date, or 37% of the doses needed to reach the target of 70% of the population

52% of the doses received were administered and 75% of the doses sent to the field were used.

Losses by expiry >1% and disposal < 25%.

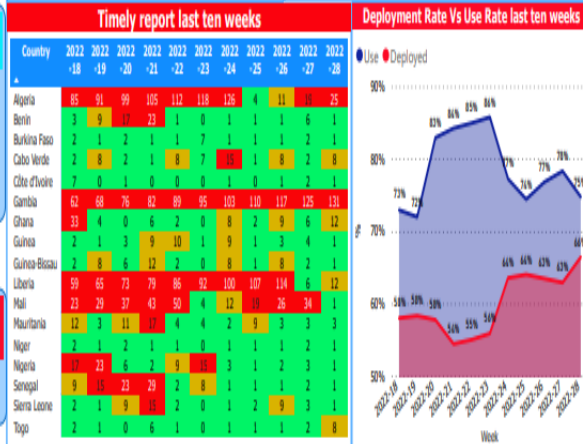
14/17 countries need assistance - > Reporting: 06, Risk of expiry: 07, Expired dose not destroyed: 11 and Non-application of FEFO: 03

While the utilization rate averages 80%, the vaccine rollout rate averages 60%. While use is good, there are weaknesses in the deployment of vaccines to delivery sites



**vaccine lots expired and destroyed**

Country	Lot number	Laboratory	Expiry date	Dose received	Update date	Total Dose Expired	Expired Dose not yet destroyed	Expired doses destroyed
Gambia	1822002 (E-21-050)	J&J	11-Dec-21	151,200	07-Mar-22	9,900	9,900	0
Gambia	41202004	AstraZeneca	13-Apr-21	15,000	07-Mar-22	3,370	2,270	1,100
Gambia	AB00117	Sinovac	31-Oct-21	28,400	07-Mar-22	6,620	6,620	0
Ghana	1-100121	Sinovac	31-Jul-21	10,000	04-Jul-22	1,534	1,534	0
Ghana	11-030121	Sinovac	31-Jul-21	6,000	06-Jul-22	2,000	2,000	0
Ghana	11-110221	Sinovac	31-Aug-21	5,000	06-Jul-22	186	186	0
Ghana	AD0152265	AstraZeneca	31-Oct-21	6,600	04-Jul-22	3,620	3,620	0
Ghana	AB00259	AstraZeneca	30-Nov-21	386,400	06-Jul-22	90,180	90,180	0
Guinea	210159	AstraZeneca	01-Nov-21	24,400	06-Jul-22	2,000	0	2,000
Guinea	210436	AstraZeneca	29-Feb-22	19,400	06-Jul-22	1,000	1,000	0
Guinea	2202164F2	Sinovac	31-Mar-22	180,000	06-Jul-22	89,600	89,600	0
Guinea	41202004	AstraZeneca	13-Apr-21	69,000	02-Jul-22	48,000	0	48,000
Guinea	41212015	AstraZeneca	29-Jul-21	19,400	06-Jul-22	1,070	1,070	0
Guinea	AB00261	AstraZeneca	30-Nov-21	100,800	06-Jul-22	2,000	2,000	0
Guinea	P-564021	Sinovac	31-Oct-21	3,995	06-Jul-22	58	58	0
Guinea	PW400208	AstraZeneca	02-Jul-21	130,000	06-Jul-22	3,390	3,390	0
Guinea	SH 8022	Pfizer	31-Jan-22	588,510	06-Jul-22	4,908	4,908	0
Guinea-Bissau	1022799	J&J	12-Dec-21	302,400	08-Jul-22	15,715	15,715	0
Guinea-Bissau	210169	AstraZeneca	30-Nov-21	42,300	08-Jul-22	50	50	0
Guinea-Bissau	41212015	AstraZeneca	29-Jul-21	28,800	08-Jul-22	2,680	2,680	0
Guinea-Bissau	0501003	AstraZeneca	30-Jun-22	11,900	08-Jul-22	9,000	9,000	0
Guinea-Bissau	AB00229	AstraZeneca	30-Nov-21	19,700	08-Jul-22	330	330	0
Guinea-Bissau	AB00135	AstraZeneca	30-Nov-21	14,000	08-Jul-22	140	140	0
Guinea-Bissau	AB91244	AstraZeneca	31-Oct-21	24,000	08-Jul-22	3,290	3,290	0
Guinea-Bissau	AC283787	AstraZeneca	29-Feb-22	100,000	08-Jul-22	1,000	1,000	0
Guinea-Bissau	PW400208	AstraZeneca	31-Oct-21	28,800	08-Jul-22	928	928	0
Liberia	41202004	AstraZeneca	13-Apr-21	27,000	04-Jul-22	27,000	0	27,000
Niger	1022799	J&J	04-Dec-21	144,000	08-Jul-22	17,150	17,150	0
Niger	209C12A	J&J	26-Nov-21	15,000	08-Jul-22	5,465	5,465	0
Niger	211K12A	J&J	05-Feb-22	164,000	08-Jul-22	17,860	17,860	0
Niger	41212015	AstraZeneca	29-Jul-21	274,410	08-Jul-22	3,300	3,300	0
Niger	CTM45109	AstraZeneca	31-Jan-22	254,400	08-Jul-22	28,300	0	28,300
Niger	FL3208	Pfizer	30-Jun-22	398,700	08-Jul-22	12,874	12,874	0
Niger	HA0228	AstraZeneca	31-Oct-21	100,000	08-Jul-22	16,800	16,800	0
Niger	PH46681	AstraZeneca	31-Oct-21	106,600	08-Jul-22	1,600	1,600	0
<b>Total</b>				<b>4,950,345</b>		<b>437,272</b>	<b>244,555</b>	<b>192,717</b>



