



REPUBLIC OF BOTSWANA

MINISTRY OF HEALTH AND WELLNESS

Intra Action Review (IAR) - COVID 19 Vaccination Report

BOTSWANA

[GABORONE, 21st -22nd April /2021]



Table of Content

| | |
|--|-----|
| LIST OF ABBREVIATIONS | 3 |
| 1. EXECUTIVE SUMMARY..... | 4 |
| 2. CONTEXT OF THE COVID-19 RESPONSE AND OBJECTIVES OF THE IAR..... | 6 |
| 3. METHODOLOGY..... | 8 |
| 4. FINDINGS..... | 9 |
| 4.1 Regulatory and Preparedness | 9 |
| 4.2 Planning and Coordination..... | 10 |
| 4.3 Supply Chain and Waste Management..... | 11 |
| 4.4 Human Resource and Training..... | 12 |
| 4.5 Vaccine Acceptance and Demand | 13 |
| 4.6 Vaccine Safety | 15 |
| 4.7 Monitoring and Evaluation | 15 |
| 4.8 Funding | 17 |
| 5 KEY CHALLENGES | 18 |
| 6 ADVISE TO OTHER COUNTRIES:..... | 19 |
| 7. WAY FORWARD..... | 190 |
| 8. IMPLEMENTATION PLAN..... | 21 |
| 9. ANNEXES..... | 28 |

LIST OF ABBREVIATIONS

AEFI: Adverse Events Following Immunization

DEOC- District Emergency Operating Centre

IAR: Intra-Action Review

ICC: Inter-Agency Coordination Committee

ICT:

MoHW: Ministry of Health and Wellness

NDVP: National Deployment and Vaccination Plan

NEOC: National Emergency Operation Centre

PPE: Personal Protective Equipment

RCCE: Risk Communication and Community Engagement

1. EXECUTIVE SUMMARY

Botswana recorded its first COVID-19 cases on 30th March 2020 and comprised three imported cases. To-date the country has recorded 44, 702 total COVID 19 confirmed cases, with 1, 832 active cases, 39, 733 recoveries and 684 deaths (As of 16th April 2021). Since the start of the pandemic, the Government moved swiftly to establish strategic and technical coordination structures such as the Presidential COVID-19 Taskforce; the Inter-Agency Coordination Committee(ICC) and its technical working group, strengthened ports of entry protocols, laboratory capacities, escalated contact tracing, commissioned establishment isolation and quarantine facilities across the country. The Government of Botswana joined global efforts to accelerate the deployment of the COVID19 vaccines as one of the cost effective public health intervention to control and prevent the severity of COVID 19 disease.

A National Deployment and Vaccination Plan (NDVP) has been developed to guide COVID-19 vaccine deployment and vaccination campaign in the country. The goal of the NDVP is to guide COVID-19 vaccine deployment and vaccination, save lives and mitigate societal and economic impact by reducing transmission and mortality due to COVID-19 infections. The aim is to attain vaccination coverage sufficient to obtain population herd immunity, targeting all persons aged 18 years and above. Botswana conducted the IAR to provide an opportunity to share experiences and collectively analyse the ongoing in-country COVID-19 vaccination rollout, by identifying challenges and best practices. The review focused on the NDVP pillars and the finding revealed the best practices and challenges during the COVID 19 vaccine deployment and vaccination.

The key best practices were as follow: Botswana Medicines and Regulatory Authority (BoMRA) already had a policy for assessment of products availed during public emergencies; Expansion of the role of ICC to serve as the National Coordinating Committee for the vaccine deployment; Development of National Deployment and Vaccination Plan (NDVP) and district microplans to inform the vaccine deployment exercise and accommodate the changing vaccine supply scenarios; availability of designated vote (funding) for Covid-19 activities; establishment of the National Emergency Operation Centre (NEOC) with representative structures at district level (DEOC) to provide support on operational and tactical issues, e.g, pooling transport

from different departments to support the rollout; activation of few vaccination sites initially and snowballed to other sites including use of mobile services to cater for hard to reach populations; Demand creation and uptake national campaign launch (#ArmReady); use of prominent persons such as former president, former vice president, ministers and traditional leaders as vaccination champions and influencers

The Overall key challenges from the country's implementation of COVID-19 vaccine were as follows: uncertainty of vaccine supplies due to global limited supply of vaccines resulting in change in prioritizing target groups and monitoring indicators; vaccine hesitancy by some health workers especially the young age ; fast-paced global media/information releases leaving the country communication and media response trailing behind, especially social media; Knowledge gaps in Adverse Events Following Immunization (AEFI) assessment and management, medical screening for vaccination eligibility e.g. very sick patients ; human Resource shortage (nurses, doctors, health care auxiliary, safety, health and environment officers, health education assistants, data clerks and delay of client's registration due to lack of knowledge on use of ICT (phones and ICT equipment by the community (older adults) and Internet bandwidth.

