World Health Organization

**Final report**
**15 June 2022**

# South Sudan COVID-19 INTRA-ACTION REVIEW (IAR) REPORT

Juba, South Sudan, 23-24 May 2022

## 1. EXECUTIVE SUMMARY

***A COVID-19 intra-action review (IAR) was conducted on 23-24 May 2022 to share lessons learned and best practices of South Sudan's COVID-19 response between 1 June 2021 and 31 May 2022 as outlined in the second National COVID-19 Strategic Preparedness and Response Plan (SPRP). The outcomes of the IAR will be incorporated in the updated and third SPRP from 1 June 2022 to 31 May 2023.***

*The second year of the COVID-19 pandemic in South Sudan was negatively affected by lack of funding for most COVID-19 response interventions. Activities like sample collection, community surveillance, mortality surveillance, and contact tracing were discontinued, impacting the country's ability to test and trace cases.*

*The impediment to test and trace cases hampered the ability to swiftly mobilize national and State-level Rapid Response Teams (RRT) to investigate (clusters of) COVID-19 cases.*

*The low number of cases and deaths reported as a result, has significantly impacted the overall population's risk perception of COVID-19. With a very low perceived risk, people have been reluctant to wear face masks, maintain physical distancing and to get vaccinated. This is further aggravated by the lack of enforcement to adherence to these public health measures.*

*Furthermore, lack of contact tracing has also resulted in 74% of positive cases being lost to follow up, with the remainder of cases treated through Home Based Care. While many health facilities in the country established isolation facilities for suspected and confirmed COVID-19 cases, there was limited funding for dedicated health workers. Health partners had to prioritize their health workers for more pressing health matters.*

*Because of stigma, people preferred to be isolated at home, instead of in an isolation facility. Home based care has also been hindered by lack of incentives for dedicated community health workers. Only in some locations where NGO partners decided to integrate contact tracing and home based care in community-based health programs, has the system been operationalised. At the same time, there is no possibility to enforce suspected and confirmed COVID-19 cases to isolate in line with existing quarantine and isolation guidance.*

*Since the start of the pandemic, South Sudan has had just one dedicated treatment centre for severe and critical COVID-19 cases, based in the capital Juba. The Infectious Disease Unit (IDU) is fully equipped in line with WHO international standards and run by an international NGO with specialised staff who are regularly trained on the latest developments. The limited capacity within the health system to early detect COVID-19 among high risk groups, has resulted in late referrals and a relatively high mortality at the IDU. No further funding is available to maintain the IDU until end June 2022, after which it will be handed over to the MOH.*

*The roll out of COVID-19 vaccination was delayed by unavailability of vaccines and insufficient funding until the late 2021-early 2022. Difficult access to large parts of the country, due to lack of infrastructure, insecurity, and flooding has slowed down the implementation of regular and intensified COVID-19 vaccination activities.*

*In spite of these challenges, South Sudan managed to vaccinate 7% of its population by 23 May 2022. Thanks to these efforts by implementing partners with support from the United Nations Humanitarian Air Service (UNHAS) for transport of vaccines, the country managed to mobilize sufficient vaccines as well as funding earmarked for operational expenses for COVID-19 vaccination.*

*Similarly, coordinated by the Logistics Cluster, South Sudan benefited from sufficient supplies of PPE (face masks, coveralls and hand sanitizers) and an efficient system to distribute and deliver these supplies to NGO partners. Still many health facilities report stock out of PPE, mostly due to lack of knowledge how to replenish supplies, or low risk perception.*

*There has also been a sufficient supply of laboratory reagents for RT-PCR testing, however testing was challenged by lack of incentives for health workers to collect samples, as well as the actual testing itself. Many laboratory staff were therefore recruited by private laboratories, seriously affecting the functioning of the National Public Health Laboratory (NPHL) in Juba, as well as the Molecular Laboratory established for this specific purpose at the Wau Teaching Hospital.*

*The roll out of antigen rapid diagnostics tests (Ag RDT) for COVID-19 throughout South Sudan was slow, causing several Ag RDTs to expire before being used. While many NGO partners are currently using Ag RDTs, reporting remains a challenge, with many partners not bothering to send reports back to the NPHL if all results are negative. An increase in Ag RDT positivity rate during the first 5 months of 2022 confirms COVID-19 is still circulating in South Sudan. Where testing is done, cases are found.*

*South Sudan has received 39M USD from the Global Fund COVID-19 Response Mechanism (C19-RM) through UNDP and various sub-recipients for surveillance, laboratory, and case management until end 2023. Most of the funding is for construction, procurement of supplies, and training activities, while only a small amount can be used for incentives for health staff.*

*South Sudan has also received approximately 48.3M USD from different donors for COVID-19 vaccination, the majority of which (29M USD) from the World Bank through UNICEF until end 2023. An additional 35M USD is allocated by the World Bank for the procurement of vaccines.*

*While the country's COVID-19 response seems well-funded, many core interventions cannot be implemented as the available funding does not allow for payment of incentives of health workers, unless it is for COVID-19 vaccination. As long as the government is unable to pay adequate salaries to its health workers, the country's response to COVID-19 will remain dependent on donor funding through the payment of incentives to health staff.*

*Unfortunately, dedicated COVID-19 incentives have led to a much lower coverage for child-hood immunization, as vaccinators prefer to be engaged in COVID-19 vaccination, neglecting other Vaccine Preventable Diseases.*

*The integration of COVID-19 response interventions into routine health programs aims to address many of the above challenges.*