**Dose at risk per Country**

Country	Batch number	Laboratory	Expiry date	Dose Received	Update date	Dose at Risk
Algeria	B202107103	Sinovac	30-Jul-22	389,880	21-Jun-22	382,712
Algeria	B202108104	Sinovac	31-Jul-22	445,400	21-Jun-22	445,126
Algeria	B202108105	Sinovac	01-Aug-22	441,240	21-Jun-22	441,028
Algeria	B202108106	Sinovac	02-Aug-22	442,880	21-Jun-22	442,666
Algeria	C202107141	Sinovac	24-Jul-22	437,920	21-Jun-22	437,724
Algeria	C202107142	Sinovac	25-Jul-22	328,800	21-Jun-22	328,602
Algeria	C202107143	Sinovac	26-Jul-22	446,120	21-Jun-22	135,908
Algeria	C202107144	Sinovac	29-Jul-22	445,760	21-Jun-22	445,657
Algeria	C202107145	Sinovac	30-Jul-22	208,800	21-Jun-22	208,696
Burkina Faso	B202107059	Sinovac	17-Jul-22	200,880	08-Jul-22	82,480
Burkina Faso	B202107060A	Sinovac	17-Jul-22	92,000	08-Jul-22	92,000
Burkina Faso	B202107092	Sinovac	20-Jul-22	19,920	08-Jul-22	19,920
Burkina Faso	B202107093	Sinovac	20-Jul-22	31,120	08-Jul-22	31,120
Burkina Faso	B202107094	Sinovac	20-Jul-22	3,600	08-Jul-22	3,600
Burkina Faso	B202107059	Sinovac	17-Jul-22	200,880	08-Jul-22	82,480
Burkina Faso	B202107060A	Sinovac	17-Jul-22	92,000	08-Jul-22	92,000
Burkina Faso	B202107092	Sinovac	20-Jul-22	19,920	08-Jul-22	19,920
Burkina Faso	B202107093	Sinovac	20-Jul-22	31,120	08-Jul-22	31,120
Burkina Faso	B202107094	Sinovac	20-Jul-22	3,600	08-Jul-22	3,600
Côte d'Ivoire	PW40331	AstraZeneca	31-Jul-22	283,760	08-Jul-22	283,760
Côte d'Ivoire	PW40388	AstraZeneca	31-Jul-22	16,240	08-Jul-22	16,240
Guinea	C202107145	Sinovac	30-Jul-22	237,220	06-Jul-22	20,756
Guinea	C202108147	Sinovac	01-Aug-22	180,540	06-Jul-22	120
Guinea	PW40382	AstraZeneca	31-Jul-22	149,760	06-Jul-22	81,624
Mauritania	3700CD	Pfizer	30-Jul-22	57,330	07-Jul-22	57,330
Niger	PW40381	AstraZeneca	31-Jul-22	250,000	08-Jul-22	250,000
Togo	C202107139	Sinovac	21-Jul-22	370,600	08-Jul-22	208,840
Togo	C202107140	Sinovac	23-Jul-22	331,400	08-Jul-22	222,800
<b>Total</b>				<b>5,811,170</b>		<b>4,638,709</b>





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# Management of Covid-19 vaccine expiry

Zabihullah Kamran (UNICEF)

## Vaccine Management Specialists (VMS) deployment

- 85 VMS deployed across 40 countries.
- Over 55% at subnational levels.
- Embedded within the NLWG or EPI agencies.
- **Selection Criteria**
  - High volume countries (COVAX, Pfizer, bilateral and donations)
  - Target population size
  - C19 coverage rates
  - EVM composite and E6 (Stock Mgt)
  - Stockout history
  - Drop in DTP3 rates
  - Country validation – Needs assessment survey