In an effort to address the gaps identified during the review the following recommendation will be implemented; Establish the National Immunization Technical Working(NITAG) or Scientific Committee to oversee and advise in delivery of vaccines and research since the country will be receiving multiple vaccines ; harmonise COVID-19 vaccine response committees for better coordination, communication and unified response; Determine private sector partnership needs for Districts and guide collaboration for vaccination to strengthen capacity of the public sector to deliver vaccination campaign (virtual planning meetings with DHMT coordinators); facilitate WHO/MOHW data collaboration at all levels for experience sharing on data analysis and reporting; conduct continuous data quality reviews , intra-campaign monitoring and Post Vaccine Introduction Evaluation.

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

2.1 Context of the COVID-19 situation and response

Botswana recorded its first COVID-19 cases on 30th March 2020 and comprised three imported cases. To-date the country has recorded 44, 702 total COVID 19 confirmed cases, with 1, 832 active cases, 39, 733 recoveries and 684 deaths (As of 16th April 2021). The Greater Gaborone health district has over 50% of all the confirmed cases and deaths in the country. Cognizant of the ever-changing national disease epidemiology in the country, current statistics indicate males constitute 50.4% of confirmed cases compared to 49.6% of females; Males aged 15-24 years are the most affected followed by Females aged 25-34 years. About 68% of all deaths involved at least one co-morbidity and most deaths are among those aged 55 years and above (Botswana COVID-19 Epi Overview, 1 Feb 2021).

Since the start of the pandemic, the Government moved swiftly to establish strategic and technical coordination structures such as the Presidential COVID-19 Taskforce; the Inter-agency Coordination Committee and its technical working group, strengthened ports of entry protocols, laboratory capacities, escalated contact tracing, commissioned establishment isolation and quarantine facilities across the country, and a treatment facility, passed laws to control movement of people into the country and across COVID-19 Zones, and to control the size of gatherings. These measures are implemented in addition to public health preventive protocols of wearing a mask in public spaces, proper handwashing or using a sanitizer, and always maintaining a social distance of 2 meters. In the last quarter of 2020, the Government of Botswana joined global efforts to accelerate the deployment of the COVID19 vaccines through the COVAX Facility. As a middle-income country, Botswana is a self-financing country committed to purchasing and distributing COVID-19 vaccines to its citizenry. The Government has also procured vaccines through bilateral agreements with manufacturers.

Botswana has a mature Expanded Program on Immunization (EPI) that has been in place for decades and has delivered millions of vaccines to children, pregnant women, and adolescents over the years. The COVID-19 vaccination campaign will use and build on these existing structures for coordination, planning, implementation, monitoring,

and evaluation working with relevant stakeholders to reach the target populations. The aim is to deploy safe, efficient and effective vaccines to the population to reduce serious illness and death as a consequence of COVID-19. A National Deployment and Vaccination Plan (NDVP) has been developed to guide COVID-19 vaccine deployment and vaccination campaign in the country. The goal of the NDVP is to guide COVID-19 vaccine deployment and vaccination, save lives and mitigate societal and economic impact by reducing transmission and mortality due to COVID-19 infections. The aim is to attain vaccination coverage sufficient to obtain population herd immunity, targeting all persons aged 18 years and above. However, due to global demand for vaccines resulting in global shortages, vaccination will be done in phases. In Phase 1, a total of 264,383 persons will be targeted. Phase 2 targets 765,764 persons while Phase 3 targets 501,351 persons to attain the total target of 1,531,498 persons. The estimated cost of implementation of the National Deployment and Vaccination Plan over 24 months is BWP P163,261,541 (USD 15,116,810).

Botswana received 54 000 doses of AstraZeneca Vaccines between March and April 2021; 30 000 doses of COVISHIELD as a bilateral donation from Government of India and 24 000 doses of SK-Bio through the COVAX Facility. Due to severely constrained global supply of COVID-19 vaccines, the initial position of the Government was to aim for a direct reduction of morbidity and mortality, and maintenance of most critical essential services, while considering reciprocity towards groups that have been placed at disproportionate risks to mitigate the consequences of the pandemic. Therefore, the age groups of 55 years and above, who are currently at higher risk of severe illness, hospitalization, and death, were prioritised to be the first to receive the vaccine.