*With below 10% of the population fully vaccinated against COVID-19, porous borders and limited control measures, South Sudan remains at elevated risk of further surges in COVID-19 cases, especially in view of the potential emergence of new variants.*

# 2. CONTEXT OF THE COVID-19 RESPONSE AND OBJECTIVES OF THE IAR

## 2.1. Objectives

*The purpose of the COVID-19 IAR was fourfold:*

1. *Share experiences and collectively analyse the ongoing response to COVID-19*
2. *Compile lessons learned by various stakeholders to improve current response*
3. *Draft recommendation to enable health systems strengthening*
4. *Provide basis for updating COVID-19 strategic preparedness and response plan*

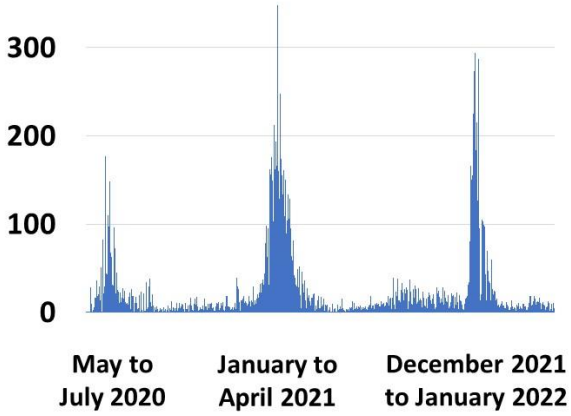
## 2.2. Scope

*The IAR covered the period of the 2nd SPRP from 1 June 2021 to 31 May 2022. The six selected pillars were grouped in line with their technical alignment to work jointly on best practices and challenges, as well as way forward:*

1. *Case Management, Infection Prevention & Control (IPC), Operational Support and Logistics (OSL)*
2. *Vaccination, Risk Communication and Community Engagement, and Infodemic Management (RCCE)*
3. *Surveillance, Case Investigation and Contact Tracing, Laboratory Management*

## 2.3. Context

*Since the first COVID-19 case was confirmed on 5 April 2020, South Sudan experienced three waves: the first wave from May to July 2020, the second wave from January to April 2021, and the third wave from December 2021 to January 2022. (See Figure 1).*




*Because of limited testing and weak surveillance, as of 30 May 2022, only 17,617 confirmed COVID-19 cases including 138 deaths have been reported in South Sudan since the start of the pandemic.*

*A household sero-prevalence survey conducted in Juba in August and September 2020 estimated that 38.5% of participants had antibodies for SARS-CoV-2, confirming COVID-19 had spread extensively within Juba. A health facility prevalence survey conducted in 7 locations throughout the country during December 2021 and February 2022 shows an overall positivity of 18.7% among participants. Both surveys confirm substantial underreporting of COVID-19 cases and deaths in South Sudan.*

*Regular genomic sequencing identified the BA.1 and BA.2 sub-lineages of the Omicron variant as dominant in South Sudan. Earlier, the Alpha [B.1.1.7], Beta [B.1.351], and Delta [B.1.617.2] variants of concern were detected in the country.*

# 3. METHODOLOGY OF THE IAR

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| **Date(s) of the IAR activity** | 23-24 May 2022 |
| **Location(s)** | Country: South Sudan<br>City: Juba |
| **Set-up** | ☒ Onsite |
| **Participating institutions and entities** | National Ministry of Health, Director Generals and State Surveillance Officers from State Ministries of Health, and County Health Directors. UN agencies and NGO partners involved in the different pillars |
| **Total number of participants** | 65 participants |
| **Period covered by the review** | 1 June 2021-31 May 2022 |
| **Response pillar(s) reviewed** | ☒ Risk communication, community engagement, and infodemic management<br>☒ Surveillance, case investigation and contact tracing<br>☒ National laboratory system<br>☒ Infection prevention and control<br>☒ Case management and knowledge sharing about innovations and the latest research<br>☒ Operational support and logistics in the management of supply chains and workforce resilience<br>☒ Vaccination |

# 4. FINDINGS

*South Sudan's COVID-19 response is outlined in its yearly updated COVID-19 Strategic Preparedness and Response Plan (SPRP). An Intra-Action Review (IAR) was conducted on 23-24 May 2022 in Juba to compile lessons learned to be incorporated in the third SPRP, which runs from 1 June 2022 to 31 May 2023.*

*Six out of 9 COVID-19 pillars were selected to be reviewed during the IAR, based on their relevance in the current COVID-19 response and active status. Among the 60 participants in the IAR were 11 Director Generals from State Ministries of Health, including 3 Administrative Areas, and 5 State Surveillance Officers and County Health Directors, besides the key UN and NGO partners in each of the selected pillars.*

*The agreed way forward strongly focuses on the need for enhanced:*

- *integration of COVID-19 response interventions in routine health programs,*
- *decentralization of preparedness and response mechanisms,*
- *effective advocacy with senior government officials.*