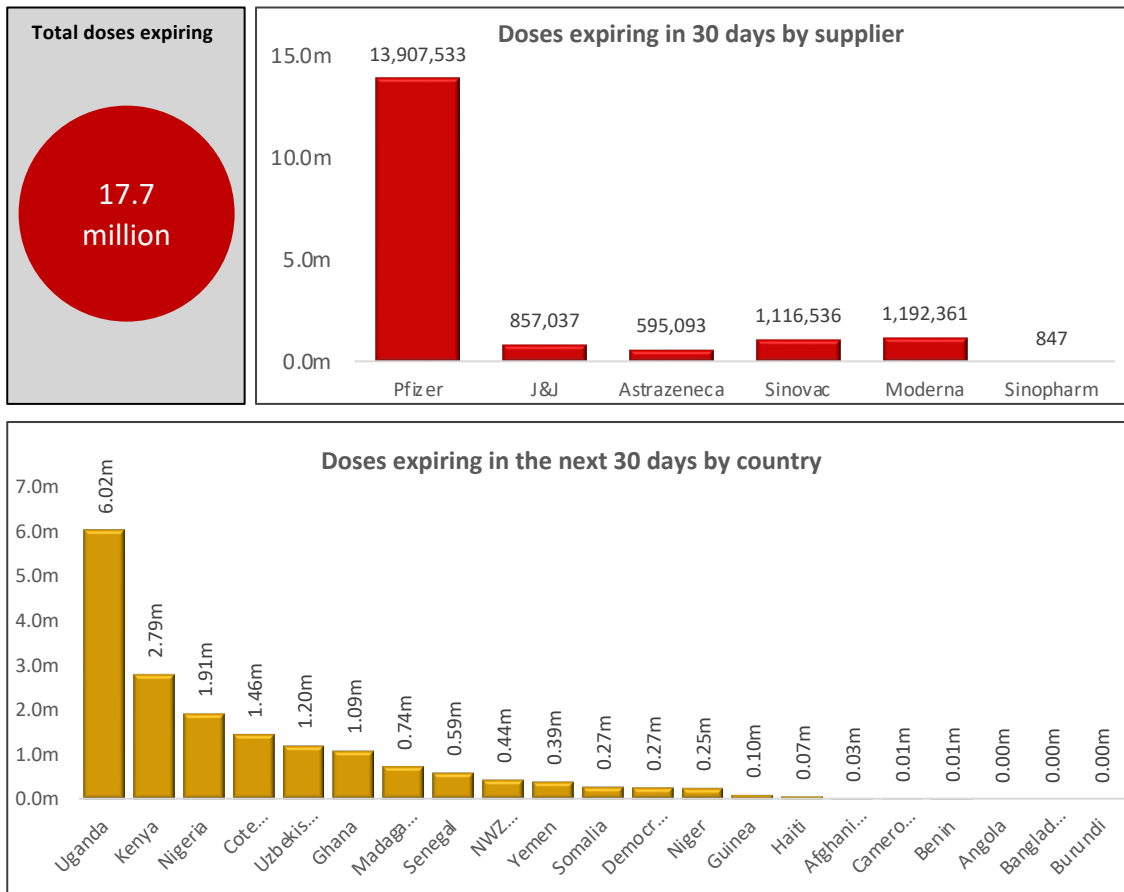


## Expiry Monitoring

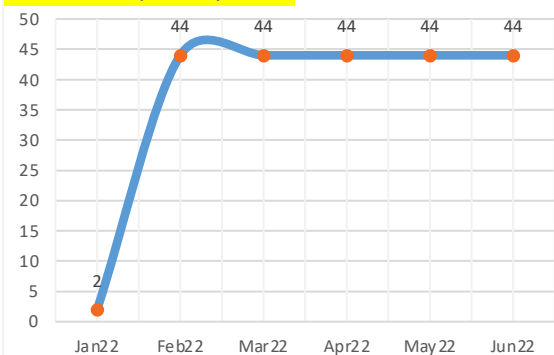
- VMS receives batch-wise lists of COVID-19 vaccines expiring in the next 30, 60 and 90 days.
- They closely monitor these batches and report back any wastages
- Support the planning, implementation and monitoring of special vaccination campaigns to reduce the chances of wastage
- Contribute to the retrieval and redistribution of expiring vaccines from low-utilization areas to high-demand ones.

**The VMS has contributed to preventing over 25 million doses of COVID-19 from expiry since February 2022**

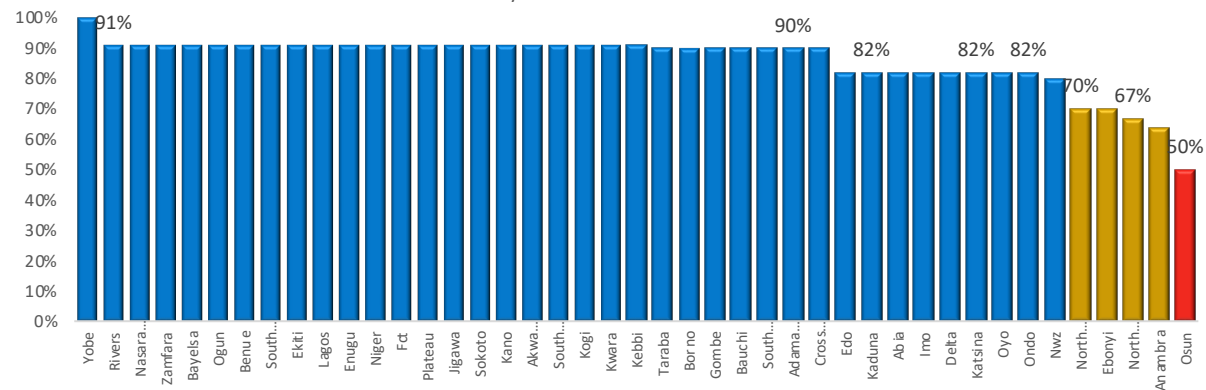
- Demand and distribution planning.
- Supportive supervision/Monitoring
- Temperature monitoring and cold chain inventories
- Data management
- Capacity building and on-the-job training



