Joint Appraisal (JA) Template

The Joint Appraisal (JA) is an **essential element of Gavi's regular monitoring and performance management (MPM).** The JA has evolved to align with Gavi 5.0 strategic shifts.

The JA is an **annual, country-led, multi-stakeholder** review/discussion that represents an important opportunity for countries to engage Gavi Alliance partners and other key stakeholders on annual progress of routine immunisation programmes against national goals and objectives, and to discuss how Gavi support is contributing to this progress. Key stakeholders involved in the country's immunisation programme should be represented at the Joint Appraisal, including civil society organisations (CSOs).

As an integrated part of Gavi's portfolio management process, the JA discussion should review **Gavi's contribution to immunisation programme performance** in 2021/early 2022, including delivery of COVID-19 vaccines and the impact of the COVID-19 pandemic on immunisation. A key feature of the JA is the joint discussion about the **promising practices, challenges met and future needs** for improving immunisation performance with a focus on reaching zero-dose children and missed communities.

The modality of the Joint Appraisal exercise is tailored to the country context and may be scheduled taking into consideration other planning exercises such as EPI reviews or National Immunisation Strategy Development.[1] The JA process will involve preparatory work to assemble and analyse data in advance of the discussion, exchange on the trends and their implications for the EPI program, and will conclude with the finalisation of a report and relevant deliberation outcomes and follow-up actions. At least one live discussion (in person or virtual) of the multiple stakeholders engaged in the Joint Appraisal should be organised.

The 2022 Joint Appraisal template is structured as follows

- **Section 1: Country situation**: overview of performance of Gavi support & discussion on progress and challenges faced
- **Section 2: Looking forward**: summary of discussion points and follow up actions

The information and indicators contained in section 1 on the country immunisation programme performance and Gavi support are mostly based on standard reporting. They are part of Gavi's monitoring and performance management framework, which will inform ongoing portfolio discussions, the JA, as well as discussions at Gavi's High-Level Review Panel (HLRP).

Section 1 is also where Gavi expects reporting against the Grant-linked Key Performance Indicators developed during FPP / EAF applications. For these indicators, results are to be analysed as (1) the absolute change in the indicator as a trend over time and; (2) the percent change in the indicator against the baseline value from the FPP or EAF application. Changes over time will be assessed against the end of grant target set during the application stage. Please ensure that sufficient data is provided to conduct such analyses, including the baseline values, targets, and sufficient annual data to infer trends.

The below set of cross-cutting questions should be considered to structure qualitative information:

[1] Countries which are finalising in the course of 2022 a Full Portfolio Planning are not expected to conduct a JA.

Section 1: Country situation: overview of performance of support & discussion on progress, challenges faced

A. Immunisation Programme Performance – Zero-dose, Routine immunisation coverage, Vaccine introductions, campaigns, and outbreak response

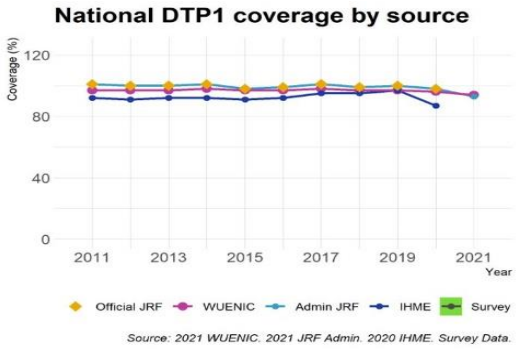
1. Learning Question: What progress has been made to reach zero-dose and under-immunised children with vaccinations?

1. Learning Question: What progress has been made to reach zero-dose and under-immunised children with vaccinations

Indicator (s):

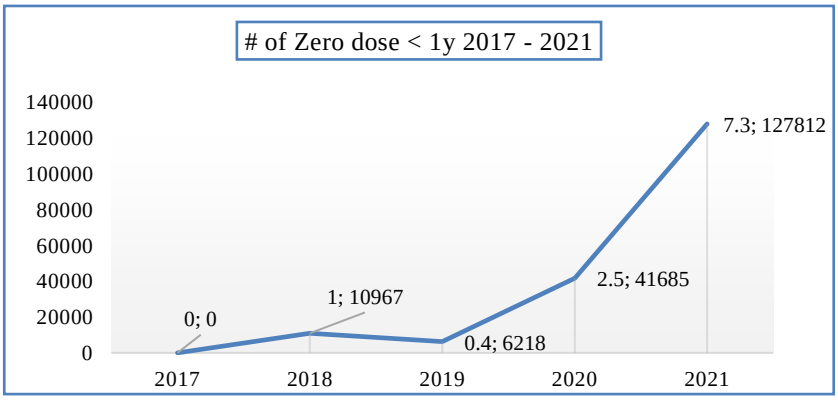
- **Absolute reduction in the number of zero-dose children (total number)**

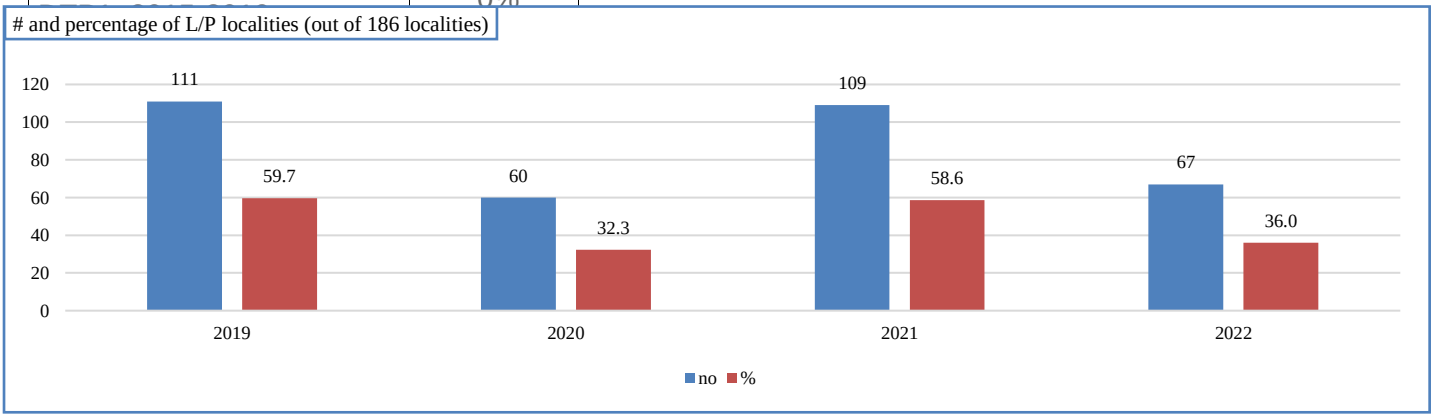
Zero Dose Overview

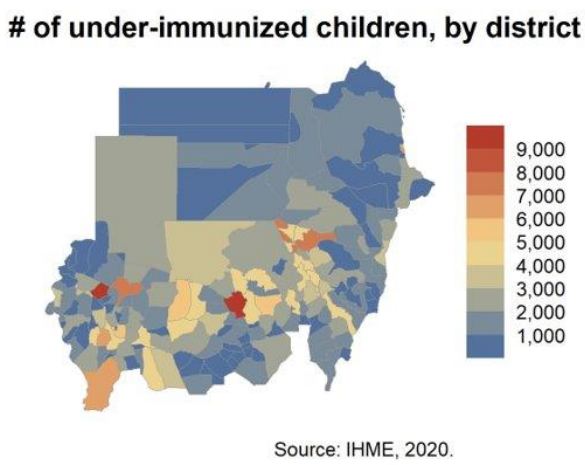


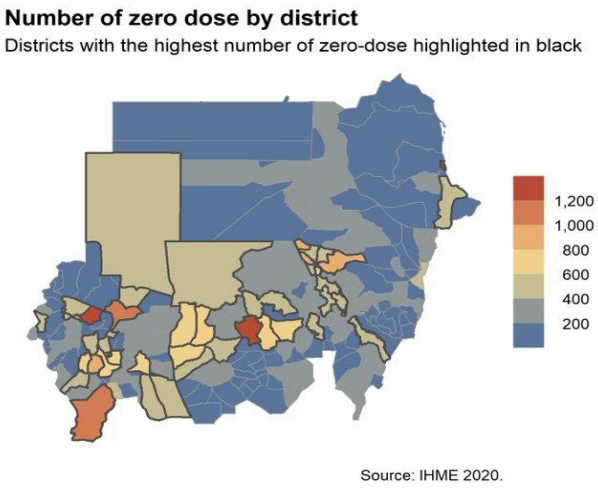
Year	No. of Zero Dose	%
2017	0	0
2018	10,967	1
2019	6,218	0.38
2020	41,685	2.5
2021	127,812	7.2

Zero dose overview: WUENIC estimates	
Indicator	Value
# zero dose (2021)	89,039
% zero dose (2021)	6%
Change in zero dose, 2015-2019	+9%
Change in zero dose, 2019-2021	+104%
Percentage point change in	0%

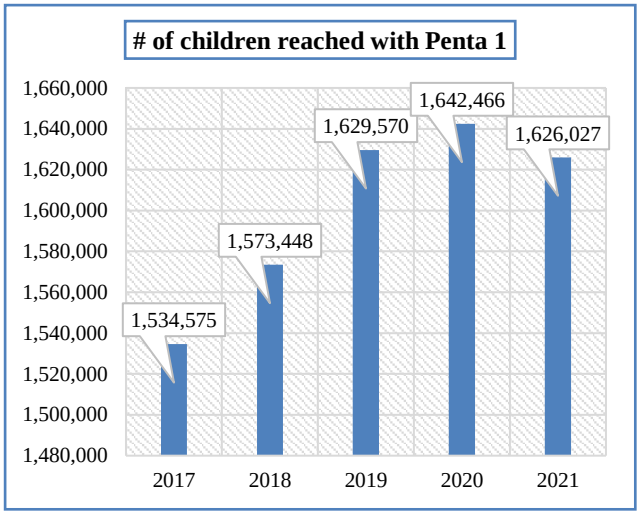




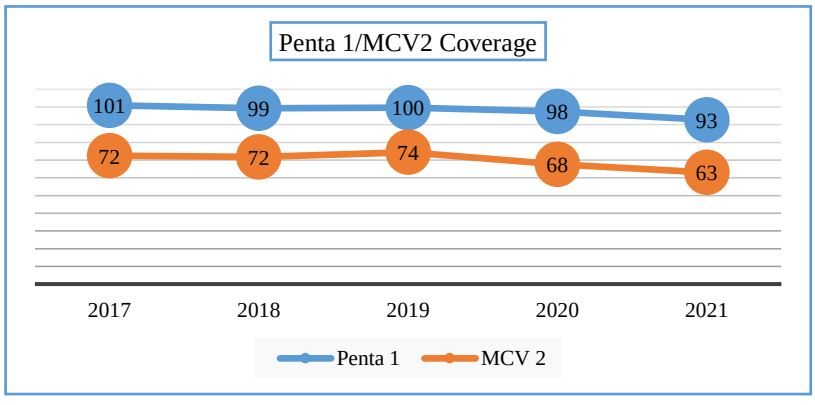




- **Number of children reached with DTP1 in areas targeted for intervention (Penta 1 at 2015 was 98%, while in 2021 was 93%)**