## 4.1. Surveillance, case investigation and contact tracing

| Observations | |
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| Best practices | - Integration of COVID-19 surveillance in ARI, ILI and SARI surveillance **RESULTING IN** improved detection of cases **THANKS TO** 3rd edition of IDSR guideline being rolled out in 31 (39%) counties with COVID-19 among reportable diseases<br>- Involvement of community leaders in COVID-19 community-based surveillance **RESULTING IN** improved detection of cases **THANKS TO** training of 1,685 incentivized Boma Health Workers (BHW) with access to data collection tools and SoPs<br>- Functional Rapid Response Teams (RRTs) responding to public health alerts **RESULTING IN** enhanced investigation of events including sample collection and packaging **THANKS TO** funding and ongoing capacity building and mentorship<br>- Community-based contact tracing **RESULTING IN** improved contact listing, tracing and follow-up **THANKS TO** positioning of contact tracers in all testing centers (seven private health facilities and NPHL) and access to tablets for supervisors<br>- Hotline data collected through DHIS2 **RESULTING IN** improved quality data for informed decision-making **THANKS TO** trained human resources, data collection and reporting tools including tablets, computers and SoPs<br>- Functional data management unit within PHEOC **RESULTING IN** improved information sharing **THANKS TO** availability of subject matter expertise, space, and equipment<br>- Cross-border surveillance between Uganda and South Sudan (Nimule-Elegu point) **RESULTING IN** early detection and reporting of cases **THANKS TO** functional border management committee, effective channel of communication<br>- Functional Port Health Facility at Juba international Airport **RESULTING IN** continuous screening and monitoring of travelers **THANKS TO** availability of dedicated space to undertake port health activity, and effective information flow through DHIS2 |
| Challenges | - Downsizing number of sentinel sites from 47 to 15 **RESULTING IN** inability to detect cases **BECAUSE OF** funding<br>- Inconsistent data flow from sub-national level **RESULTING IN** poor quality data and delayed decision making **BECAUSE OF** lack of internet connectivity at health facility level<br>- Shortage of manpower **RESULTING IN** increasing number of unattended calls **BECAUSE OF** funding<br>- Poor integration of COVID-19 into ARI/ILI/SARI surveillance **RESULTING IN** missing cases **BECAUSE OF** shortage of and high turnover among trained health workers<br>- RRTs not active in all 80 counties **RESULTING IN** delayed response to public health events **BECAUSE OF** funding<br>- Poor communication between point of entry and nearest health facilities **RESULTING IN** missing cases **BECAUSE OF** lack of reporting tools and integration into IDSR system |

| 4.1. Surveillance, case investigation and contact tracing | |
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| | - Parallel reporting systems **RESULTING IN** delayed reporting and decision making **BECAUSE OF** lack of coordination |
| **Prioritized actions** | |
| Immediate: | - Mobilize resources for integration of SARS-CoV2 surveillance with ILI/SARI/ARI surveillance at sentinel sites<br>- Increase manpower at call centre, watch desk and ICT |
| Mid to long-term: | - Roll out RRTs to all 80 counties<br>- Strengthen the link between point of entry and nearest health facilities<br>- Integration of all reporting systems into DHIS2 |

## 4.2. National laboratory system

| Observations | |
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| Best practices | - Updated SoPs ready for printing and distribution **RESULTING IN** improved sample management and reduced turnaround time **THANKS TO** quality management system across all COVID-19 testing laboratories<br>- Training of laboratory personnel and clinicians on sample management. AgRDT and molecular testing **RESULTING IN** good quality testing **THANKS TO** technical expertise and supplies, enabling cascading of training to sub-national level.<br>- COVID-19 GeneXpert, AgRDT and molecular testing decentralized to Wau and Nimule **RESULTING IN** more speedy response to public health hazards **THANKS TO** funding, supplies, and expertise<br>- Regular sending of samples for genomic sequencing to reference laboratory **RESULTING IN** understanding of circulating variants **THANKS TO** Memorandum of Understanding between NPHL and Uganda Virus Research Institute (UVRI)<br>- Distribution of laboratory supplies to States **RESULTING IN** increased testing **THANKS TO** partners' support<br>- Timely delivery of samples from the states **RESULTING IN** improved turnaround time for results and decision making **THANKS TO** good coordination with UNHASS and MAF |
| Challenges | - Short expiry of donated supplies (AgRDT kits, GeneXpert cartridges, and reagents) **RESULTING IN** stockout and interruption of testing **BECAUSE OF** poor planning and communication with donors<br>- Lack of human resource support **RESULTING IN** poor performance and high staff turnover **BECAUSE OF** funding<br>- Limited support from partners for GeneXpert testing **RESULTING IN** little testing **BECAUSE OF** funding<br>- No COVID-19 genomic sequencing testing capacity **RESULTING IN** delayed identification the variants circulating in South Sudan **BECAUSE OF** lack of resources to procure, operate and maintain genomic sequencing machine<br>- Lack of sample transport from the state to national level for quality control and genomic surveillance **RESULTING IN** lack of quality control of testing **BECAUSE OF** funding for storage and transportation |
| **Prioritized actions** | |
| Immediate: | - Print and distribute SoPs |
| Mid to long-term: | - Mobilize resources for HR support in NPHL, Mobile and Wau molecular laboratories, 30 GeneXpert testing sites<br>- Establish a quality assurance system for the molecular, GeneXpert, Mobile lab and Ag-RDT platforms.<br>- Establish genomic surveillance capacity in South Sudan |