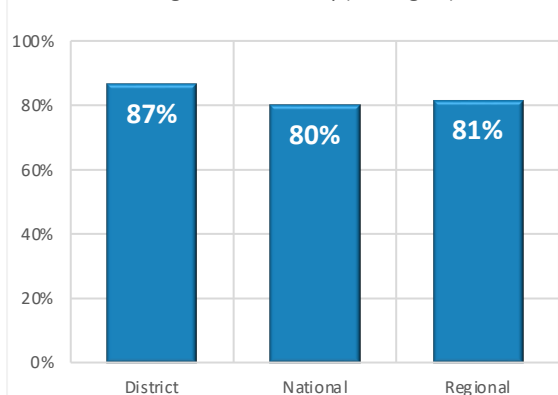
No of stores reported by month



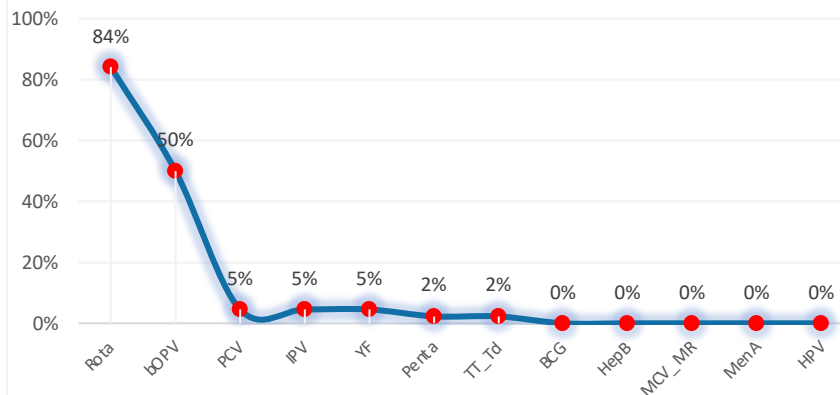
Stock availability at subnational levels



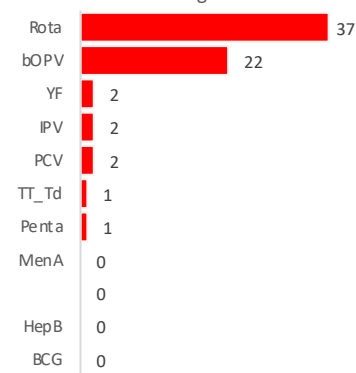
Average stock availability (all antigens)



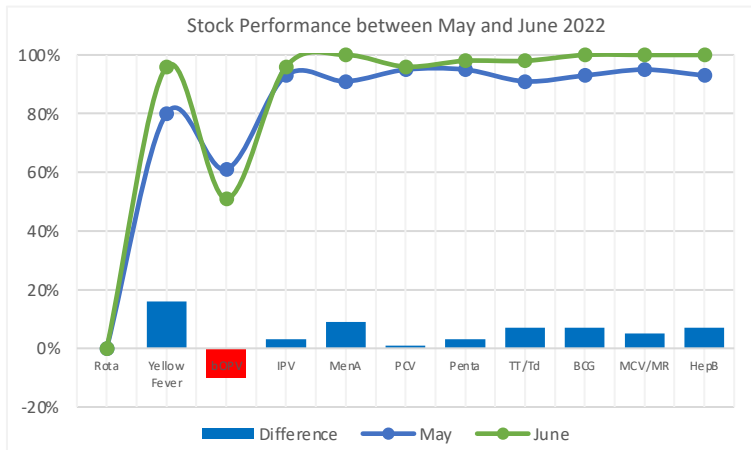
Proportion of stores with less than 300 doses or stockout by antigen