On the 26th of March 2021, the Government of Botswana commenced COVID-19 vaccination in seven (7) districts recording high mortalities due to COVID-19 disease, targeting adults aged 55 years and above. The remaining eleven (11) districts were activated on the 9th of April 2021 targeting adults aged 75 years and above. The variation in the age categories targeted was due to vaccine supply constraints. Health workers in clinical and high-care areas for COVID-19 and isolation centres were also vaccinated regardless of their age. As of the 21st April 2021, Botswana has vaccinated

51 568 people, representing 95.4% of the doses received. A total of 63 adverse events have been reported including 4 deaths. The campaign was conducted using both fixed and mobile sites which included public and private facilities and areas.

2.2. Objectives:

- To provide an opportunity to share experiences and collectively analyse the ongoing in-country COVID-19 vaccination rollout, by identifying challenges and best practices;
- To facilitate consensus building and compile the lessons learned by various stakeholders
- During the response to improve the current COVID-19 vaccination rollout by sustaining best practices that have demonstrated success and by preventing recurrent errors;
- To document and apply lessons learned from the COVID-19 vaccination rollout efforts to date

3. METHODOLOGY

| | |
|--|--|
| Date(s) of the IAR activity | 21/04/2021 |
| Location(s) | Country: Botswana City:Gaborone |
| Set-up | <input checked="" type="checkbox"/> Mixed (online and onsite) |
| Participating institutions and entities | Ministry Health and Wellness, WHO, UNICEF, Botswana Medicines Regulatory Authority (BOMRA) |
| Total number of participants and observers (if applicable) | 33 Local participants --- IST ---- Geneva |
| Period covered by the review | (21/04/2021 - 22/04/2021) |
| Period covered by the review | (21/04/2021 - 22/04/2021) |
| Response pillar(s) reviewed | <input checked="" type="checkbox"/> COVID-19 vaccination as per the National Deployment and Vaccination Plan(NDVP) |

4. FINDINGS

The findings under each area under review, the best practices, challenges, along with recommended actions for institutionalizing and maintaining best practices as well as addressing challenges in the deployment of COVID 19 vaccines.

4.1 Regulatory and Preparedness

Observations

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none">- BoMRA already had a policy for assessment of products availed during public emergencies- WHO issued a guidance document for manufacturers "Points to consider for manufacturers of COVID19 vaccines" which assisted respective applicants and evaluators on critical aspects that had to be submitted for products to be considered for emergency use listing (EUL)- WHO availed a process to access reports for vaccines that would have already been considered and approved for emergency use listing (EUL) |
| Challenges | <ul style="list-style-type: none">- Some WHO assessment reports were not available for sharing at the time we did assessment; therefore could be not rely on them.- The dossiers (applications) were provided through links, and the folders in the links were not arranged accordingly, hence it was time consuming to retrieve information.- For vaccines that are not yet WHO listed required more time for assessments while these were needed urgently by the country.- One applicant has not responded with the additional information requested following initial assessment. |

Recommended actions

- For immediate implementation:
 - Folders should be labelled following CTD Format for easy retrieval.
- For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:

- Training of Officers on assessment of biologicals would reduce assessment times

4.2 Planning and Coordination

Observations

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Expansion of the role of ICC to serve as the National Coordinating Committee for the vaccine deployment. - NVDP was agile to accommodate the changing vaccine supply scenarios - Level of readiness was frequently(monthly) assessed to guide preparation progress - Uploading the NDVP on partner’s platform for advice, assistance and feedback - The presidential task force coordinates the vaccine rollout while MOHW provides technical and operational support - Established National Emergency Operation Centre (NEOC) with representative structures at district level (DEOC) which provide support on operational and tactical issues, eg, pooling transport from different departments to support the rollout - There is a MOHW Control Command under `DHS office that facilitates flow of information to the districts on the rollout - The country adopted age as the primary determinant factor for prioritization (adults 55 years and above, as per local epidemiology are at high risk of mortality) - Phase 1 included health care workers for protection of the health care system - The country activated a few sites initially and snowballed to other sites - Appointed liaison officers for all the districts as a constant communication and technical link between national and implementing districts - Prominent persons (as former president, vice president, ministers, traditional leaders) were used as champions influencers - Mobile services to cater for hard to reach populations |
| Challenges | <ul style="list-style-type: none"> - Uncertainty of vaccine supplies due to global limited supply of vaccines - Vaccine hesitancy by some health workers especially the young age - The country not able to keep up with the fast-paced global media/information releases leaving the country communication and media response trailing behind, especially social media. |

| | |
|--|---|
| | <ul style="list-style-type: none"> - Internet challenges resulting in delayed online registration - Overcrowding at vaccination sites due demand for vaccinations resulting in failure to comply with COVID protocols |
|--|---|