## 4.3. Case Management/Infection prevention and control/Operational support and logistics

| Observations | |
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| Best practices | - Training on IPC and case management of frontline health workers in isolation facilities in Juba IDU, Nimule, Yei and Wau **RESULTING IN** low infection rate among health workers and low case fatality **THANKS TO** available EVD preparedness capacity<br>- Updated COVID-19 Case Management and IPC guidelines **RESULTING IN** realistic referral pathway in line with reality on the ground and latest international guidance **THANKS TO** MOH and health partners involvement in development of guidelines and protocols<br>- Prepositioning and distribution of PPE commodities **RESULTING IN** low infection rate among health workers **THANKS TO** global supply common pool and continued support from logistics cluster<br>- Support to operationalization of national oxygen plant **RESULTING IN** improved case management of patients on oxygen therapy **THANKS TO** short lead time of oxygen delivery and continuous availability of oxygen<br>- Consistent operational support for the PHEOC **RESULTING IN** uninterrupted coordination of COVID-19 response **THANKS TO** available infrastructure (building), human resources, and MOH ownership of incident management structure (IMS)<br>- Well-coordinated logistics support to vaccine delivery **RESULTING IN** availability of COVID-19 vaccines in all 80 counties **THANKS TO** willingness and funding to support air shipment<br>- EVD isolation facilities converted for COVID-19 **RESULTING IN** timely isolation and management of COVID-19 cases **THANKS TO** compatibility of the structure and timely administrative decision from MOH/IMS |
| Challenges | - Incomplete geographical coverage of training **RESULTING IN** poor quality of service delivery and increased risk of infection to health care workers in some States **BECAUSE OF** lack of access due to insecurity, flooding, lack of funding<br>- Delayed delivery life-saving case management and IPC supplies **RESULTING IN** increased risk of infection and mortality **BECAUSE OF** travel restrictions and global shortages<br>- Lack of integration of COVID-19 isolation units within the existing health structures **RESULTING IN** low uptake of COVID-19 cases because of stigma **BECAUSE OF** ineffective use of resource and poor planning<br>- Lack of integration of in-country supply chain management in the MOH system **RESULTING IN** ineffective use of resources **BECAUSE OF** lack of MOH ownership and coordination in existing supply chain system<br>- Low-risk perception and lack of compliance to recommended preventive measures (quarantine, home based care, isolation, and IPC) **RESULTING IN** increased community transmission **BECAUSE OF** lack of enforcement to adherence<br>- Sub-optimal coordination of COVID-19 response between national and sub-national levels **RESULTING IN** delayed sharing of |

| 4.3. Case Management/Infection prevention and control/Operational support and logistics | |
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| | information **BECAUSE OF** poor internet connectivity/network coverage, inadequate communication tools, limited sustainable funding |
| **Prioritized actions** | |
| Immediate: | - (Refresher) trainings on COVID-19 Case Management, IPC/WASH for all States and Administrative Areas.<br>- Prepositioning of medical, WASH and IPC supplies in strategic locations.<br>- Mobilize resources to maintain the IDU operational as the only national referral point for critical and severe COVID-19 cases |
| Mid to long-term: | - Strengthen community-based surveillance and Boma Health Initiative (BHI) to enhance COVID-19 home based care<br>- Strengthen coordination of COVID-19 response between national and sub-national levels<br>- Involve Law Enforcement Agencies to reinforce adherence to recommended COVID-19 preventive measures at all levels.<br>- Integrate in-country supply management with the MOH and train MOH OSL team on supply chain management system.<br>- Integration of COVID-19 response into regular health services delivery at all health facilities. |

## 4.4. COVID-19 vaccination

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| **A. Regulatory Preparedness** | |
| Best practices | - Standard DFCA approval for all WHO approved vaccines for use in South Sudan **RESULTING IN** timely supply of sufficient quantities of supply since December 2021 **THANKS TO** government's trust in WHO's regulatory approval of vaccines (EUL) |
| Challenges | - Delayed tax exemption by Ministry of Finance **RESULTING IN** delayed deployment of vaccines, leading to short shelf-life, and potential safety issues for vaccine administration as well as extra-official arrival of vaccines in the country without DFCA approval **BECAUSE OF** lack of transparency by authorities and other agencies and ministerial changes in MOH and MoF |
| **B. Planning, Coordination, & Service Delivery** | |
| Best practices | - Realistic approach how to conduct COVID-19 vaccination **RESULTING IN** expansion to 80 counties both in fixed and outreach sites **THANKS TO** twice updated multi-agency National Deployment and Vaccination Plan (NDVP) reflecting latest developments<br>- Surge in the number of trained human resources for COVID-19 vaccinations (vaccinators, registration staff, supervisors) **RESULTING IN** increased coverage **THANKS TO** agreed-upon strategy in NDVP and available funding<br>- Regular coordination meetings with donors (incl COVAX) and partners **RESULTING IN** enough vaccine quantities both in-country and in the pipeline **THANKS TO** transparent sharing of information, leading to trust<br>- Bottom-up approach for community-based engagement (local leaders, churches, mosques, markets) **RESULTING IN** increased vaccine uptake **THANKS TO** increased ownership and trust in the community<br>- Intensified vaccination strategy rollout with an average of 10,000 doses/day administered **RESULTING IN** increased coverage **THANKS TO** available funding<br>- Supportive supervision structures strengthened through partnerships and MOH **RESULTING IN** effective feedback how to improve vaccination **THANKS TO** availability of expert staff for deployment to support COVID-19 vaccination scale up. |
| Challenges | - Lack of adherence to agreed-upon NDVP strategies and priorities, including amongst donor agencies **RESULTING IN** duplication of activities **BECAUSE OF** lack of transparency and accountability by partners and donors.<br>- Limited outreach and mobile activities **RESULTING IN** low coverage in difficult to reach areas and among high-risk groups **BECAUSE OF** high cost<br>- Inadequate integration of COVID-19 in routine immunization **RESULTING IN** limited availability of COVID-19 vaccines in health facilities **BECAUSE OF** initial lack of funding and lack of ownership<br>- Vaccines with short 'shelf-life' **RESULTING IN** wastage of vaccines **BECAUSE OF** lack of data sharing on vaccine expiry dates and limited knowledge on which vaccine to use first |