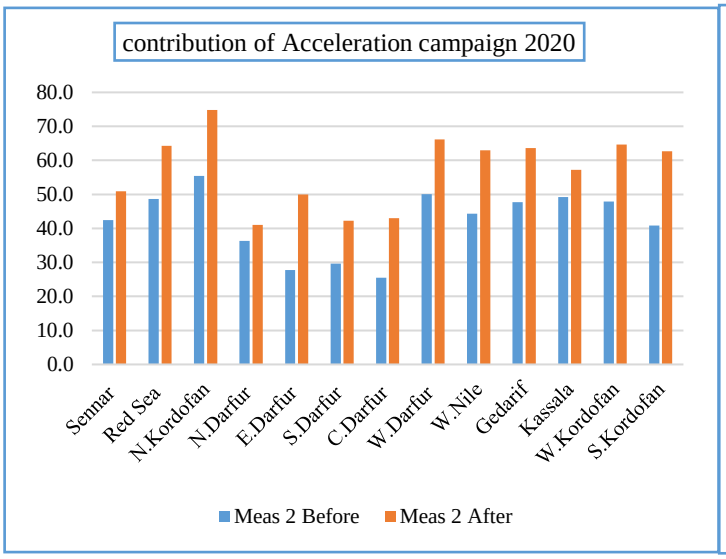
- **Gap in coverage between DTP1 and the last dose of MCV in the national schedule (MCV1 or MCV2) - nationally**

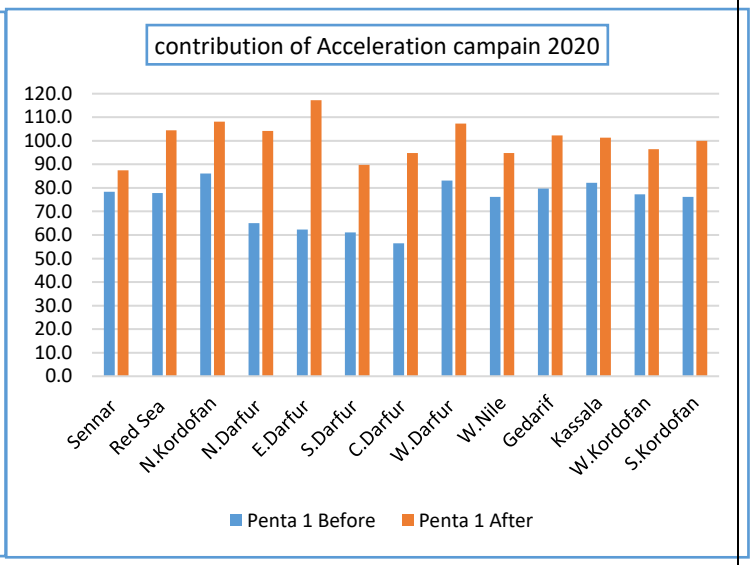


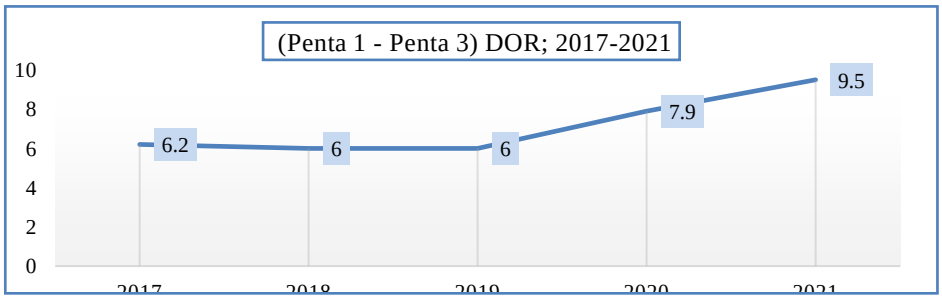
- **Gap in coverage between DTP1 and the last dose of MCV in the national schedule (MCV1 or MCV2) - in areas targeted for intervention**

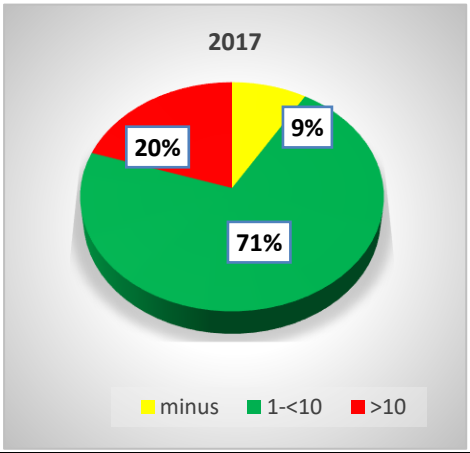
States	Penta1		MCV2	
	2020	2021	2020	2021

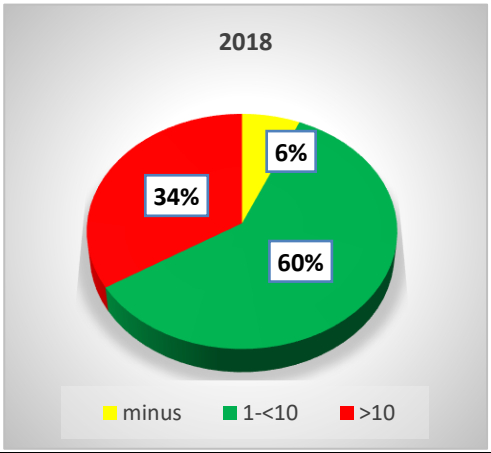
Central Darfur	99	92	52	49
East Darfur	109	100	58	45
Gedaref	97	89	72	59
Kassala	96	92	70	67
North Darfur	113	104	64	58
North Kordofan	103	94	74	65
Red Sea	102	86	63	47
Sennar	101	99	68	66
South Darfur	89	97	51	52
South Kordofan	104	96	70	59
West Darfur	104	97	65	66
West Kordofan	93	88	66	53
White Nile	100	100	67	65

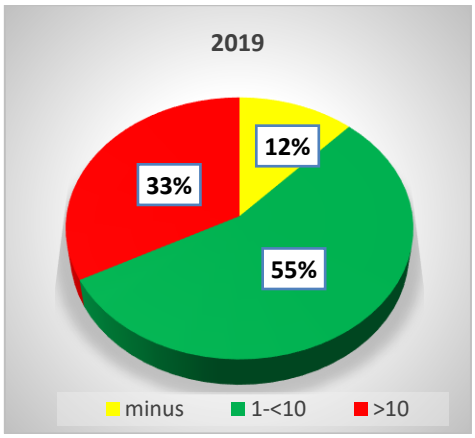


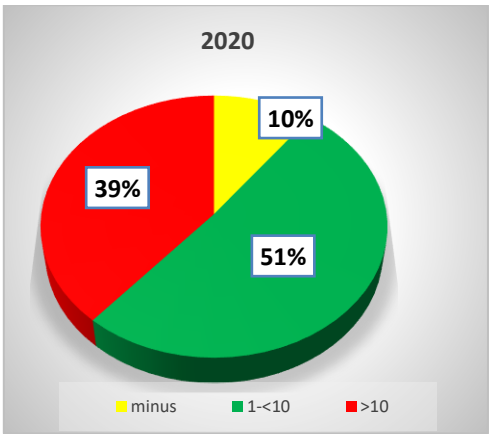


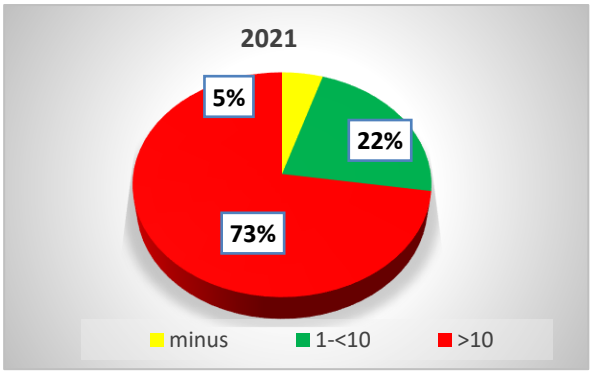












Country Comments :
The routine immunization coverage in the country varies with different antigens; there are vaccines that have achieved the targeted coverage of more than 80% since 2018 (BCG, Rota2, Measles1, Penta3, and polio3, except for the year 2020 which was less than 80% coverage, for Measles2 the coverage ranged between 54% -74%, with dropout rate (DOR) between first and third dose more than 6% since 2018. 2020 witnessed a deterioration in vaccination coverage due to a delay in receiving funds by the EPI, political instability, and the COVID-19 pandemic, where MCV1 reached 69% and MCV2 reached 54% at the national level.

Regular in-depth analysis used to be done on a quarterly basis to identify the root causes of this low coverage by the EPI team and the main causes identified were ;

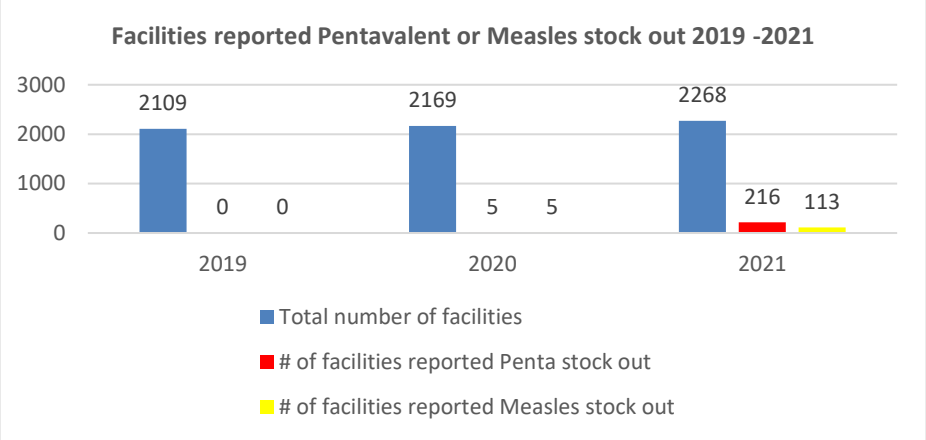
- Delay in receiving the RI fund from the partners to implement the routine immunization activities, for instance, for the whole year of 2020, no disbursement was taken place, and the first disbursement for that period was received in June 2021, this highly impacted the vaccination sessions to be implemented as per planned.
    - High rate of vaccinators' volunteerism implementing the vaccination session and high turnover due to the delay in payment and low incentive rates affected session implementation,
    - Political instability and insecurity, rescheduling the sessions, disruption of the service in some areas, etc.
    - The high inflation rate and the country's fluctuation of prices and shortage of fuel affected the mobile strategy (representing 60% of routine immunization services).