Recommended actions

| |
|---|
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Establish the National Immunization Technical Working Group (Scientific) - Harmonise COVID-19 vaccine response committees for better coordination and unified response |
|---|

4.3 Supply Chain and Waste Management

Observations

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Adherence to EPI standards - Maintenance of Cold Chain Systems - Training of personnel involved in vaccination roll out - Availability of Resourcing (Time, Finance, Information etc) |
|----------------|---|

| | |
|------------|---|
| Challenges | <ul style="list-style-type: none"> - Insufficient Manpower - Limited Doses of vaccines spread over a vast area hence stretching resources - Transport shortages particularly for hard to reach areas. - Lack of coordination between stakeholders |
|------------|---|

Recommended actions

- a. For immediate implementation:
 - Fast track procurement of pharmaceutical supplies
 - Maintenance and servicing of cold chain
 - Procurement of active and passive cold chain equipment
- b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:
 - Replacement of aging EPI equipment

4.4 Human Resource and Training

Observations

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none">- Have hired the following to strengthen M&E:- 108 Data clerks for the districts (data, entry, cleaning, reporting)- 18 System support officers for the districts (supervisory)- 3 Desk officers for DHIS2 registration and vaccination (HQ)- 2 Analysts for HQ (consolidation of districts reports into national report)- Request for doctors, nurses, etc. by districts- Appointment of district liaison officers at national level- Efficiency of Online trainings helped to scale up training |
| Challenges | <ul style="list-style-type: none">- Knowledge gaps in AEFI assessment and management, medical screening for vaccination eligibility e.g. very sick patients- Human Resource shortage (nurses, doctors, health care auxiliary, safety, health and environment officers, health education assistants, data clerks) |

| | |
|---|---|
| | - Delay in finalization of national guidelines |
| Recommended actions | |
| a. For immediate implementation: | <ul style="list-style-type: none"> - Hiring of data clerks - Strengthen partnership with private sector for vaccination - Expedite finalization and dissemination of guidelines - Determine and undertake refresher training for district implementers - Intensify supervision and mentorship - Hiring of nurses and doctors and other cadres as needed |
| b. For mid to long term to improve response to next waves of COVID-19 outbreak: | <ul style="list-style-type: none"> - Hiring of nurses and doctors and other cadres as needed |

| | |
|--|---|
| 4.5 Vaccine Acceptance and Demand | |
| Observations | |
| Best practices | <ul style="list-style-type: none"> - Development of Communication Strategy and Implementation Plan for vaccine acceptance and uptake. - Undertaking vaccine acceptance rate and risk perception survey for the general public. - Demand creation and uptake national campaign launch (#ArmReady). - District activation of demand creation and uptake campaign launch. - Widely publicized vaccination activations on various media platforms. - Effective use of Political, Community and Religious leaders as campaign champions. - Continuous social listening, media monitoring, rumor tracking to appropriately response. |

| | |
|--|---|
| | <ul style="list-style-type: none"> - Effective partnerships for leveraging resources and technical capabilities. - Diverse expertise for comprehensive and evidence-based planning. - Existing strategic relationships to leverage different communication platforms. - Effective collaboration with District Health Management Teams (DHMTs) for community-based data collection. - Multi skilled team (academia, development partners, NGOs) to inform survey planning, tools and report writing |
| Challenges | <ul style="list-style-type: none"> - Change in prioritizing target groups, requirements at vaccination sites and other information updates not communicated to the Communication team (at all and or on time). - Difficulty in keeping up with social media rumours, myths and sometimes prematurely reported true issues. E.g. AEFI |
| Recommended actions | |
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Vaccine Acceptance and Perceptions Survey for Health Workers - Targeted messaging for middle aged cohorts (including health workers). - WHO to share guidance on social listening response for debunking myths and rumours. - For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak: - Action Plan implementation dashboard for ease of monitoring. - Liaise with different Pillars to get up to date information for timely communication with target population. | |

4.6 Vaccine Safety

Observations

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none"> - Training for District HCP on vaccine safety monitoring. - Media engagement and sensitization on medicines and vaccine safety. - Resuscitation of the AEFI Committee. - Refresher training for AEFI Committee on Conduct of Investigation and Causality Assessment of AEFIs. - Streamlining of reporting Channels. - Covid 19 Guideline - AEFI Line listing |
| Challenges | <ul style="list-style-type: none"> - Inadequate AEFI reporting forms at vaccination site - Unclear communication lines with district EPI focal persons - Delayed updates on issues faced by HCPs at vaccination sites |