# Stores with stockouts by antigen

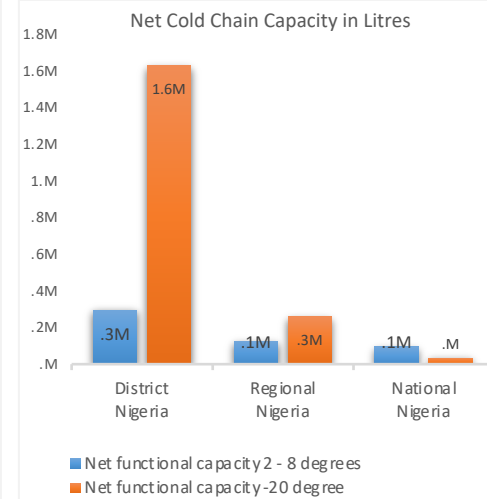
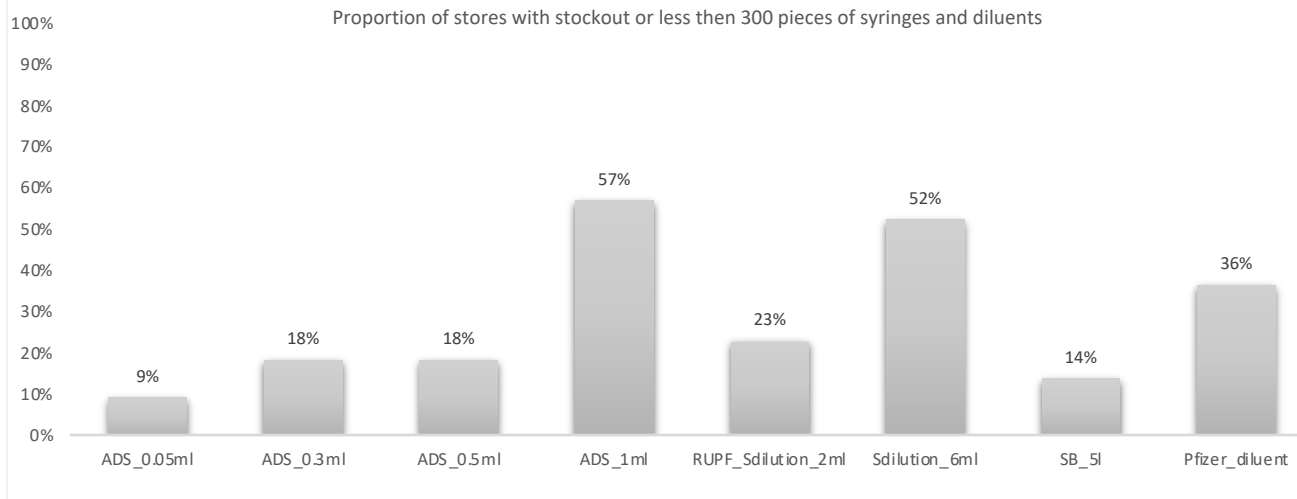


Note: Rota is not part of the routine schedule yet.

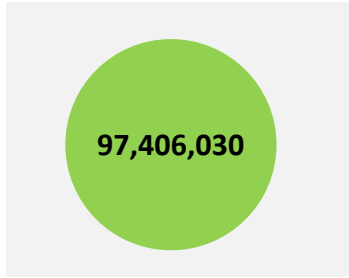


How Stock Availability changed compared to last month

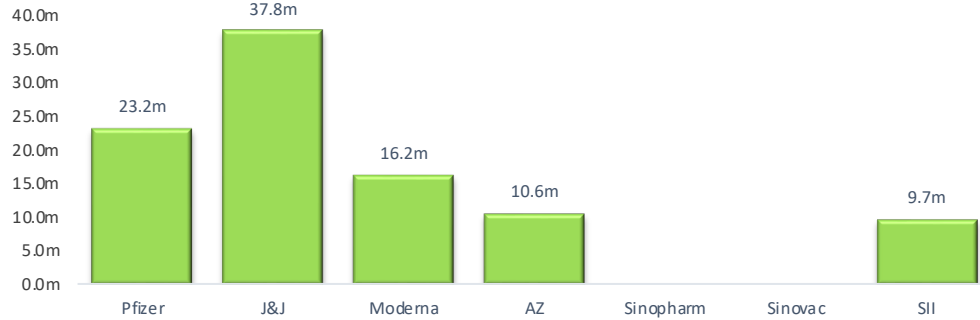
Antigen	May	June	Difference
Rota	0%	0%	0%
Yellow Fever	80%	96%	16%
bOPV	61%	51%	-10%
IPV	93%	96%	3%
MenA	91%	100%	9%
PCV	95%	96%	1%
Penta	95%	98%	3%
TT/Td	91%	98%	7%
BCG	93%	100%	7%
MCV/MR	95%	100%	5%
HepB	93%	100%	7%



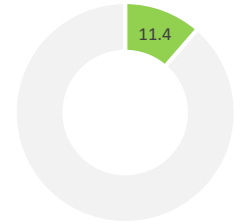
Total Doses Shipped



COVID-19 doses arrived in the country by manufacturer



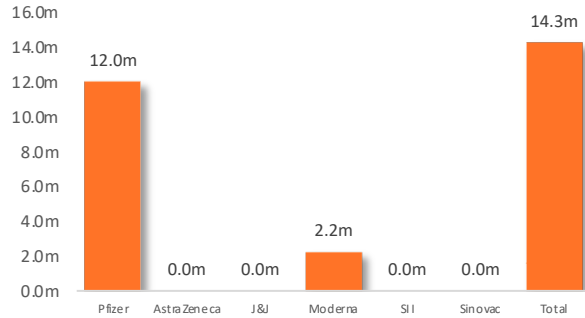
Proportion of population fully vaccinated (at least Two Doses)