2. Learning Question: How well are vaccine stocks being managed?

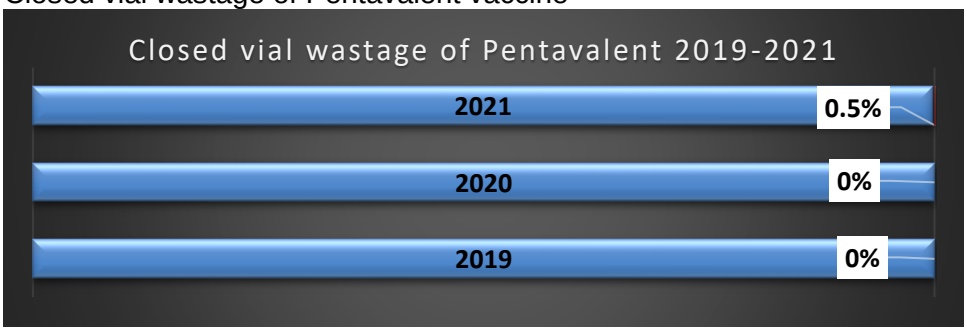
Indicator(s):

- Number of health facilities that reported no stock-outs of DTP containing vaccine
- Number of health facilities that reported no stock-outs of Measles containing vaccine
- Closed vial wastage of DTP-containing vaccine

Graphs:



Closed vial wastage of Pentavalent vaccine



Country comments (please consider the set of cross-cutting questions to structure comments):
Stock out of vaccine has been reported for more than one antigen during 2021, DTP and measles containing vaccines were among vaccines that report stock out. Stock out also reported for 0.5 and 0.05 syringes the below points explain the key factors contributed to stock out:

1. The difference between EPI operation target and the target used by Gavi for the annual vaccine renewal
2. Government co-finance quantities for 2020 and 2021 has been delayed and arrived end of 2021 and early 2022. Gavi has exempted the country from paying the co-finance obligation for 2020 and 2021and agreed to pay the cost on 2020 and 2021 quantities on-behalf of the government except for Men A quantities for 2020. However, the DL was not issued until some of the facilities reported stock out (2020 DL issued 29.1.2021 and for 2021 quantities, the DL issued 17.12.2021)
3. FMOH clearance unit has been recently sub-optimally functioninig, due to the high turn over and the overall system resilence this impacted the timely receive of shipment, for example some of the shipments had been rebooked more than three times
4. The political situation in the country that led to all flights to Sudan been cancelled and stopped for long time including the two main carrier (EK and Quater Airlines)
5. Staff turnover at all levels in speed higher than the programme capacity to respond to the need and capacity building this led to issues in stock management and timely request
6. The lockdown of Port of entry for all Sea shipment, closure of the main roads going out of the port of entry to Khartoum and other states in Aug-Oct 2021. Roads from alternative ports through Egypt were blocked as well.
7. Difficulties in getting timely contract for vaccine transportation to the states, the same for the transportation of supplies from Port Sudan to other states due to currency deterioration and fuel prices/availability.

Closed vail wastage of pentavalent vaccines was reported in 2021 due to the packing of the vaccine from suppliers. Freeze events were reported in two shipments from Panacea Biotec. Ltd, India arrived in December 2021. The incidence was immediately reported and investigated including formulation of technical committee to follow the inspection of the vaccine. The committee recommend not to use the suspected

vaccines. Claims raised to the company, and they accepted to compensate the damaged doses. The affected vaccine was disposed off safely based on the recommended procedures.

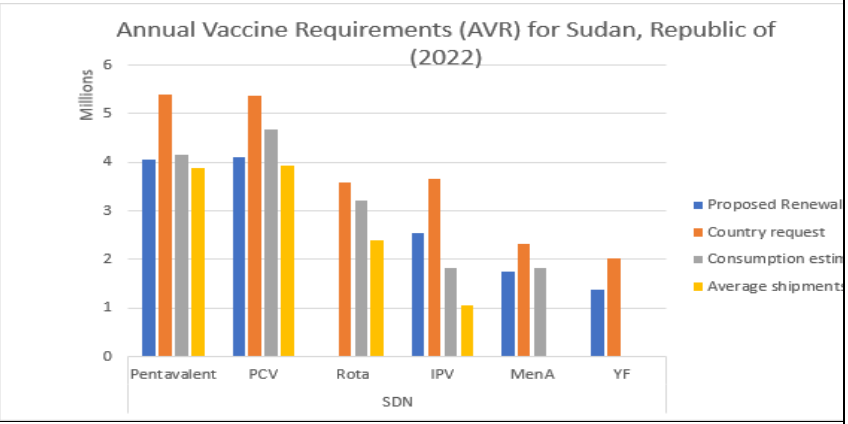
3. Learning Question: Are vaccines being consumed at rates that are in-line with approved forecasts? What are the key drivers of consumption compared to expectation (e.g., stockouts, increased coverage, wastage)?

Indicator(s):

- Percentage of forecasted Annual Vaccine Requirement (AVR) consumed in prior period (by antigen)

Graphs:

(Examples to be replaced with specific country versions)



Country comments (please consider the set of cross-cutting questions to structure comments):
Vaccine consumption is mostly stable with the country keep reporting lower than the standard vaccine wastage rate. Due to COVID pandemic and the country context, the overall vaccine consumption has decreased following the low reported coverage. Due to difference in denominators, Gavi approval to the vaccine renewal in the last three years is always less than the country. This situation led to many difficulties in managing the vaccine pipeline and stock and contributed with other factors to the stock out. The country has just completed the development of vaccine forecasting, budgeting, and financing document. Forecasting tool has been developed to be adopted and used by EPI at different level. The country working on implementation of the multiyear EVM-cIP and cold chain equipment deployment (CCEOP, COVAX CCE, Equipment procured through HSS2, and UNICEF supported equipment). Based on the analysis of Immunization Supply Chain areas of critical need for support are identified and planned to be addressed through different windows of support in harmonized way the below listed activities are identified to address the Comprehensive Vaccine Management (CVM) areas of investment:

Required action	By When	Lead / Assigned To	Support	Funding Source
Capacity building of relevant iSC personnel at national and sub national to undertake, vaccine management, data analyses and triangulation, supply planning, forecasting, costing, and financing	December 2023	UNICEF	WHO	TCA 2023
Gradual introduction and use of TSS compliant vLMIS system for stock management through supporting EPI in designing and introduction of compliant vLMIS system for stock management (in a phased manner)	December 2023	UNICEF	WHO	TCA 2023
Establish in-country mechanisms for routinely tracking and reporting standard SC indicators (DISC indicators, SC-related IA2030 indicators)	June 2023	FMoH	UNICEF/WHO	N/A
Establish and/or strengthen functionality of National/sub–Logistics Working Groups (NLWGs)	December 2023	UNICEF	WHO	TCA 2023

Undertake Vaccine Wastage Assessments, based on WHO Wastage Assessment specifications, to determine country-specific wastage rates for use in demand and supply planning	March 2023	WHO	FMOH / UNICEF	TCA 2023
Support EPI to conduct cold chain assessment, inventory updates, active temperature monitoring and development of multi-year cold chain inventory replacement and the new CCEOP 5.0	December 2023	UNICEF	FMoH	TCA 2023
Engage all stakeholders to create a continuous SC improvement plan, prioritizing Comprehensive Vaccine Management initiatives and interventions, that is costed with clear implementation timelines and accountabilities	December 2023	UNICEF	FMOH/WHO	EAF
Introduction and use of vaccine barcoding and traceability through the SC system	December 2023	UNICEF	FMoH/WHO	CDS
Investigate root causes of avoidable vaccine wastage (closed and open vial), development and implementation of a plan of action by EPI + NLWGs/SNLWGs for mitigating avoidable wastage	December 2023	UNICEF	FMoH/WHO	NA
Deploy Accountability Mechanisms for vaccines and devices (syringes) based on Polio Vaccine Accountability Mechanisms to RI, campaign, and C-19 delivery	December 2023	FMoH	UNICEF/WHO	NA

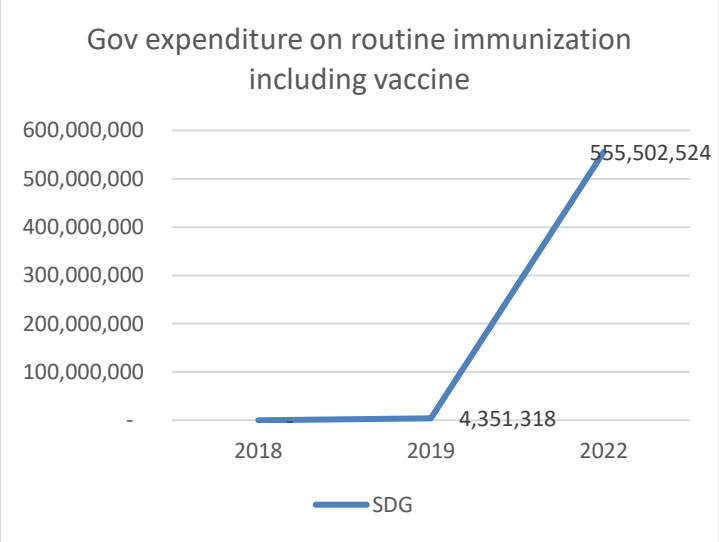
4. Learning Question: Is the country complying with co-financing requirements in a timely manner?