| 4.4. COVID-19 vaccination | |
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| **C. Funding** | |
| Best practices | - Effective coordination with donors **RESULTING IN** expansion of fixed sites in health facilities and outreach for COVID-19 vaccination **THANKS TO** increased funding<br>- Intensification of vaccine deployment **RESULTING IN** reduction of expired vaccines **THANKS TO** improved resource mobilization. |
| Challenges | - Partner-specific funding gaps **RESULTING IN** interrupted vaccination **BECAUSE OF** lack of transparency and accountability by partners and donors<br>- Donors deciding to fund partners without prior consultation with MOH or TWG **RESULTING IN** duplication of efforts **BECAUSE OF** lack of transparency and accountability by partners and donors<br>- Unwillingness by partners to disclose available funds **RESULTING IN** duplication of efforts **BECAUSE OF** lack of transparency and accountability by partners and donors<br>- Lack of MOH COVID-19 vaccination activities **RESULTING IN** decreased community trust in MOH **BECAUSE OF** limited central government allocation to MOH for health programs, including COVID-19 surveillance and vaccinations.<br>- Delays in operational partnership agreements **RESULTING IN** interrupted vaccination rollout **BECAUSE OF** restrictions on available funding |
| **D. Supply Chain & Waste Management** | |
| Best practices | - Expansion of COVID-19 vaccine deployment to remote areas **RESULTING IN** availability of vaccines throughout the country **THANKS TO** effective collaboration between UNICEF and UNHAS<br>- Adoption and implementation of the new 'WHO Waste Management' guidelines for COVID-19 vaccinations **RESULTING IN** cost-effective management of COVID-19 waste as part of routine immunization **THANKS TO** willingness on the ground to incinerate COVID-19 waste at zero additional cost<br>- Continuous availability of vaccine supply **RESULTING IN** uninterrupted vaccination **THANKS TO** Shifting from ad hoc vaccine delivery to demand based (performance based), quarterly vaccine distribution<br>- Access to vaccines in remote areas **RESULTING IN** increased vaccine uptake in remote areas **THANKS TO** use of freeze-free vaccine carriers for the freeze sensitive COVID-19 vaccine operational cold chain<br>- Use of vaccine expiry stickers and labelling to each vaccine cartons and extra labels for last mile delivery **RESULTING IN** less vaccine wastage **THANKS TO** willingness of cold chain assistants and adherence to updated SOPs<br>- ODK tool kits adopted the vaccine stock tracking component **RESULTING IN** less vaccine wastage **THANKS TO** dedicated ODK |

| 4.4. COVID-19 vaccination | |
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| | staff able to make adjustments in ODK on as-needs basis<br>- Improved and upgraded cold chain capacity at national, State and County level (incl freezer room at NVS) **RESULTING IN** reduced costs of reverse logistics for all vaccines including for routine immunization **THANKS TO** availability of resources (Gavi, Japan and WB) to enable cold chain strengthening at NVS, State and county levels |
| Challenges | - Unnecessary thawing of vaccines at National Vaccine Stores **RESULTING IN** increase in COVID-19 vaccine waste rate **BECAUSE OF** lack of clear indication of vaccine expiry date (dynamic expiry) by vaccinators at health facility level<br>- Delayed decision on redistribution of soon-to-expire vaccines **RESULTING IN** expiry of vaccines **BECAUSE OF** absence of data on vaccine expiry at health facility level<br>- Under-utilization of the inventory tools for effective vaccine management **RESULTING IN** wastage of vaccines **BECAUSE OF** lack of dedicated support for vaccine stock monitoring and accountability |
| **E. Human Resource Management & Training** | |
| Best practices | - Improved supportive supervision mechanism **RESULTING IN** improved quality of vaccination (corrective actions) **THANKS TO i**ncrease in number of staff to approximately 200 for supportive supervision across all levels<br>- Enhanced health worker skills **RESULTING IN** continuity of other routine health services **THANKS TO** capacity building by health partners of new vaccinators to deploy for delivery of routine vaccinations.<br>- Increased recruitment and training of additional vaccination teams for upscale of rollout by health agencies IP **RESULTING IN** increased vaccine uptake **THANKS TO** MOH adopted standardized training materials and reporting tools from WHO<br>- Improved data management **RESULTING IN** reliable access to accurate data **THANKS TO** use of online training platform so as to reinforce previous training on data reporting of COVID-19 vaccinations e.g., ODK |
| Challenges | - Limited number of national facilitators for training of the intensified vaccination teams **RESULTING IN** Nonadherence to training protocols **BECAUSE OF** Selection of trainers who are not fully experienced.<br>- Implementation of COVID-19 vaccination as a vertical program **RESULTING IN** Multi-tasking the same staff at facilities **BECAUSE OF** Non-harmonization and high expectation of incentives<br>- Compromised quality of the training **RESULTING IN** poor quality of services in some health facilities **BECAUSE OF** limited familiarity and experience in providing vaccination-related issues by some of the deployed trainers (e.g., AEFIs) |
| **F. Vaccine Acceptance & Demand** | |
| Best | - Timely production and streamlining of IEC materials on vaccine availability, delivery of radio interviews, ‘jingles’ across partners, |