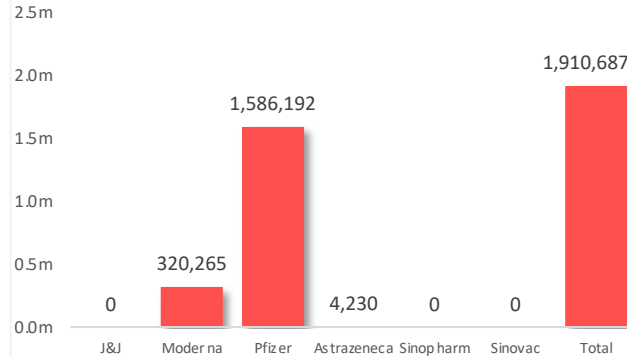
**Number of People fully Vaccinated**  
**25,650,900**

**Shipments:** Total number of doses shipped to countries disaggregated by manufacturer

# doses at risk of expiry from 01 August - 31 October



# doses expiring in 30 days



Number of doses expired this month

**0**

Number of doses expired since vaccination started

**1,066,214**

**Projected risk of expiry based on shipment data.** (Batch-wise lists are shared with VMS at the beginning of every month, which forms the basis for close monitoring in the next reporting month)

**Immediate Risk of expiry based on country data**

**Expired/Wasted**



## Major iSC risks

- Significant build-up of many vaccines at central stores and inadequate storage space for vaccines and devices.
- Large quantities of expiring COVID-19 vaccines.
- Use of substandard transportation means for vaccine movement to Zones and States.
- Limited skills of supply chain staff

## Mitigation efforts

- On-the-job training and capacity building of vaccine and cold chain management personnel
- Preference for tracking Pfizer utilization
- Closer monitoring of Transport company
- Public awareness campaigns on the risks of COVID-19
- Construction of new cold rooms at the NSCS
- COVID-19 vaccines distributed to states for better consumption
- Fixing the national power grid system
- Integrated COVID-19 and RI approach – phased by states. However, other challenges restrict the performance

## Action points

- Follow up on the procurement of private warehouse
- Follow up on the construction of cold rooms
- Follow up on consumption of COVID-19 vaccines before expiry



## Stockouts (in the next 60 days)

- Issues with 3PL could lead to major stockouts downstream.
- Rota stockout reported by all most all stores, however it is not in RI schedule yet.
- Yellow fever vaccine stockouts.

## Reasons for previous stockouts

- Inefficiency of transport company and fragmented vaccine supplies
- Absence of data triangulation
- Delays in supply of forecasted and quantified vaccines due to funding constraints
- No complete application of PUSH strategy
- Inaccurate forecasting of vaccine supply needs due to unreliable single source data
- Delayed payment and protest by 3PL companies, probably under-budgeting also

## Mitigation

- Emergency delivery of vaccine using private transport companies to high-risk areas.
- Alternative funding by USAID has also been leveraged to deliver critical immunization supplies and prevent stock-outs.



## Major VMS contributions

1. Planning the complete adaption of vaccines and commodities last mile PUSH to address stock-outs.
2. Supported the retrieval and redistribution of COVID-19 vaccines (J&J) from areas with low consumption to areas of high demand.
3. Supported the Planning, distribution and accountability process of vaccines and commodities used during the implementation of Integrated NPSIA in Gombe state
4. Facilitated data management capacity building to support data-driven processes.
5. Conduct field supervision and monitoring of COVID-19 uptake in the Nasarawa State.
6. Tracked and plan the redistribution of RI and COVID-19 vaccine in all 36 states + FCT with 6 Zonal VMCs in the country.
7. Monitor stock out and plan for National replenishing of vaccines and devices, this is made possible through the use of the weekly vaccine stock report template designed collectively by the VMCs and Supervised by CO.
8. Supported NLWG, capacity development and on-the-job training of counterparts.



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# Experience sharing on Covid-19 vaccination in Sierra Leone

Baboucarr Boye UNICEF



# Outline

- Country profile
- Covid-19 Vaccine Doses received
- Stock Balances & Pipeline Doses
- COVID-19 vaccination performance
- Strategies to Scale up Vaccination
- Support to NLTWG
- Best practices
- ISC Challenges and Mitigations

# Sierra Leone - Country Profile



- Location: Western Coast of West Africa
- Area: **71,740** sq KM
- Administrative: 5 provinces and 16 districts
- Total Population: **8,488,831** people
- Target population for COVID-19 vaccination-**5,602,628** (above 12 years )
- COVID-19 vaccination was launched on **March 15, 2021**

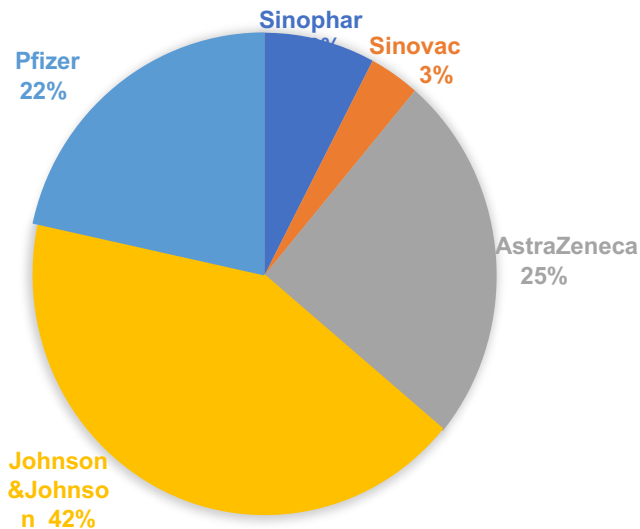
## COVID-19 Vaccination Milestones

- February 2021: Development of National Deployment and Vaccination Plan
  - ✓ Reviewed and updated in September 2021
- March 2021: Launched and rolled out COVID-19 vaccines in the country
  - ✓ Vaccine deployment has been based on WHO recommendations, global best practices and in-country lessons learned