Indicator(s):

- **Country co-financing obligation met in a timely manner**

Amount in SDG	Finical source	Year of payment	Planned date for payment	Submitted date of payment
	GOV	2018	-	-
142,674,000	GOV	2019	June	December
	GOV	2020	-	Waiver
	GOV	2021	-	

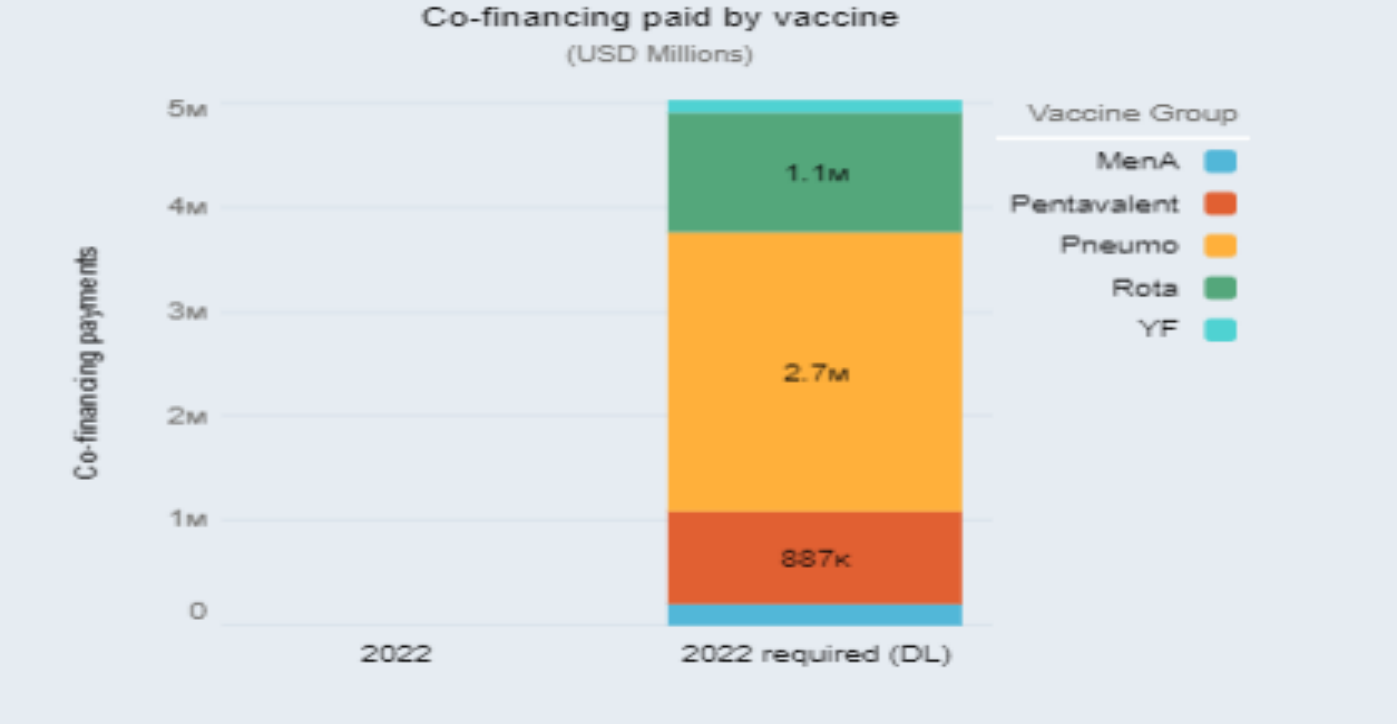
3,249,000,000	GOV	2022	June	30% paid by Septemeber



Contextual Information

PEF Tier: Tier 3	Fragility Status: Fragile	2. Preparatory transition

Indicator Name	Year	Source	Value
GNI per capita	2020	World Bank	650
Health Centres per 100k population	2013	WHO - GHO	3.68
Nurses/Midwives per 1000 population	2018	WHO - GHO	11.46
Population	2020	UNPD	43,849,269
Surviving Infants	2020	UNPD	1,327,273
Under-5 mortality (per 1000)	2019	UNICEF	58.41



Country Comments: Sudan has never defaulted on any payment related to co-finance. Gavi has exempted the country from paying the co-finance obligation for 2020 and 2021 as part of GAVI's flexibility due to the unprecedented situation with the C19 pandemic. This year (2022), while the government maintains its commitment to fulfilling its co-finance obligation, unfortunately, the issue of the co-finance has been brought to the MOF late and did not cater for it in the 2022 budget. However, following receive of the cost estimates of vaccines and ancillary in June 2022, the MOH and MOF after a rigorous assessment of any financial savings from the health projects, managed to pay 30%of the co-finance obligations as the first installment. The rest of the payment will be fulfilled by Dec 2022.

In preparation for 2023, FMOH has been requested by FMOF to ensure that the current national budget preparation exercise includes the co-finance issue to allow the FMOF a better readiness.

5. Learning Question: If applicable, have new vaccines been introduced as planned and if not, why? Is coverage of recently introduced vaccines being scaled-up as expected?

- Number of routine introductions completed over number of targets set for the calendar year

Sudan requested GAVI support for yellow fever control by building herd immunity by a mass campaign. Risk assessment was conducted to assess the states' need to be covered and based on its results it was decided that the campaign must be national targeting persons aged 9 months-60 years, i.e. 32.956,520 in all states in a phased manner. As some of the localities have been covered during the outbreak response in 2012-2013, and with the years' population projection the target was 31,784,692.
The campaign was implemented in phases based on the vaccine availability; all 18 states were covered and around 31,416,830 persons aged 9 months to 60 years were vaccinated.
Introduction of the yellow fever vaccine in the routine immunization schedule was planned with overall objective to eliminate yellow fever epidemics in Sudan and a specific objective to introduce a single dose of yellow fever vaccine into the national routine immunization services in Sudan by January of 2021. The target population is all surviving infants, will be at 9 month with the measles and meningitis. To bridge the immunity gap a follow up campaign for the birth cohort born after the catchup will be implemented

Introduction of IPV 2nd dose into RI
According to SAGE recommendation, WHO classification, Sudan immunity profile against Poliovirus after reduction in the number of Polio NIDs and SNIDs and as a continuation of the switch off the -risk vaccine tOPV (life attenuated) to safer (Killed) policy all these factors support the introduction of a Second Dose of IPV, NITAG recommended to EPI program to introduce 2 doses of IPV vaccine, 1st dose at 6 weeks of age, 2nd dose at 14 weeks of age.

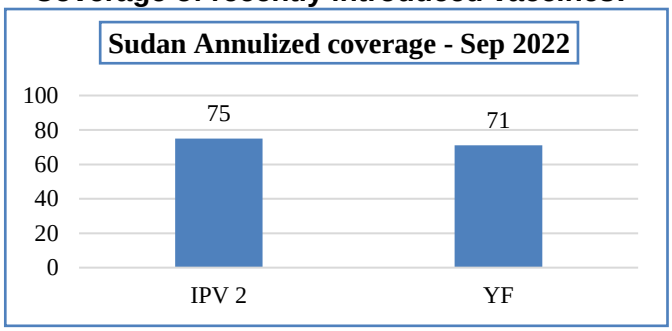
Yellow fever vaccine and IPV2 dose were introduced in Jun 2021 with a target of (876,919) < 1 y of age children by the end of the year 2021 (683,847) < 1 year of age children were vaccinated by YF vaccine (78%), while the target of 2022 was (1,799,447) < 1 year with a total of (601,252) vaccinated < 1 year of age and annualized coverage of 71% up to Sep 2022.

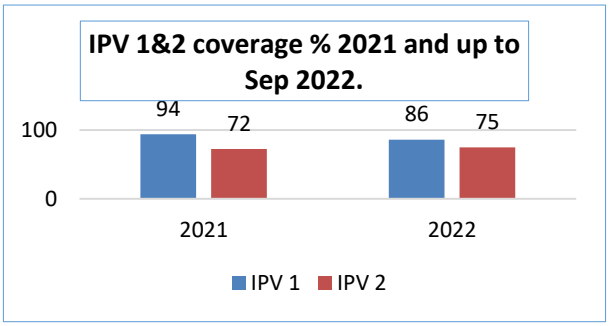
IPV vaccination coverage in 2021 was 94% and 72% IPV1 and IPV2 respectively, while the annualized coverage up to Sep 2022 is 68% and 75% IPV1 and IPV2 respectively.

The routine coverage in general faced some challenges due to the interruption of operation cost cash flow and the strikes in some states which results in the non-implementing of planned vaccination sessions

Acceleration of vaccination activities was planned to be implemented from Sep to Dec 2022 supported by WHO and UNICEF to raise the vaccination coverage.

- **Coverage of recently introduced vaccines:**





Name of vaccine	Type	Subtype	Status	Date	Phase	% coverage of campaign	% Coverage 2021	% Coverage July 2022
Yellow fever vaccine (conducted in 3 states in Mar-Apr 2019)	Campaign	Follow up	forecast	Mar-Apr 2019	Phase 1	96%	78%	38% (From Jun-Jul 2022)
Yellow fever vaccine (conducted in 3 states in October 2019)	Campaign	Follow up		Oct / 2019	Phase 2	100%		
Yellow fever vaccine (conducted in 3 states in Mar-April 2021)	Campaign	Follow up		2021		94%		
Yellow fever vaccine (conducted in 2 states in July, Augest 2021)	Campaign	Follow up		2021		90%		
Yellow fever vaccine	Routine	1st dose		June 2021		78%		
IPV (in 4 states) due to global shortage	Campaign	acceleration		2020		77%	94%	47 % (From Jun-Jul 2022)
IPV (conducted in 3 states in Mar-April 2021)	Campaign	acceleration		2021		78%		
IPV 2	Routine	2nd dose						
COVID	Campaign			2021-2022			33%	37%(From Jun-Jul 2022)

Vaccine Name	Type	Sub-Type	Status	CP Date	Phase
PENTA	Routine	-	Introduced	2009-12-01	NA
PNEUMO	Routine	-	Introduced	2013-12-07	NA

MEASLES	Campaign	Follow-up	Introduced	2015-07-30	1
IPV	Routine	1st D	Introduced	2015-09-30	NA
ROTA	Routine	-	Introduced	2018-01-27	NA
MEASLES	Campaign	Follow-up	Introduced	2018-09-01	1
MEASLES	Campaign	Follow-up	Forecasted	2023-03-31	NA
MR	Routine	1st D	Forecasted	2025-12-31	NA
MR	Routine	2nd D	Forecasted	2025-12-31	NA
MR	Campaign	Catch-up	Forecasted	2025-12-31	NA
HPV	Routine	-	Forecasted	2027-04-30	NA
HPV	Campaign	MAC	Forecasted	2027-04-30	NA
MR	Campaign	Follow-up	Forecasted	2028-12-31	NA
MR	Campaign	Follow-up	Forecasted	2031-12-31	NA

Country Comments:
The immunization system is the foundation for achieving and sustaining coverage targets, successfully introducing new vaccines and sustainably reducing or eliminating vaccine-preventable diseases and mortality
The program have introduces the YF Vaccine and IPV2 in June 2021.
The country has a delay in introducing these vaccines from the planned date due to delays in releasing the fund, and political instability of the country context

6. Learning Question: If relevant, how effective have recent Gavi supported vaccination campaigns been?[2]Please highlight lessons learned which are applicable for routine immunisation and upcoming campaigns (e.g., timeliness of outbreak response, quality, campaign reach and link back to strengthening routine immunisation).

There were implementation challenges in the IPV and Yellow fever campaigns that are summarized in below points:

- There is a budget shortage related to the implementation of the IPV acceleration campaigns, in which the decision on integrated IPV/YF campaign was used as a solution to this budget gap (taking the well-funded YF campaign as an opportunity).
- Fuel shortage and the inflation in cars rental together with the limited of shortege funds all contributed in the delays of campaign implementations.
- Coordination was done with the Ministry of Oils and Energy to provide the fuel to states
- With the understanding of all these limitations, the campaign implemented within the available budget in 7 states only (River Nile,Northern,White Nile,Red Sea,Gedarif,Kassala,Khartoum).

Indicator(s):

[2] Please reflect on those campaigns conducted since the last Joint Appraisal/Multi-Stakeholder Dialogue exercise.