Recommended actions

| |
|---|
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Facilitate reporting and exchange of issues or challenges to AEFI reporting. - Provide AEFI reporting forms to all vaccinating sites - Print and publish Covid 19 Guideline and provide to HCP at vaccinating sites - Refresher training at facilities especially when new vaccines are being used |
|---|

4.7 Monitoring and Evaluation

Observations

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Developed the COVID-19 Vaccination Monitoring Plan and Guidelines.... |
|----------------|---|

| | |
|--|--|
| | <ul style="list-style-type: none"> - Customized data collection tools on DHIS2 Tracker. - Developed Manual backup data collection tools (COVID-19 Vaccination Register, Tally Sheet, Summary Form and the Vaccination Card) - Developed training material (Power Point training Slides) - Conducted training for districts - Use of DHIS 2 for data collection and reporting... - Continuous support on COVID vaccination monitoring provided to districts from MoHW. |
| Challenges | <ul style="list-style-type: none"> - Low access and use of electronic data systems due to shortage of equipment and internet bandwidth.... - Delay in reporting and consolidation of national vaccination data due to manual data collection. - Shortage of manpower at facility level (data clerks). - Delay of client's registration due to lack of knowledge on use of ICT (phones and ICT equipment by the community (older adults) and Internet bandwidth. - Limited supply of vaccines impacted on the monitoring plan, target setting and data collection tools. |
| Recommended actions | |
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Recruitment/mobilization of data clerks to improve data collection on COVID-19 Vaccination. - Mobilize support from network providers to facilitate access to internet. - Procurement and distribution of additional ICT equipment to vaccinating facilities. - Continuous sufficient field support and mentoring. - Conduct continuous data quality improvement initiatives and training. - Produce reports and provide feedback to districts/facilities on routine basis. - For mid to long term to improve the response to the ongoing COVID-19 outbreak: | |

- Recruitment/mobilization of data clerks to improve data collection on COVID-19 Vaccination ...
- Procurement and distribution of additional ICT equipment to vaccinating facilities.

4.8 Funding

Observations

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Availability of designated vote (funding) for Covid-19 activities - Development of NDVP and district microplans to inform the vaccine deployment exercise - Mobilization of resources from partners - Pooling of resources by other governments and agencies (e.g., air support and logistics) |
| Challenges | <ul style="list-style-type: none"> - Inadequate funding for extension of vaccination activities including data management. - Delayed procurement processes |

Recommended actions

- For immediate implementation:
 - Streamline procurement
 - Resources mobilization to strengthen vaccination activities
 - Engagement of private sector for capacity building
- For mid to long term to improve response to next waves of COVID-19 outbreak:
 - Adopt and adapt the 2020 WHO guidelines for continuity of essential health services.

5 Key challenges from the country's implementation of COVID-19 vaccine

- Uncertainty of vaccine supplies due to global limited supply of vaccines resulting in change in prioritizing target groups.
- Limited supply of vaccines impacted on the monitoring plan, target setting and data collection tools.
- Vaccine hesitancy by some health workers especially the young age
- Fast-paced global media/information releases leaving the country communication and media response trailing behind, especially social media.
- Knowledge gaps in AEFI assessment and management, medical screening for vaccination eligibility e.g. very sick patients
- Human Resource shortage (nurses, doctors, health care auxiliary, safety, health and environment officers, health education assistants, data clerks
- Delay in finalization of national guidelines
- Difficulty in keeping up with social media rumors, myths and sometimes prematurely reported true issues e.g. AEFI
- Inadequate AEFI reporting forms at vaccination site
- Unclear communication lines with district EPI focal persons resulting in delayed updates on issues faced by HCPs at vaccination sites
- Low access and use of electronic data systems due to shortage of equipment and internet bandwidth resulting in delay in reporting and consolidation of national vaccination data
- Delay of client's registration due to lack of knowledge on use of ICT (phones and ICT equipment by the community (older adults) and Internet bandwidth.

6 The most important piece of advice you would give another country just starting their program:

- The country activated few sites initially & snowballed to other sites served as a pilot exercise and guided implementation going forward
- Expansion to use more vaccination sites improved compliancy to COVID 19 protocols and vaccine uptake
- Use of prominent persons such as former president, vice president, ministers and traditional leaders as champions and influencers improved vaccine acceptance and demand

7. WAY FORWARD

1. Establish the National Immunization Technical Working or Scientific Committee to oversee and advise in delivery of vaccines and research since the country will be receiving multiple vaccines
2. Harmonise COVID-19 vaccine response committees for better coordination, communication and unified response
3. Determine private sector partnership needs for Districts and guide collaboration for vaccination to strengthen capacity of the public sector to deliver vaccination campaign (virtual planning meetings with DHMT coordinators)
4. Expedite finalization and dissemination of guidelines
5. Determine training needs and undertake refresher training for district implementers (Regional TOT refresher trainings: face-to-face/ virtual)
6. Intensify supervision and mentorship by liaison officers
7. Continue with recruitment and mobilization of human resource e.g. data clerks, nurses to support vaccination roll out.
8. Conduct continuous field support and mentoring to districts and facilities on DHIS- 2 tracker system