| 4.4. COVID-19 vaccination | |
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| practices | social media information provision and weekly media briefing in PHEOC **RESULTING IN** consistent information flow on COVID-19 vaccine **THANKS TO** coordination amongst RCCE partners in updating and adapting IEC messages<br>- Clear and enhanced understanding of messages in one's own language **RESULTING IN** high vaccine uptake in rural areas **THANKS TO** translation of messages into local languages<br>- Increased acceptance, confidence, local ownership **RESULTING IN** high vaccine uptake in rural areas **THANKS TO** involvement of local influential leaders, community-based institutions (e.g., religious associations, vaccine champions) and proactive youth groups<br>- Reduction in gender gap for vaccine acceptance **RESULTING IN** increase in vaccine uptake among females **THANKS TO** involvement of local women leaders as mobilisers within communities, especially for J&J vaccine.<br>- Regular updating of IEC messaging (print, radio) in line with COVID-19 Vaccinations TWG **RESULTING IN** consistent availability of accurate information on COVID-19 vaccine **THANKS TO** commitment and work of the RCCE Committee<br>- Utilization of the 2222 'Hot line' for providing community feedback **RESULTING IN** acceptance and support by community leaders for vaccination **THANKS TO** recognition by community leaders on the importance of being vaccinated |
| Challenges | - Widespread misinformation about COVID-19 vaccines **RESULTING IN** high levels of hesitancy to be vaccinated **BECAUSE OF** lack of engagement with community leaders<br>- Continuation of persistent untruths about COVID-19 vaccines **RESULTING IN** low vaccine uptake **BECAUSE OF** lack of capacity to identify and counteract rumors<br>- Unwillingness to call the COVID-19 Hotline 6666 **RESULTING IN** lost opportunity for dispelling rumors **BECAUSE OF** lack of engagement with religious leaders<br>- Low risk perception of COVID-19 **RESULTING IN** reluctancy by the public to be vaccinated **BECAUSE OF** limited high-level advocacy at national and state levels<br>- Reduced potential for positively promoting the benefits of vaccination due to constantly having to counter the negative rumours.<br>- Poor relationship with private sector **RESULTING IN** outdated vaccine promotion messages on mobile phone service operators (MTN, Zain) for promoting uptake of the vaccine **BECAUSE OF** lack of ownership by country leadership |
| **G. Vaccine Safety** | |
| Best practices | - Improved knowledge and reporting skills on AEFIs among health workers **RESULTING IN** accurate classification and timely Investigation of most serious AEFIs **THANKS TO** integration of AEFI in all COVID-19 trainings |

| 4.4. COVID-19 vaccination | |
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| | - Increased importance of adequate AEFI management **RESULTING IN** increase in the number of reported AEFIs **THANKS TO** availability of AEFI supplies and technology (ODK) for real-time reporting<br>- Technical support for investigation and causality assessment meetings **RESULTING IN** timely investigation of most serious AEFIs **THANKS TO** continued capacity building and support to National and State AEFI Committees |
| Challenges | - Lack of motivation for facility staff to take on the added responsibility of reporting AEFIs **RESULTING IN** poor AEFI reporting for routine immunization **BECAUSE OF** poor integration of COVID-19 AEFI surveillance in routine immunization<br>- Limited monitoring and accountability for AEFI kits **RESULTING IN** wastage of AEFI kits **BECAUSE OF** limited knowledge on diagnosing AEFI and adequate use of AEFI kit<br>- Limited human resources capacity at sub-national level **RESULTING IN** overreporting of AEFIs **BECAUSE OF** lack of data entry skills and limited understanding on AEFIs at sub-national level |
| **H. Monitoring & Evaluation** | |
| Best practices | - Use of COVID-19 vaccination data for planning & decision making **RESULTING IN** access to quality data **THANKS TO** COVID-19 vaccination reporting tools available at service delivery point<br>- Improved skills how to collect data using ODK **RESULTING IN** increased accuracy of data **THANKS TO** training provided to supervisors and data collectors<br>- User-friendly electronic data collection (using ODK) at health facility level in place **RESULTING IN** increased timeliness and completeness of data **THANKS TO** qualified staff able to establish and maintain the system<br>- COVID-19 vaccination dashboard publicly available **RESULTING IN** real-time monitoring of vaccination performance **THANKS TO** buy-in from partners on using ODK<br>- Regular data management meetings **RESULTING IN** constant updating of COVID-19 vaccination dashboard **THANKS TO** data verification from source (register and cards) |
| Challenges | - Limited human resources capacity at sub-national level **RESULTING IN** poor data quality and analysis **BECAUSE OF** errors in data and lack of skills to use the Dashboard for monitoring the performance at sub-national level<br>- Lack of electronic data collection tools (tablet, internet) **RESULTING IN** delayed data entry **BECAUSE OF** fragmentation of available tablets to disease-specific databases<br>- Lack of clear guidance from MOH on COVID-19 vaccine certificates **RESULTING IN** unnecessary issuance of digital COVID-19 |

| 4.4. COVID-19 vaccination | |
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| | vaccine certificates for international travelers **BECAUSE OF** donor and implementing partners' own agendas |
| **Prioritized actions** | |
| Immediate: | - Mobilize funding to expand vaccination sites (fixed and outreach) across the country<br>- Align the vaccination implementation to the revised NDVP.<br>- Scale up of the ICVOPT approaches<br>- Mapping of hard-to-reach communities to improve access and coverage.<br>- Need to advocate for COVID-19 vaccination with community leaders at boma, payam, county and State level |
| Mid to long-term: | - Integrate COVID-19 vaccination in routine immunization<br>- Strengthen integrated Health Management Information System with inoperability to ODK and others<br>- Strengthen donor coordination forum for resource mobilization and resource deployment<br>- Blanket tax exemption permission required from Ministry of Finance to speed up approval for future vaccine shipments |