- **Number of vaccination campaigns conducted (stratified by type of campaigns, including preventive, reactive, catch-up, follow-up, sub-national and national)**

Name of vaccine	Dates	Number of campaigns	Type	sub-national and national
IPV	2021	1	acceleration	Sub national at 3 states
Yellow fever	2021	2	Follow up	Sub national at 5 states
Measles (River Nile)	2021	2	outbreak repose	Sub national at 3 localities
Measles (East Darfur)	2022	1	outbreak repose	Sub national at 2 Localities
Measles (South Darfur)	2022	1	Campaign in high risk localities	Sub national at 12 Localities
Measles (Red Sea)	2022	1	outbreak repose	Sub national at 1 Locality

- **Coverage of recent Gavi-supported campaigns, compared to target**

Name of vaccine	Target	% Coverage
Yellow fever	1,225,900	93%
IPV	298,636	78%

- Number of reported outbreaks of vaccine-preventable diseases (for which GAVI supports with active campaigns)

VPDs Outbreak response campaigns 2021:

Measles outbreaks:

-In 2021, Nine states (15 localities) were affected by measles outbreaks. Average outbreak size=9 to > 500 cases.

-Two outbreak response campaigns

1) Gold miners outbreak: at Al-Tawaheen mining areas, Abuhamad locality –River Nile state. Case fatality rate=2%, Attack rate= 10 per 1000 gold miners, mostly adults (above 15 years of age).(Figure1)

-campaign target = 55391, coverage: 50334 /91%…..

-Support: WHO/Government

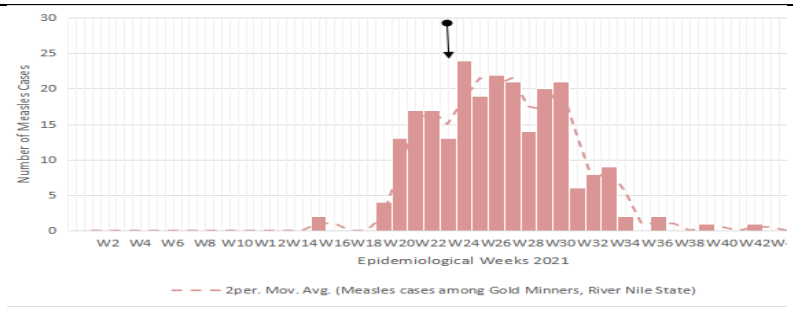


Figure 1: Gold minner measles Outbreak 2021

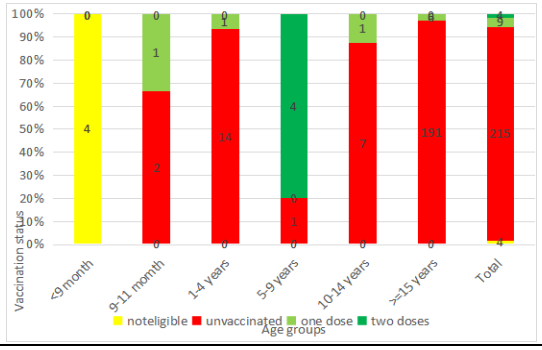


Figure 2: Vaccination status of mealses cases among gold miners 2021

2) Outbreak with high case fatality was in South darfur state, at kass locality east Jabal marra 18% , outbreak size= 11(as it is closed area, other informally reported figures reached 1000, however, can't be verified)
-Support: MSF
-campaign target is 63212 coverage was 24413 equivelant to 39%

3) Port Sudan locality , red sea , Febrauary, 2022

-Outbreak size =567 (up to W32 2022)., CFR=0.5%, attack rate = 4 per 10,000 population ,Most affected age group 1-4 years, more than 60% unvaccinated

-WHO support.

-Target: 6 M-10 Y years, 141654, Coverage 98%.

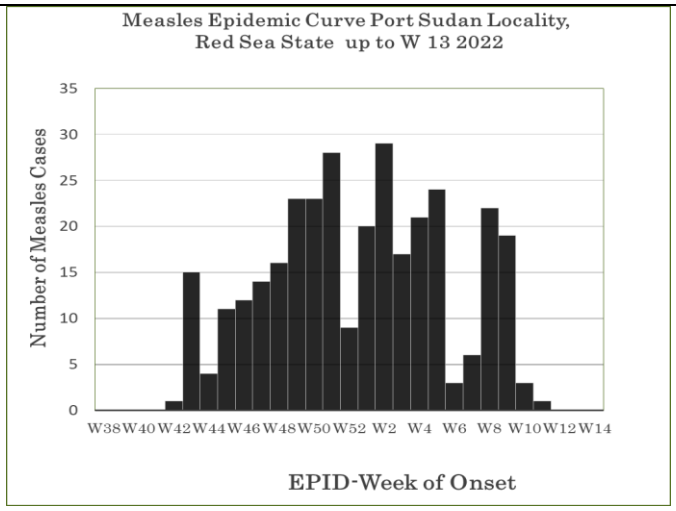


Figure 3: Measles Epidemic curve, port Sudan locality, red sea state

Preventive Measles campaigns: March 2022
South Darfur: 9 very high risk localities,(figure I) supported by UNICEF for operation cost , Target =698,504 , coverage =98%.

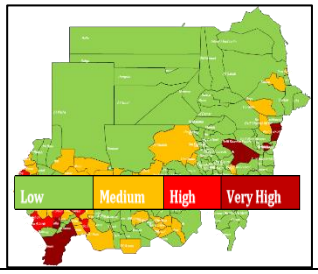


Figure 4: Low, medium, high and very high risk localities for measles outbreaks 2021

Country comments:

GAVI supported campaigns have been implemented successfully. The communication and social mobilization lessons learnt include:

- Timely and integrated microplanning (bottom up) is crucial for a successful campaign
- Timely disbursement of funds from WHO/UNICEF to Federal to States
- Pre-campaign activities to start at least 1 week before the campaign
- Home visits and megaphone announcements are most effective community mobilization strategies

7. Learning Question: How has the introduction of the COVID-19 vaccine progressed?

Country	Reduction in zero dose children, based on the latest WUENIC update May 22	RI: SCM Qualitative assessment of disruption	COVAX supply: Coverage (% share of fully vaccinated people)	COVAX absorption: 28 day average of daily doses administered	current month COVAX absorption %	COVAX absorption: Previous month - 28 day average of daily doses administered	previous month COVAX absorption %	COVAX absorption: Trend	COVAX cum. supply forecasts. upcoming 3M [low-high] LAST UPDATE: October 2021
Sudan	51.42	High	10.35%	27.61	6.3%	19.07	4.35%	▲	[5.49-4.8]

- Sudan was the first MENA country that received C-19 vaccines from COVAX to protect Sudanese's population, specially risk groups including both health care providers and elderly group with comorbidities.
- Since then, three types of vaccine delivery strategies were adapted to the rollout of C-19 vaccines in Sudan:
    - The fixed sites in which the vaccine services were provided at hospitals and health centers.
    - Temporal sites where the services are provided in the universities, Malls and markets,
    - Mobile team where the services provided to the special population such as refugees and the population who lived in hard-to-reach areas.

- FMoH continued updating and identifying high-risk groups according to WHO SAGE recommendations and concrete define plans, including tailored micro-plans, to reach them through a combination of campaigns and regular immunization

- The Service Delivery sub-technical working, which is part of the larger NTC has been tasked to work on details on how C-19 vaccinations and routine immunizations will be integrated at the implementation level, using the reference to the available 'Guidelines of Integration of C-19 vaccine and Routine immunization'

- FMOH /EPI-Cold chain continues assessing cold chain gaps at the Central and State levels, COVAX CCE has been used earlier to prepare the country for C19, in addition to a concept note with details of the cold chain gaps and associated budgets were developed and shared with the Regional Office of UNICEF for funding. Domestic resources have been used to construct the C19 building within the national store to accommodate the UCC equipment for Pfizer vaccines and J&J cold rooms mobilized by UNICEF. WHO supports the new building with the standby generator. Additional resources were also identified by UNICEF to support cold chain infrastructure rehabilitation and improvements in state-level cold stores.

- C-19 National program keeps on having many efforts including innovative strategies to reach 52% of the target population with primary series. Three mega campaigns are planned to be implemented in October and December to reach the above 18 years of age population in the 18 states and 186 localities including hard-to-reach areas.
    - The campaign is planned to be conducted from 10-20 October 2022 (for 10 days), targeting to vaccinate at least 1m people per day
    - It is designed to be partially integrated with Routine immunization
    - National Technical Committee (NTC) is conducting weekly meetings to prepare for the integrated campaign, with at least 9 thematic subcommittees meet regularly and report to the NTC on a weekly basis
    - 10.3million doses of vaccines are scheduled to arrive in the country towards the end of September, to be immediately pre-positioned for the campaign. At least 70% of the doses will be the J&J vaccine type as recommended by the NTC.

SBC Progress-related C-19 campaign preparations

- ASCM plan in NDVP updated and revised.
- Field supervisors meeting and After-Action review conducted with HP directorates.
- Micro planning guidelines were developed based on the feedback, lessons learnt, and challenges mentioned during after action review.
- A perception survey will be conducted in 5 low-performing states (Kassala, Red Sea, South Darfur, North Kordofan and Khartoum), data collection will start on 1st September and final report to be disseminated by 15th September.
- Social media workshop conducted for federal social media influencers and will be cascaded for state social media influencers
- M&E workshop conducted in 3 phases for Federal and States M&E personnel, M&E tools for Health Promotion under finalization
- Media house contracted for a 360-degree creative communication strategy for the mega campaign
- Key messages for high- risk and immune-compromised population updated, currently under design phase
- Plan in place to engage mobile cinema, community platforms and live theatre for mega campaign awareness activities
- Plans in place with media house to engage telecoms, banking apps like bangkok and Tirhal apps for the awareness campaign
- Regular bi-weekly subcommittee meetings to review and finalize campaign preparations

Figure 7.1: ***% Of administered doses of all vaccines out of total population till 28 Aug 2022*****.**

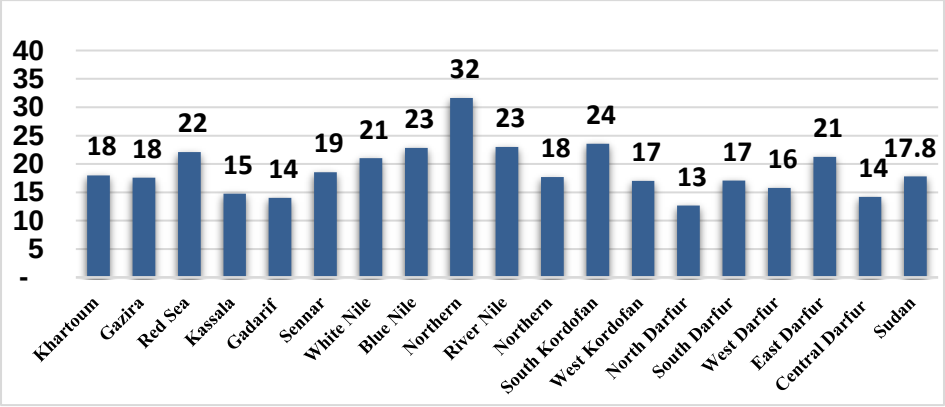


Figure 7.2: % of Immune individuals out of total population till 28 Aug 2022.