9. Facilitate WHO/MOHW data collaboration at all levels for experience sharing on data analysis and reporting.
10. Conduct continuous data quality reviews and intra-campaign monitoring (guidance and coordination).
11. Technical support and facilitation to conduct Post Introduction Evaluation.
12. Resource mobilization for procurement of additional ICT equipment and Post Vaccine Introduction Evaluation.
13. Vaccine Acceptance and Perceptions Survey for Health Workers
14. Develop Social Listening Response Plan for Targeted Messaging

8. IMPLEMENTATION PLAN - priority activities (based on program evaluation areas from above) needed to strengthen the country's COVID-19 immunization programme with identified focal points and timelines:

| PRIORITIZED AREA | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS | |
|--|---|--|-------------------------|---------------------------------------|--|--|-----------------------------------|
| A. Prioritized actions for immediate implementation (3-5 items): | | | | | | | |
| 1. | <p>Establish the National Immunization Technical Working or Scientific Committee to oversee and advise in delivery of vaccines and research since the country will be receiving multiple vaccines</p> | <p>Present a proposal for the establishment of NITAG through the DHS office</p> <p>Draft and share TOR and program of work for NITAG</p> <p>Appointment of NITAG members</p> | 4 weeks | DHS | <p>WHO and MOHW</p> <p>WHO - Sitting allowance: BWP 1000.00 per meeting X 15 member's X 10 meetings = BWP 150,000.00</p> <p>MOHW - Workshops and seminars = BWP 122,000.00</p> | Financial (Sitting allowances for members) and Technical support | NITAG established and operational |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|------------------|---|---|--|-------------------------|---------------------------------------|------------------|----------------------------|
| | | | | | | | |
| | | | | | | | |
| 2. | Harmonise COVID-19 vaccine response committees for better coordination and unified response | <p>Define and clarify the roles</p> <p>Appreciate and align the roles for the different response committees</p> <p>Convene meetings for committee leads</p> | 4 weeks | DHS | None | None | Revised terms of reference |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|------------------|----------------------------------|--|--|--|---------------------------------------|--------------------------------|---|
| 3. | Fast track procurement processes | <p>Fast track procurement of pharmaceutical supplies</p> <p>Expedite maintenance and servicing of cold chain</p> <p>Procurement of active and passive cold chain equipment</p> | <p>2 weeks</p> <p>Ongoing</p> <p>4 weeks</p> | <p>CMS Manager</p> <p>Biomedical Engineering Manager</p> <p>Biomedical Engineering Manager</p> | None | None | <p>Proportion of supplies delivered on time</p> <p>Number of functional cold chain equipment</p> <p>Number and types of cold chain equipment procured</p> |
| 4 | Hiring of Health care workers | Expedite recruitment of data clerks, nurses, health education assistants, health care auxiliary (total 150) | 2 weeks | HR Management and Training Coordinator | MOHW-BWP 16,464,600 | Financial support – ACHAP, PCI | Number of health workers hired by cadre |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|------------------|--|--|--|--|---------------------------------------|-------------------------|---|
| 5 | Strengthen partnership with private sector for vaccination | Engage private sector for vaccination | 4 weeks | DHS | None | None | Number of private vaccination sites, number vaccinated by the sites |
| 6 | Expedite finalization and dissemination of guidelines | Determine and undertake refresher training for district | 2 weeks | Coordination and Planning Committee | MOHW – BWP 100,000 | None | Number of guidelines printed and distributed |
| 7 | District Capacity Building | Determine and undertake refresher training for district implementers | 4 weeks | HR Management and Training Coordinator | MOHW – BWP 200,000 | WHO- Technical support | Number of health workers trained |
| 8 | Intensify supervision and mentorship | Supportive visits through Integrated Support Supervision (ISS) | 2 weeks | HR Management and Training Coordinator | MOHW- P300,000 | WHO - Technical support | Number of districts supported |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|------------------|---|--|--|-----------------------------|---------------------------------------|-----------------------|--|
| 9 | Resource mobilization to strengthen vaccination activities | Engagement of private sector for vaccination | 2 weeks | DHS | None | None | Number of private sector vaccination sites, number of people vaccinated at the sites |
| 10 | Conduct Vaccine Acceptance and Perceptions Survey for health care workers | Develop proposal targeting Regulatory bodies, Unions and associations for health workers Undertake survey Write and disseminate report | 7 weeks | Communications Subcommittee | MOHW - BWP 300,000 | WHO-Technical support | Survey report |
| 11 | Campaign drive-championing Health workers who are for the vaccine | Utilize health workers and as champions | 2 weeks | Communications Subcommittee | Partner funding | None | No of champion health workers |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|------------------|---|--|--|-----------------------------|---------------------------------------|-------------------|---------------------------------|
| | | Package digital posters, video clips and publish on social media platforms | | | | | |
| 12 | Round table discussion by Health workers on the benefits of the vaccine | Conduct the roundtable discussion | 3 weeks | Communications Subcommittee | Partners - BWP100,000 | Technical support | Roundtable discussion conducted |
| 13 | Improve Documentation for Regulatory pillar | Label folders according to Common Technical Document (CTD) | 4 weeks | BOMRA CEO | None | None | Documentation system in place |