## 4.5. Risk communication, community engagement, and infodemic management

| Observations | |
|---|---|
| Best practices | - Existence of functional coordination mechanism at national level and in some States **RESULTING IN** harmonization of RCCE interventions (messages, products) **THANKS TO** partner mapping and commitment<br>- Revision of RCCE strategy **RESULTING IN** reduction of rate of vaccine hesitancy especially amongst women **THANKS TO** coordinated RCCE intervention<br>- Evidence generation (KAP study; CRA/IOGT) **RESULTING IN** informed review of communication messaging **THANKS TO** partners agreeing on study outcomes<br>- Expansion of vaccination sites **RESULTING IN** increased coverage **THANKS TO** easy-to-use data tools<br>- Partnerships with the Media, Line Ministries, CBOs and Faith-Based institutions **RESULTING IN** increased awareness **THANKS TO** community ownership<br>- Integration of RCCE approaches into other services **RESULTING IN** increased uptake of COVID-19 vaccines **THANKS TO** targeted messages on emerging issues, social distancing, facemask, stigma, home base care and asymptomatic cases<br>- Harnessing of existing community-based structures (BHI, ICMN, and others) including community influencers **RESULTING IN** increased uptake of COVID-19 vaccines **THANKS TO** trained staff with good knowledge |
| Challenges | - Irregular meetings with poor attendance **RESULTING IN** fragmented RCCE interventions **BECAUSE OF** partners' diverse interest<br>- Non-existence of coordination mechanism in some States and Counties **RESULTING IN** inability to implement some recommendations **BECAUSE OF** limited technical capacity and poor internet connectivity<br>- Ineffective tackling of antivaccination messages from some key influencers and social media **RESULTING IN** persistence of low-risk perception and vaccine hesitancy **BECAUSE OF** unclear division of tasks among partners<br>- Limited coordination between vaccination, AEFI and RCCE **RESULTING IN** messaging not aligned with reality on the ground **BECAUSE OF** conflict of interest amongst partners and donors<br>- Lack of understanding of cultural barriers **RESULTING IN** poorly aligned messaging at community level **BECAUSE OF** high turn-over of staff |

## 4.5. Risk communication, community engagement, and infodemic management

| Prioritized actions | |
|---|---|
| Immediate: | - Strengthen coordination among RCCE, AEFI and Vaccination TWG<br>- Sensitization meeting with Religious Leaders<br>- Conduct high level advocacy to quarter council for political support<br>- Early detection and management of rumors<br>- Training on social mobilization data collections tools<br>- Training of health promotion/communication focal points on standardized social mobilization tools |
| Mid to long-term: | - Cascade training of social mobilization at all levels<br>- Advocate for funding for State and counties |

# 5. THE WAY FORWARD

The agreed way forward for all pillars strongly focuses on the need for enhanced:

- integration of COVID-19 response interventions in routine health programs,
- decentralization of preparedness and response mechanisms,
- effective advocacy with senior government officials.

## 5.1. Surveillance, case investigation and contact tracing/Laboratory system

It is not realistic to expect renewed donor funding for costly interventions like community surveillance, sample collection, mortality surveillance, and contact tracing as long as these are only focused on COVID-19. The strategic direction is to integrate COVID-19 in existing community-based platforms, such as the Boma Health Initiative (BHI), to ensure sustainability.

At the same time, Integration of SARS-CoV2 surveillance with ILI/SARI/ARI surveillance at sentinel sites is ongoing, while State-level RRTs are being trained COVID-19 on Ag RDTs.

State Ministries of Health (SMOH) and County Health Directors (CHDs) can play a pivotal role in forcing their health facilities to use Ag RDTs in line with national guidance, and to submit daily reports to NPHL. In border areas, SMOH and CHDs can advocate for screening at the point of entry using Ag RDTs, and referral of positive cases to nearby health facilities.

While the NPHL is eager to establish its own genomic surveillance capacity, the Global Fund has twice declined this proposal. It is therefore recommended to further improve NPHL's capacity to prepare samples for shipment to reference laboratories, taking advantage of available resources from ICAP and WHO.

Another key priority is for NPHL to implement a quality assurance system for the molecular, GeneXpert, and Ag RDT platforms in line with existing SOPs, targeting all partners currently supporting diagnostics, including private laboratories.

## 5.2. Case Management/IPC/OSL

There is an urgent need to organize (refresher) trainings for all States and Administrative Areas, to ensure ownership and support for roll-out of COVID-19 Case Management and IPC/WASH training activities at health facility level. Trainings should not solely focus on COVID-19, as the need for technical knowledge on Case Management and IPC/WASH are touching on many other, often more pressing public health concerns.

High-level advocacy is required to secure (government) funding to maintain the IDU operational as the only specialized treatment unit for all infectious diseases, including COVID-19 in the country.

While sufficient WASH and IPC supplies are available in the country, most are stored in Juba. Prepositioning of supplies in available warehouses in strategic locations can be properly coordinated with partners and health authorities at State and county level.