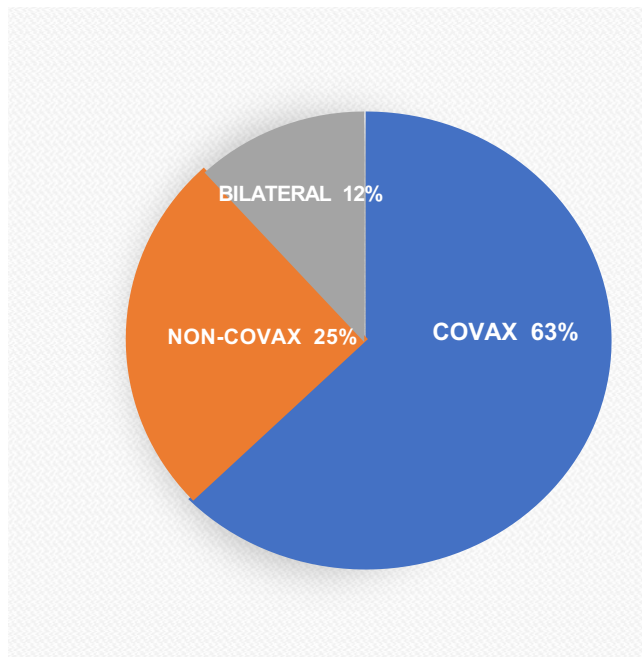


## Vaccines received in the country- February 2021 to June 2022

Product	Quantity(doses)
Sinopharm	440,000
Sinovac	200,000
AstraZeneca	1,414,800
Johnson & Johnson	2,414,600
Pfizer	1,229,328
<b>Total</b>	<b>5,698,728</b>



Vaccine doses received in the  
country by vaccine type



Vaccine doses received by  
source

## Stock Balance (End of June)

<b>Vaccine types</b>	<b>Balances in Doses</b>
Pfizer	305,580
Sinopharm	11,158
J&J	1,292,495
Sinovac	200,000

## Pipeline Doses (End of December)

Months	Vaccine Types	Quantity to Receive	Sources
August	J&J	380,000	MCF Via Avax
September	J&J	380,000	MCF Via Avax
October	J&J	345,600	EU Via Covax
November	J&J	129,600	Covax
November	Sinopharm	600,000	China Government
December	J&J	532,800	Covax

# Targets and Strategies

## Targets

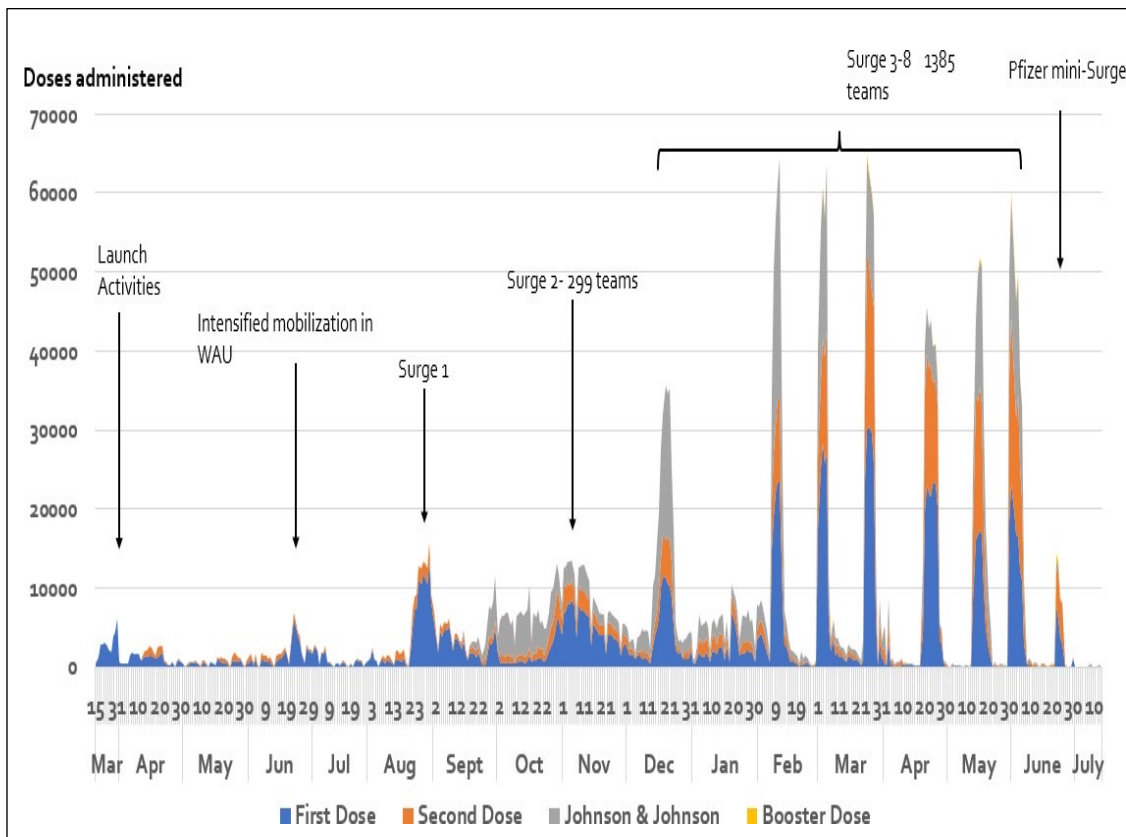
- Health care workers reached using a fixed strategy at their respective health facility
- >60yrs and Comorbidity used combination of fixed and mobile strategy
- General population:  $\geq 12$  years