| PRIORITIZED AREA | | PRIORITIZED ACTIONS | TIMELINE & DESIRED DATE FOR COMPLETION | RESPONSIBLE FOCAL POINT | ESTIMATED BUDGET AND FINANCIAL SOURCE | REQUIRED SUPPORT | INDICATORS |
|---|----------------------------------|---|--|--------------------------------|---------------------------------------|------------------|---|
| | | Format for easy retrieval | | | | | |
| | Reduce document assessment time | Train officers on assessment of biologicals | 4 weeks | BOMRA CEO | BOMRA-BWP30,000 | None | Number of officers trained on biologicals |
| B. Prioritized actions for mid to long-term implementation (3-5 items) | | | | | | | |
| 1. | Fast track procurement processes | Replacement of aging EPI equipment | 12 months | Biomedical Engineering Manager | MOHW-P2,000,000 | None | Number of new EPI equipment procured |

Total = BWP 167,948,100

9. ANNEXES

Annex 1: Registration Form: COVID 19 Vaccination Deployment – Intra Action Review (IAR)

Date: 21st April 2021

Venue: Masa Hotel

| Name | Organisation & Sub-Committee | Phone Number | Email |
|--------------------------|----------------------------------|------------------|--|
| 1. Basego Mothowaeng | MOHW – Demand Creation | 3632223 | basego07@gmail.com |
| 2. Faith Morwaagole Mafa | MOHW – Demand Creation | 3632805 | faith.morwaagole@gmail.com |
| 3. Sefalani Malima | MOHW – Liaison Officer | 3632194/75426025 | malimasifelani@gmail.com |
| 4. Lesego Maotshe | MOHW – Coordination & Planning | 3632105/74760757 | lesego_moatshe@gmail.com |
| 5. Moitshepi Galeemelwe | MOHW – Human Resource Management | 3632591/71636189 | mgaleemelwe@gov.bw |
| 6. Goitseone Phatshwane | MOHW – Human Resource Management | 3632727/72192201 | phatshwanegee@yahoo.com |
| 7. Professor M. Mlambo | MOHW – Human Resource Management | 3632697/72491531 | pmlambo@gov.bw |
| 8. Onthatile Medupe | MOHW – Human Resource Management | 3632301/7286687 | Othatilem6@gmail.com |
| 9. Jane Raphalane | MOHW – Coordination & Planning | 3632070 | jraphalane@gmail.com |
| 10. Joseph Segodi | UNICEF – Demand Creation | 74174997 | jsegodi@unicef.org |
| 11. Khumo Modisaemang | MOHW – Coordination & Planning | 72196345 | kmodisaemang@gov.bw |
| 12. Boitumelo Mokiya | WHO | 75617507 | mokiyab@who.int |
| 13. Moagi Gaborone | WHO – Demand Creation | 71717549 | gaboronemo@who.int |
| 14. Lucy Sejo Maribe | WHO – Coordination | 71722332 | sejomaribe@gmail.com |
| 15. Patrick Tema | MOHW – Monitoring & Evaluation | 71389726 | Ptema98@gmail.com |
| 16. Patrick Zibodtwa | MOHW – Human Resource Management | 71677815 | pzibodtwa@gov.bw |
| 17. Goleba Senai | MOHW – Coordination & Planning | 72630602 | ggaefe@gmail.com |
| 18. Nesredin Jami | MOHW – Monitoring & Evaluation | 71706552 | Nesredin@gmail.com |
| 19. Rakubu B. Kagisano | MOHW | 73176124 | krakubu@gov.bw |
| 20. Marinah Seobakeng | MOHW – Human Resource Management | 3632193/71798340 | mseobakeng@gov.bw |
| 21. Keemenao Ramogalana | MOHW – Human Resource Management | 3632467/71759713 | bramogalana@gmail.com |
| 22. Meshack Metswi | MOHW – Coordination & Planning | 3632224/74222546 | popsmetswi@gmail.com |
| 23. Onalenna Ntshebe | MOHW – Human Resource Management | 3632433/72618712 | lenahilnt@gmail.com |
| 24. Gladness Tlhomelang | MOHW – Coordination & Planning | 3632453/71310572 | gtlhomelang@gov.bw |