As with all community-based interventions, COVID-19 home based care should be integrated with the BHI, taking advantage of existent infrastructure and MOH strategic priorities.

Early detection of COVID-19 infection among high-risk groups like the elderly, people with underlying health conditions, including the immunocompromised, is best done at the community or health facility level, where health workers are familiar with their clients. Properly trained and equipped (community) health workers can make life-saving diagnosis, confirm COVID-19 infection using Ag RDTs, and isolate cases where need be.

Referral of suspected and confirmed COVID-19 cases among high-risk groups for close follow up and early treatment is key to prevent patients from becoming severely ill.

SMOH and CHD can play a crucial part in ensuring a minimum number of health facilities in each county are equipped for treatment of COVID-19 cases, including isolation facilities, in line with existent national MOH guidance.

It is crucial that Law Enforcement Agencies become involved to reinforce adherence to recommended preventive measures at all levels, for COVID-19 or any other infectious disease.

## 5.3. COVID-19 vaccination/RCCE, and infodemic management

In line with best practices identified for COVID-19 vaccination, partners should focus on outreach, combined with adequate engagement with community leaders thanks to well-trained, well-equipped social mobilizers at the community level, to ensure high-risk groups are prioritized for COVID-19 vaccination.

Recent data seems to indicate that intensified one-week COVID-19 vaccination activities are more cost-effective than 'regular' COVID-19 vaccination using fixed vaccination posts at health facilities, particularly when reaching remote populations and priority groups.

While sufficient funding is available for COVID-19 vaccination, it is unequally distributed. Some partners with pools of trained vaccinators, are unable to continue vaccination because of funding gaps. Strong leadership from MOH, WHO and UNICEF is needed to oblige donors to more transparently allocate funding to implementing partners, avoiding unnecessary duplication of efforts.

The COVID-19 vaccination Technical Working Group is the indicated coordination mechanism to share all relevant information, including on funding. MOH, WHO and UNICEF leadership could put additional pressure on partners and donors to channel all COVID-19 vaccination efforts through this coordination mechanism.

Regular coordination between the COVID-19 vaccination and RCCE Technical Working Groups is crucial to ensure messaging is in line with ongoing vaccination efforts.

Rapid response to AEFIs at community level is essential in preventing possible misinformation to harm vaccine acceptance. Adequate training on accurately diagnosing AEFIs, correct use of AEFI kits for effective treatment and care, investigations into AEFI, reporting on AEFIs, and communicating on AEFIs with the community, all require an integrated approach with RCCE, case management, and data management components.

MOH leadership at national, State and county level can also be an important bridge in engaging with other key socio-political entities for promotion of the vaccine: parliamentarians, ministers, governors, religious leaders, and so on. These 'social influencers' can also be used to dispel persistent rumours. The importance of having champions at the community level for the spreading of accurate messaging and the debunking of untruths is equally important.

The Johnson & Johnson and Astra Zeneca have so far been the only two vaccines authorized to be used in South Sudan. Delays in the approval mechanisms for incoming shipments can be avoided through a blanket tax exemption from the Ministry of Finance. National-level MOH can possibly support in negotiating for this time-saving arrangement.

Furthermore, SMOH and CHD can play a decisive role in facilitating efforts to integrate COVID-19 vaccination in routine immunization at county level. Possibly, clearer directions from national-level MOH would be helpful to advocate for this.

# 6. ANNEXES: Agenda of the review

| | TIME | SESSION | |
|---|---|---|---|
| Day 1 | 08:30-09:00 | Registration and administrative formalities and instructions | Plenary |
| | 09:00-09.15 | Introduction of participants | |
| | 09:15-09:45 | Intra-Action Review methodology | |
| | 09:45-10:15 | **Introduction: Response plan and actual timeline of the response** | |
| | 10:15-10:45 | Coffee break | |
| | 10:45-12:30 | **Background: Overview of achievements, challenges and key needs per pillar (max. 10 minutes per pillar)**<br>1. Case Management<br>2. IPC and OSL<br>3. RCCE<br>4. Surveillance, Case Investigation and Contact Tracing<br>5. Laboratory Management<br>6. Vaccination | Plenary |
| | 12:30-13:30 | Lunch | |
| | 13:30-15:00 | **Session 1 - What worked well? What worked less well? And why?** *Participants work to identify the challenges and best practices of the response.* | Pillar session |
| | 15:00-15:15 | Coffee break | |
| | 15:15-16:45 | **Session 1** *(continued)* **What worked well? What worked less well? And why?** | Pillar session |
| | | | |
| Day 2 | 08:30-09:00 | **Recap of Day 1** | Pillar session |
| | 09:00-10.15 | **Session 2 - What can we do to improve the COVID-19 response?**<br>*Participants work to identify what can be done to strengthen the ongoing COVID-19 response.* | Pillar session |
| | 10:15-10:45 | Coffee break | |
| | 10:45-12:30 | **Session 2** *(continued)* **What can we do to improve the COVID-19 response?** | Pillar session |
| | 12:30-13:30 | Lunch | |
| | 13:30-15:00 | **Summary per pillar group**<br>1. Case Management, IPC and OSL<br>2. Surveillance, Case Investigation and Contact Tracing and Laboratory Management<br>3. Vaccination and RCCE | Plenary |
| | 15:00-15:15 | Coffee break | |
| | 15:15-16:45 | **Session 3 – The Way Forward:** *discussion on the best way to implement these activities moving forward.* | Plenary |
| | 16:45-17:15 | **Closing remarks** | |



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