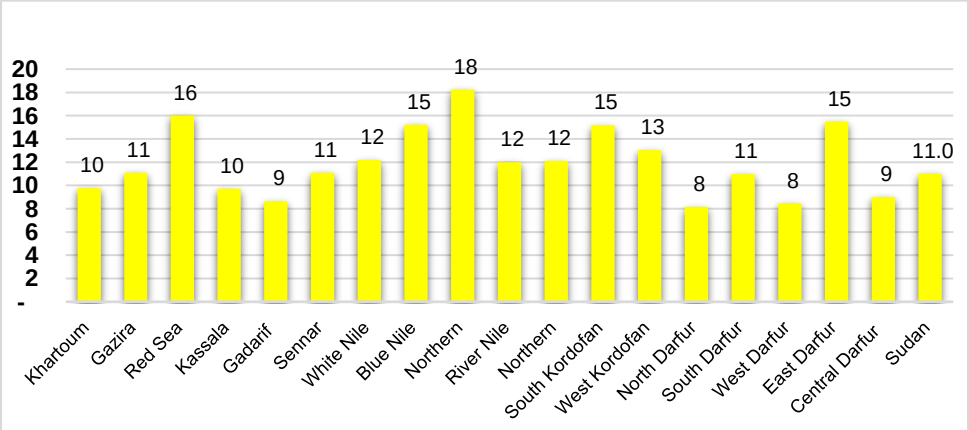


Figure 7.3: % of partially vaccinated out of total population till 28 Aug 2022.

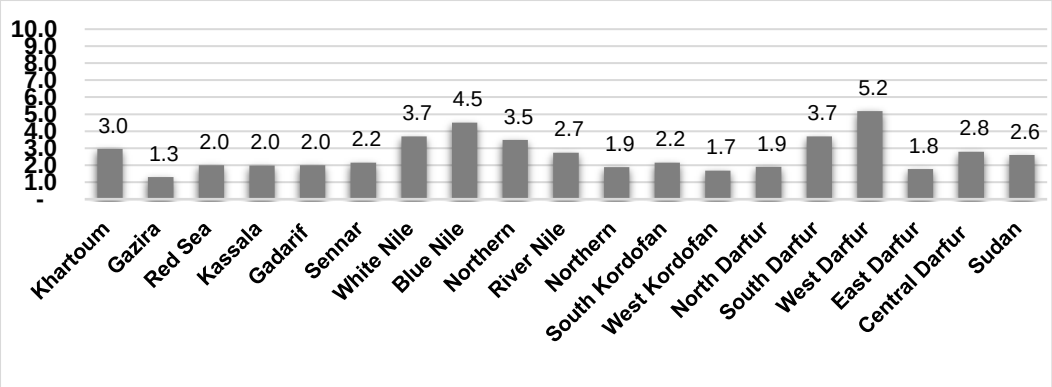


Figure 7.4: % of administered doses of all vaccines and total immune out of total population till 28 Aug 2022.

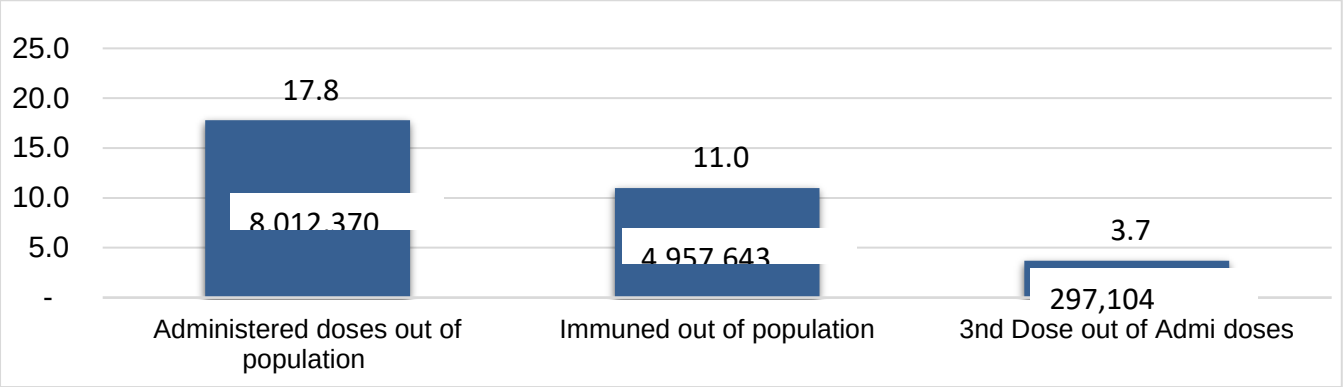


Figure 7.5: Coverage of priority groups (HCWs, comorbid and elderly).

Item	age >=45	age >=45 - Chronic-dis	HCW
Num Vaccinated	1624608	215749	363375
%	33	4.4	7.4

Source: C-19 electronic data system

Administratively, in all states,the Covid -19 vaccination activities operated by personnel of EPI and other related departments in PHC for follow-up and evaluation of:

- All vaccination program system administration, delivery steps, and monitoring and evaluation
- Data management and electronic activities
- Health promotion activities

The integration of C-19 Vaccination with RI will add to:

1. Raising the number of immunization sessions.
2. Increasing the number of days for mobile teams.
3. Discover and respond to defaulters and refusal using defaulter tracing focal persons.
4. Support in main operations activities such as transport, monitoring, and evaluation of a vaccination system.

Subsidy the EPI personnel support solving the technical issues and technical information

. **KEY CHALLENGES**

- Timely release of funds to implementation level.
- Transportation and economic situation inflation
- Uncertainties regarding the political situation,
- Other health competing priorities –year, including floods and related diseases such as malaria and water-related diseases
- C-19 Vaccine short shelf life
- Payment modalities regarding certain activities

8. Learning Question: Trajectory and progress against targets set

- **How does the progress over the past year compare with your Theory of Change or program objectives?**

➢ In line with the COVAX facility C-19 vaccine slogan of no one is safe until all is safe including low- and middle-income countries, FMOH set a target of 23 million which is equivalent to 52% of the population to reach by end of December 2022 which represents the population over 18years of age.

➢ The country did not reach the 20% target set by the WHO for 2021 due to several reasons where the payment modality for the C19 operations and the delivery strategies were the most serious ones according to the bottleneck analysis conducted by FMOH in December 2021. After the adjustment of the payment modality where the timely release of funds to the states in prior to the campaigns, the country was brought to track.

➢ Currently, the country is preparing to move further steps towards achieving the target the FMOH planned to conduct three mega campaigns in quarter 4 to reach 17 million people. In addition, to reach the remaining target from 20 % June targe which is equal to **1 357 540** by first dose and **1 113 167**.

- How has **COVID-19** and **COVID-19 vaccination** impacted your routine immunization program, what has been done to maintain and restore immunization and what has been the impact of it (please include reference to trends in DTP3 and MCV1 coverage)?

The COVID-19 impact on the RI was evident in Khartoum state during the first wave of the pandemic. According to the rapid assessment conducted in April-May 2020 to measure the disruption of PHC services in Khartoum state to direct the appropriate interventions, the Penta3 coverage in May 2020 was 15% less than the coverage in May 2019. During the total lockdown, the EPI RI services were stopped in all hospitals. To mitigate this impact, the FMOH developed the technical guideline on the continuity of MCH services during COVID outbreak. MCH has formed a small supply team with the Supply chain committee to follow the procurement and distribution of PPE's to all MCH service providers and find methodologies of stabilizing PPE's supply to states and facilities. Regular update of guidelines following national and international reports regarding COVID-19 to ensure national guidelines are up to date. In addition, 151 PHC centers in Khartoum state were prioritized according to the geographical distribution and their appropriate infrastructure to apply C19 IPC measures, in which direct financial support from FMOH in terms of transportation (total public transportation was stopped at that time) C19 IPC training and risk allowance incentives was mobilized to sustain its functionality all the time during the pandemic. All the social media platforms and the mass media were used to announce for the public regarding the available and continued services at these (151) PHC centers.

- If other factors (e.g., government transitions, natural disasters, other disease outbreaks, etc.) have led to disruptions in your immunization program over the last year, please also reflect on those.

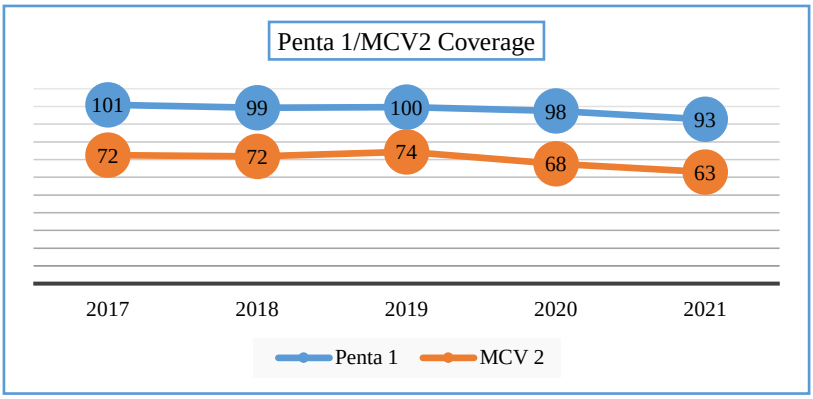
Sudan over the past years faced several factors that challenge the implementation of the public health interventions including EPI such as the government transitions, floods and waterborne and vector-borne diseases outbreaks.
In December 2018, the Sudanese revolution was launched which led to the end of the National Congress Party regime in April 2019. Since that time, the country has been going through a very arduous transformation, and scheduled and unscheduled strikes occur all the time in all the states. And after two successful transitional governments, unfortunately, in 25TH of October 2021, the military decided to take the power which has led to more complications in the political atmosphere.
Almost on a daily basis, there are demonstrations and strikes with the majority in Khartoum states that put a burden on the EPI to regularly reschedule the implementation of RI sessions to cater for defualters and missed sessions.

Indicator(s):

- The number of children who received DTP3 and number of children who received MCV1 in the past year compared to the number who received those vaccines in 2019.
- Qualitative information

Graphs:

(Examples to be replaced with specific country versions)



Country Comments (please consider the set of cross-cutting questions to structure comments):

Despite all the above-mentioned obstacles that have limited the progress of the program during the past three years, many achievements have been reached that reflect the system's resiliance, even if it is not optimal. The containment of the Circulated vaccine-drive polio type 2 outbreak through the implementation of only two high-quality mOPV vaccination campaigns that reach approximately 9 millions under five years of age children in 2020-21 is the best example of this system resilience.