## Strategies

- ✓ Static vaccination sites at PHUs: **724**
- ✓ Outreach vaccination sites: **589**
- ✓ Mobile vaccination sites : **72**

# COVID-19 Vaccination Performance/Updates

- As of July 13, **2,644,898** Individuals have received at least one dose giving coverage of:
  - **47.2%** of target population >12 years
  - **31.2 % of total population**
- **1,917,378** people are now fully vaccinated
  - **34.2** of target population
  - **22.6%** of total population
- **72.5%** (1,917,378/2,644,237) of all individuals with at least one dose are fully vaccinated





## Best practices - Logistics and Supply Chain

- Used Covid-19 as an opportunity to mobilize resources to strengthen cc systems at all levels
- Use of WhatsApp platform for stock reporting
- Inter and intra distribution of vaccines
- Development of COVID-19 vaccine distribution plans at the national level.
- Weekly physical counts and reporting
- Integration of supply delivery of both routine and Covid-19 vaccines.
- Use of eSMT at central and in some districts.
- Covid-19 SoPs developed including RI services.

# Support to NLTWG

- Support the development of vaccine distribution plans (Covid-19 and RI vaccines)
- Support the development of SOP on effective management, including Pfizer and training on the SOPs.
- Support the training and supervision of health staff on the eSMT
- Support to forecast both Covid-19 and RI vaccines
- Continue to provide support on overall ISCM (CCCA & EVMA)

# Covid-19 Vaccine Expiry Tracking

- Regional vaccine management Consultants
- Establishment of WhatsApp forum for transmission of stock data
- Weekly meetings on effective stock management
- Weekly physical count of stocks
- Use of tracking tool and eSMT
- Weekly Covid – 19 TWG meetings (Thursday)

# Covid-19 vaccine Expiry tracked in Sierra Leone Wk 27

Vaccine type	Quantity Received	Batch Number	Expiry date	Quantities (Doses) Expired
AstraZeneca	100800	AB0020	30-11-2021	6,000
	41760	ABZ6248	30-11-2021	14,500
	42240	PW40026	30-11-2021	350
	100800	NO52A	16-06-2022	1,250
	148800	210549	31-03-2022	740
	650400	NM0223	30-04-2022	41,500
Pfizer	113,490	31055BD	31-01-2022	13,002
	290,160	FJ8759	30-06-2022	16,206
	54,990	37096CD	30-09-2022	2,000
	145,080	37100CD	30-09-2022	1,636
<b>Total</b>				<b>97,184</b>

# Sierra Leone: iSC challenges

- Vaccines received with a short shelf- life span
- Challenge in obtaining timely Covid-19 vaccine stock data
- Lack of CCE in some PHUs-inadequate storage space
- Inadequate infrastructure (ageing and dilapidated) to accommodate cold chain equipment in some district
- Inadequate number and skilled health workforce for effective stock management especially at PHU level

# Sierra Leone: iSC Mitigations

- Recruit, deploy and monitor more vaccination teams to speedily utilize vaccines nearing expiration
- Country office mobilizes resources to conduct frequent Covid-19 vaccine surges to increase coverage and reduce vaccine expiration
- Use of WhatsApp platform for rapid vaccine stock update in the district
- Inter and intra-redistribution of vaccines in the districts
- Mobilized resources to procure more CCEs
- Rehabilitation/Expand district vaccine stores
- Train and monitor the health staff on effective stock management and covid-19 vaccine tracking.
- Weekly Covid-19 Stock balanced reporting from the sub-national level
- Strong National Technical Working Group (TWG) as the logistics pillar monitored the Covid-19 vaccines
- Development of COVID-19 vaccine distribution plans at the national level.
- Integration of supply delivery of both routine and Covid-19 vaccines.
- Use of eSMT and rollout of such tool at the district level to increase stock visibility.

# Thank you

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# Questions & Answers