In March 2022, FMOH endorsed the National Health Sector Recovery and Reform Strategic Plan 2022-2024 as abridging strategy for the transitional period. The mission was clearly stated in this strategic plan to organize and strengthen the health system to be able to provide equitable, affordable quality health services, aiming to achieve Universal Health Coverage and related Sustainable Development Goals & targets; tackling health challenges and working in collaboration with all actors through the implementation of health in all policies to ensure optimal health for all & contributing to the overall social, environmental & economic development, and peacekeeping. Reorienting the PHC toward achieving the UHC and the SDGs was introduced as a necessary project to attain the strategy's ambitious goal.

B. Programme Management

Financial implementation of Gavi cash grants

Cash[3] Support Summary* PMU/ Unicef/ WHO

Grant	Recipient	Period/ expiry date	Status as of 28.8.2022					Cash Bal	Compliance**	
			Grant Value	Appr.	Disb.	Expenditure	Utilisation		Fin. Rep	Audit
HSS2/PBF	PMU – FmoH	2014-Q1 March 2022			17,756,271.14	17,357,136.57	97%	330,920	✓	
IPV2 VIG	UNICEF	31.12.2022	237,307	237,307	237,307	220,764	93%	16,543	✓	
YF VIG		31.12.2022	921,761	921,761	921,761	282,683	31%	639,078	✓	
YF OPS		31.12.2022	630,085	630,085	630,085	255,250	41%	374,835	✓	
PEF TCA 2021		31.12.2022	500,972	500,972	375,729 (75%)	321,026.8	85.4%	54,702	✓	
Solar electrification		30.6.2023	862,785	862,785	862,785	0	0	862,785	✓	Provide justification
CCEOP delinking		20.6.2023	792,516	792,516	792,516	61,977 (Basically PSC)	8%	730,539	✓	Update with Fatma letter
HSS2/PBF		31.1.2023	1,455,84	1,455,848	1,455,848	623,920	42.9	831,928	✓	
CDS fund		31.12.2022	6,374,711.11	6,374,711.11	6,374,711.11	5,113,846.97	80%	1,260,864	Ongoing	
IPV2 VIG	WHO	31-Dec-20	657,776	657,776	657,776	657,776	100%			
YF VIG		31-Dec-21	417,491	417,491	417,491	417,491	100%			
YF catch up OPS		31-Dec-22	2,471,427	2,471,427	2,471,427	1,924,453	77.8%	546,974		
YF Mass campaign OPS		31-Dec-22	2,514,873	2,514,873	2,514,873	1,035,080	41.20%	1,479,793		
PEF TCA 2021		31-Dec-22	490,826	490,826	490,826	43,083	10.90%	437,118		
HSS2		30-Jun-21	2,523,364	2,523,364	2,523,364	2,523,364	77.5%	568,000		
CDs		30-Oct-22	2,254,279	2,254,279	2,254,279	639,109	28.40%	1,615,171		
IPV catch up OPS		31-Dec-21	266,000	266,000	266,000	266,000	100%	-		
GAVI PREP READ COVID19		31-Dec-22	644,382	644,382	644,382	625,122	97%	19,260		

[3] All HSIS grants (HSS, VIGs, OPS, Switch), EAF and CDS cash support as applicable.

9. Learning Question: How well is the country able to absorb Gavi funding and what are the drivers? (This should cover all funding including funds channelled through partners.)

Indicator(s):

- **Amount of cash balance in-country**
- **Percentage of grant funds utilized**

The total amount of funds that had been disbursed to the PMU was USD 17,756,271.14. The total amount utilized through the PMU was USD 17,357,136.57 which makes the absorption rate of the fund received by the PMU 97%. The available amounts at the PMU bank account in Sudan up to Sep 2022 is; USD 78K, EURO 570K, and SDG 37M.

Thoverallll utilization rate is good despite the many challenges encountered, including the country's political situation, PMU understaffing, and staff turnover at all FMoH levels.

The total fund envelope received by UNICEF and still active (not expired is 3.98 M related to different program aspects, routine, technical assistance, campaigns, supply chain.. , etc

The overall utilization rate is 29% with variation between grants (as in the above cash support table):

1- Grants with good utilization rate: IPV-VIG, PEF TCA 2021
2- Grants with low to medium rate: YF OPS, HSS2
3- Grants with very low utilization rate: Solarization, CCEOP delinking, YF VIG.

The overall utilization of grants under UNICEF is constrained for several reasons:

1- country political situation and the 25th October coup, and its impact on the decision on fund flow to the government the primary partner (YF OPS, part of PEF TCA related to the implementation demand-related research)
2- Global supply pipeline constraints as well as the in-country delayed clearance process mainly affected Solarization and CCEOP delinking
3- Delayed recruitment/ contracting process (internal organization procedures)

Utilization of grants expiring by the end of 2022-Jan 2023 need to be completed by mid of Dec 2022 as UNICEF financial system will close till the first week of January 2023

The total GAVI fund with WHO is $ **4,098,316** active as follows:

1- The remaining budget of Yellow fever campaigns OPS $ 1,479,793, after partial implementation of the campaign
2- Remaining from the Yellow fever mass campaign $1,900,000
3- PEF TCA 2021 is partially implemented, the remaining budget is $ 437,118
4- CDS early access, remaining is = $1,615,171

And the following is not active, the award expired=

HSS2; $ 568,000 Remaining fund: the available fund is the fund for the EPI coverage survey, MOH confirmed that they will implement the survey + remaining budget from routine, all other planned activities were completed & the utilization is 100%

The main reasons let to delay in implemnation are:

1- Political situation that led to restriction of DFC implementation
2- Long process & requirement for survey implementation within the WHO system
3- Reprogramming of activities to procurement which needs long process & time
4- Delayed recuritment process within WHO system

10. Learning Question: How well is the country resolving issues arising from assurance activities? What issues are left to solve and what is the path forward?

- What is the progress of Grant Management Requirements implementation?
- How has the country addressed recommendations arising from past audit recommendations (annual external audits + Gavi Programme Audit)?
- Comment on the improvements that have been made to financial management and risk assurance activities with support of assurance providers (e.g., Fiscal Agents, Monitoring Agents, Financial Management Technical Assistance)?
- Specifically, what actions have been taken to enable a larger % of Gavi funds to be channelled back through government systems?

Country comments:

- Out of the 18 GMRs 14 requierements have been met excpt the following :

GMR	Progress
GMR 5 Monitoring and Evaluation, Surveillance systems: (Coverage survey)	While there is a delay in the implementation of the EPI coverage survey, currently all the preparatory steps are in place to start the implementation
GMR8 Combine/merge existing Gavi and Global Fund PMUs - MERGED PMU	For future planning
GMR 14 Fixed Asset Management	The asset registry for the years 2020 - 2022 is completed, asset verification plan is approved and will be implemented in Nov 2022.
GMR 15 Tax Exemption	On progress

- No financial finding in the final BDO audit report, in follow up of the management findings, the PMU prepared " A follow-up work plan " (attached as annex), and is already being implemented
- For improving the financial management and risk assurance, measures taken so far include the assignment of the GFA and for the PMU financial oversight, and recruitment of the Finance Manager

- To ensure that the PMU achieves its expected task to manage all the funds through the government system, HSS3, YF & IPV and Rota switch funds have been put under the PMU implementation. There is an ongoing restructuring of the PMU to be able effectively manage the all Gavi funds

11. Learning Question: Please comment on any other financial management-related bottlenecks for implementation and compliance.

Country comments:

Freezing of fund, delay in fund transfer, reimbuersment modality, understaffing and staff turnover at the PMU finance unit had adversily affected the timely implementation of activities and plans. In addition, partners submit reports directly to GAVI Country team which makes it difficult for the PMU to calculate the over all grant absoption rate.

12. Learning Question: Is the country effectively addressing gender related barriers (e.g. faced by caregivers or adolescents in accessing immunisation services and barriers faced by health workers in delivering immunisation services)?

Country comments:

Upon data analysis of the state vaccine coverage reports for COVID-19 vaccination, it was observed that out of the total percentage of the vaccinated population, the female: male ratio was very low. The main reasons for female hesitancy towards vaccines that came up after a rapid assessment was:

- Lack of specific information on the safety of vaccines for females that addressed gender-specific concerns such as fertility, breastfeeding, and Sexual and Reproductive Health
- Concerns of females regarding getting vaccines during pregnancy and for lactating women
- The non-conducive environment at the health centers for the vaccination of women

The following interventions were undertaken by MOH with technical assistance from UNICEF to address this matter:

- Specific key messages were developed for women emphasizing the importance and safety of COVID-19 vaccines
- Fact sheet for women addressing the concerns/queries on immunization
- Social media posts specifically for females based on FAQs from female audiences
- Social mobilization and community engagement activities targeting women like women group meetings, orientation sessions etc.
- efforts on increasing privacy for females at the vaccination centers and where possible deploying female vaccinators.
- conduct maternal immunization scientific forum and cascade it at the state level to minimize the missed opportunity on vaccination of pregnant and lactating women.

These interventions resulted in a significant increase in female vaccination coverage and boosted the engagement of females on social media in COVID-19 vaccination campaigns. This engagement is tracked every week through social listening through the Talk walker dashboard. The below figure is from last week's weekly COVAX report illustrating engagement on COVID-19-related topics as per gender.

C. Implementation of Technical Country Assistance (PEF-TCA)

13. Learning Question: Is the country implementing PEF TCA and COVAX TA as expected? Please explain how the TCA has helped to support the achievement of the country objectives.

Country comments:

WHO - PEF TCA 2020-2021:

PEF TCA 2020:

1- Development of immunization Continuous Quality Improvement Plan with process and outcome measures: completed as planned
2- TA to support development/update of cMYP 2021 – 2025: completed
3- Support preparation for the introduction of hepatitis B birth dose in routine immunization: support the preparatory process and ensure NITAG approval, being part of the national hepatitis control. The introduction is not completed as no window is available to support the birth dose.
4- Support country in preparation of the proposal for introduction of MR in routine immunization program and catch-up campaign: completed
5- Support the country in strengthening 2-year immunization and expanded immunization services in closed and inaccessible areas: no progress as these areas still not accessible
6- TA for VPD surveillance improvement/ training (especially for Diphtheria and pertussis) and lab training as this is expected from the upcoming surveillance assessment: training for the laboratory team was completed, surveillance review is still needed and must be on the top of the agenda
7- Sustain the two posts for the HSS and EPI (NOD&NOB) for the next year: completed
8- Long term technical assistance through zonal coordinators to support planning at the state level (6 coordinators): affected by the turnover of the EPI manager, the newly assigned manager requested reprogramming, GAVI rejected the proposed reprogramming and the activity wasn't completed

PEF TCA 2021:

1- TA to review and update immunization module of pre-service and in-service for different health cadres: in process, will be completed timely
2- "conduct a study to estimate the prevalence and economic impact of HPV in Sudan, to guide the introduction of the HPV vaccine. ": in process, data collection will start soon
3- "conduct a study to assess equity to immunization including zero dose children /communities services in Sudan: in process, data collection will start soon, will be completed timely
4- "2 posts of NOA level to strengthen the national EPI technical capacity mainly for routine immunization and planning: major delay due to creation of the two positions in the organogram, will be advertised and filled soon.
5- "Conduct study of the prevalence CRS as a baseline study for Rubella containing vaccine introduction into RI: in process
6- "contextualize E-learning training courses covering all EPI modules (Planning- Vaccine management- Surveillance- Vaccine Safety - Program management - Supervision- M&E ....)": minor delay
7- TA to support enumeration for EPI coverage survey: major dealy
8- sustain the NOD -HSS post: completed

WHO- COVAX TA:

All activities to support the deployment of COVID-19 vaccination requested by WHO TA were fully implemented to cover the following components, however these activities

encountered major delays, despite the approval for this plan was in January 2021, the hiring of the main TAs that supposed to support the country's preparedness and readiness steps that enable the country to introduce different types of C-19 vaccines to protect Sundaneses population and reach the herd immunity was not implemented until August 2021:

1. Planning & Coordination
2. Regulatory Aspects
3. Safety Surveillance
4. Monitoring & Evaluation
5. Service Delivery
6. Prioritization, Targeting & Covid-19 Surveillance
7. Training & Supervision.

PEF TCA 2020-2021:UNICEF

For PEF TCA 2020:
Despite the delay related to HR recruitment:
1- EPI supply chain team benefited from the technical support provided by the consultants in the operationalization of the maintenance system, the development of a relevant training package, and build of a pool of trainers through TOT by the consultant.
2- Immunization supply chain HR and training need assessment was done with the proposition of organogram/structure to meet the expanding investment in the cold chain along with ToRs
3- EPI/Cold chain team was trained on multiyear vaccine forecasting, costing, and financing
4- Contributed towards demand creation activities for Routine Immunization.:planning monitoring and evaluation ToT was conducted for Federal and States HP M&E personnel that contributed to building the capacity of HP on M&E and M&E tools were developed.
5- Support the national logistic technical working group to update the immunization program SOPs to be aligned with the C-19 vaccine introduction.
6- Support training of all state Epi managers on new C-19 vaccine introduction and management guidelines
7- Support transportation of the C-19 vaccine bundle
from the central cold chain to states

PEF TCA 2021:Immunization supply chain:
1- Continued international engineering technical support for the solar electrification project
2- Support to oversee, coordinate and document the deployment of cold chain equipment under HSS/CCOP/Solarization is under the final stages of recruitment (as it is short-term support; the process was delayed till supplies are ready for the in-country phase of action)

Demand Generation:

- Two activities were planned one to develop a visibility strategy for Routine Immunization and 2nd the Immunization barriers research analyzing barriers to deliver key messages to caregivers by vaccinators. As received only 75% of the funds,

- one TA was prioritized for implementation of immunization barriers research and currently is under implementation. This research will contribute to analyzing possible barriers that lead to the high number of defaulters, zero dose, and unimmunized children in the 67 low-performing localities of Sudan.

For Covax TA 2020:

- the implementation of the Covax TA 2020, unfortunately, was encountered major delays. for instance, the approval for this plan was in January 2021, however, the hiring of the main TAs that supposed to support the country's preparedness and readiness steps that enable the country to introduce different types of C-19 vaccines to protect Sundaneses population and reach the herd immunity was not implemented until August 2021,
- currently, all the activities (hiring consultancy, training, assessment/mapping, and clearance) were all implemented, below are areas where Covax TA support country readiness:

1. Support the National logistic technical working group (NTLWG)/EPI to update the immunization program SOPs to include and aligned C-19 vaccine national program
2. Support training of all state Epi managers on new C-19 vaccine introduction and management guidelines
3. Support transportation of C-19 vaccine bundles from central cold chain to 18 states
4. Support assessment of dry storage and cold chain capacity, including completing the CCE sizing tool and identifying critical gaps at all levels concerning the COVID-19 vaccines' characteristics.
5. Support mapping of points of storage (stores), and fallback facilities in the country with their respective cold chain storage (2-8C, -20C, -60/70C) and transportation capacity for vaccines and ancillary products
6. Update vaccine stock management tools and operating procedures to reflect the characteristics of COVID-19 vaccines

Row Labels	Completed	Major Delays	Minor Delays	On Track	Re-programmed	Unreported	Achievement
Unicef/COVAX TA	10	1	1	0	0	0	10
WHO/TCA and COVAX TA	20	3	0	0	0	0	20
Target Country Assistance UNICEF 2020-2021	**16**	**3**	**2**	**1**	**2 (NHIF integration TCA 2020)**	**2 due to limited fund received**	
Grand Total							

List of Recommendations and Action Points

Joint Appraisal Sudan - September 2022

Agreed Action	By When	Lead / Assigned To	Support	Funding Source
Maintain, Restore and Strengthening Routine Immunization and Equity Acceleration Funding				
1. Develop a road map & identify key actions for strengthening RI by the end of 2022, building on different available data sources (from routine data systems, mapping, surveys, etc.)	15 September 2022	EPI		N/A
2. Conduct a rapid mapping exercise to reconfirm targets for un /under vaccinated children. - Mapping of low performing localities - Mapping of PHC service delivery sites to identify underserved communities - Intensification of strategies to ensure increase rate of session implementation - Identification of opportunities to identify missed opportunities for RI such as community health worker program with UNICEF	TBC	TBC	TBC	TBC
3. Enumeration for the Epi coverage survey - TA to revisit the denominator	31 October 2022	WHO EMRO		Reprogram TCA 2021
4. Conduct quarterly performance reviews and close monitoring of immunization technical working group.	15 September 2022	FMOH (Data from EPI)		N/A
5. Explore opportunities for 'bundling' activities planned under the various campaigns to increase efficiency, (i.e. transportation costs) complementarity and integration	30 September 2022	FMOH	UNICEF, COVAX Committee, LLINs Committee	N/A

Agreed Action	By When	Lead / Assigned To	Support	Funding Source
6. Finalize CMYP including costing tool (to be transformed to NIS – Costed)	30 November 2022	WHO		Reprogram TCA 2021
7. ZD identification exercise as part of EAF preparations and identification of underserved communities	30 September 2022 (share data)	FMOH		N/A
8. EAF application finalized	15 November 2022 (initial draft to CT) Dec/Jan (submission to IRC)	FMOH		N/A
9. Explore how digitalization can strengthen RI performance	30 November 2022	FMOH	ACASUS	TCA 2023
10. Learn from ongoing work to strengthen monitoring & supervision of RI supported by digital tools	30 November 2022	FMOH	ACASUS	TCA 2023
11. Review of evidence to explore advocate for flexibility from Gavi to provide vaccines to <5 years	31 December 2022	GAVI	FMOH to provide evidence with support from WHO and UNICEF	N/A
12. Identification of sustainable immunization strategies (count them / immunize them / come back another time)	30 November 2022	Save the Children	FMOH	CDS Funding
Importance of robust data for decision-making				
13. Review and recommend the feasibility of integration of EPI in DHIS 2 data	30 November 2022	FMOH/HMIS	WHO and ACASUS	Reprogram TCA 2021
14. Development of a road map for the integration of a digital Health EPI platform	31 October 2022	FMOH/DPHC/EPI Team		N/A

Agreed Action	By When	Lead / Assigned To	Support	Funding Source
15. Review of immunization data (surveillance data/case base date)	31 December 2022	WHO		N/A or Reprogram TCA 2021
Strengthen VPD surveillance and response				
16. Explore opportunities under CDS application to bridge the funding gap for laboratory support	31 December 2022	WHO		CDS
17. Development of Emergency Outbreak and Response Plan	31 December 2022	WHO		WHO Resources
Tailor and reinforce evidence driven demand generation activities				
18. Finalize various surveys to understand barriers for immunization - Perception Surveys - Barrier Study - HCD	PS (30 September 2022) BS (30 October 2022) HCD (TBC)	UNICEF	ACASUS to work with UNICEF on digitalization of COVID19	Reprogram TCA 2021 Reprogram TCA 2021 Need to look for funding
19. Consolidate M&E and lessons learnt from activities implemented so far	Assessments (one immediate) then quarterly assessments	FMOH	UNICEF	Need to look for funding / TCA 2023
Strengthen logistics, cold chain, health management information systems				
20. Capacity building of relevant immunization supply chain personnel to undertake data analyses and triangulation, forecasting and supply planning	December 2023	UNICEF		TCA 2023
21. Deploy appropriate Logistics Management Information System (vLMIS)	December 2023	UNICEF	WHO	TCA 2023
22. Establish in-country mechanisms for routinely tracking and reporting standard SC indicators	June 2023	FMOH/UNICEF		N/A

Agreed Action	By When	Lead / Assigned To	Support	Funding Source
(DISC indicators, SC-related Immunization Agenda 2030 indicators)				
23. Establish and/or strengthen functionality1 of National / sub-national Logistics Working Groups (NLWGs) (see UNICEF Agora NLWG Short course) and conduct supportive supervision	December 2023	UNICEF	WHO	TCA 2023
24. Undertake Vaccine Wastage Assessments, based on WHO Wastage Assessment specifications, to determine country-specific wastage rates for use in demand and supply planning	March 2023	WHO	FMOH / UNICEF	TCA 2023
25. Support EPI to conduct cold chain assessment, inventory updates, active temperature monitoring and development of multi-year cold chain inventory replacement and the new CCEOP 5.0	December 2023	UNICEF	FMOH	TCA 2023
26. Engage all stakeholders to create a continuous SC improvement plan, prioritizing Comprehensive Vaccine Management initiatives and interventions, that is costed with clear implementation timelines and accountabilities	December 2023	UNICEF	FMOH/WHO	EAF
27. Introduction and use of vaccine barcoding and traceability through the SC system	December 2023	UNICEF		CDS
28. Investigate root causes of avoidable vaccine wastage (closed and open vial), development and implementation of a plan of action by EPI + NLWGs/SNLWGs for mitigating avoidable wastage	December 2023	UNICEF		N/A
29. Deploy Accountability Mechanisms for vaccines and devices (syringes) based on Polio Vaccine Accountability Mechanisms to RI, campaign, and C-19 delivery	December 2023	UNICEF		N/A
Reach COVID-19 vaccination targets				

Agreed Action	By When	Lead / Assigned To	Support	Funding Source
30. Incorporate lessons learnt on COVID-19 demand generation for RI strategy	30 November 2022	FMOH/Health Promotion Unit	UNICEF / ACASUS	N/A
31. Finalize NDVP including costing tool	15 October 2022	WHO/FMOH		N/A
Programme and Financial Management				
32. Conduct Monthly Coordination Meeting between FMOH/PMU – GAVI - GFA	First one by end of September	Gavi	PMU	N/A
33. Reprogram TCA 2021 until December 2022 - Prioritize activities	15 September 2022	WHO/UNICEF		Reprogram TCA 2021
34. Develop management tool to do a quarterly monitoring of Gavi investments	30 September 2022	PMU/GFA	PHC/EPI	N/A
35. Review role and membership of EPI Technical Working Group (look at frequency of meetings, regular agenda and minutes)	30 September 2022	FMOH/EPI	PMU	N/A