| | | | |
|------------------------------|--|-------------------|--|
| 25. Ndibo Monyatsi | MOHW – Coordination & Planning | 3632046/71698338 | njmonyatsi@gov.bw |
| 26. Samuel Kolane | MOHW – Advisor Community Health Services | 3632069/730119900 | skolane@gov.bw |
| 27. Abia Sebaka | MOHW – Coordination & Planning | 72945826 | asebaka@gov.bw |
| 28. Boipelo Rusike | MOHW – Human Resource Management | 3632199/71557593 | boipelombakile@gmail.com |
| 29. Rosa Maoto | MOHW - | 3632712 | rasaseabo@gmail.com |
| Victual Attendees | | | |
| 30. Shibeshi Messeret Eshetu | WHO | | |
| 31. Dr Malebogo Keabonye | MOHW- Director Health Services | | |
| 32. Weldegebriel Goitom | WHO | | |
| 33. Mamboze Josephine | WHO | | |
| 34. Chikwaikwai Getrude | WHO | | |
| 35. Mapuranga Nhamo | WHO | | |
| 36. Carsten Mantel | WHO | | |
| 37. Thomas Cherian | WHO | | |
| 38. Gill Meyers | WHO | | |
| 39. Petu Amos | WHO | | |
| 40. Zhoronde Machekanyanga | WHO | | |

Annex 2: BOTSWANA COVID-19 INTRA-ACTION REVIEW (IAR) AGENDA

Wednesday 21st, 2021

| TIME | SESSION | RESPONSIBLE PERSON |
|-------------|---|--|
| 08:30-09:00 | Registration and administrative formalities and instructions | MOHW |
| 09:00-09:10 | Objectives of the Intra Action Review and introductions | MOHW/EPI |
| 09:10-09:15 | Welcome remarks by MOHW | MOHW/DHS / Director Community Health Services?????? |
| 09:15-09:30 | Overview of the Region COVID-19 Vaccine Program | IST/WHO (Microsoft Teams) |
| 09:30-09:45 | Overview of country COVID-19 vaccine program | MOHW/DHS |
| 09:45-10:00 | Intra-Action Review methodology: Group work per pillar | IST/WHO |
| 10:00-10:15 | Health break | All |
| 10:15-12:00 | <p>Session 1 - What worked well? What worked less well? And why? <i>Participants work to identify the challenges and best practices of the response.</i></p> <p>Pillar 1: Planning, coordination and service delivery (Service delivery (target groups identification); including micro-plans how it guided the service delivery; duration of days, pre listing used, other frontline or social workers ?</p> <p>Pillar 2: Funding /resource mobilization</p> <p>Pillar 3: Regulatory Preparedness (vaccine registration)</p> <p>Pillar 4: Human resource management & Training</p> <p>Pillar 5: Logistics, supply chain and waste management (vaccine distribution, maintaining cold chain),</p> <p>Pillar 6: Vaccine acceptance and demand /Communication (means of raising demand, and risk communication, approach to manage hesitancy</p> <p>Pillar 7: Vaccine Safety/AEFI (notification, investigation, reporting, management)</p> <p>Pillar 8: Supervision, Monitoring and evaluation (Readiness assessment, Supervision, verification card used , documentation tools to ensure different vaccines are not confused ,daily reporting ,data used for action</p> | Pillar Leads |
| 12:00-13:00 | Session 1 Plenary: presentation by Pillar groups | |
| 13:00-13:45 | Lunch | All |
| 13:45-16:15 | <p>Session 2 - What can we do to improve the COVID-19 vaccine for the next phase? <i>Participants work to identify what can be done to strengthen the ongoing COVID-19 vaccine.</i></p> | Pillar Leads |
| 16:15-16:30 | Health break | All |

Day 2: Thursday 22nd, 2021

| TIME | SESSION | RESPONSIBLE PERSON |
|--------------|--|--------------------|
| 10:00-10:30 | Session 2 Plenary: presentation by Pillar groups | |
| 10:30- 10:30 | Health Break | |
| 10:30-11:00 | Session 3 – The Way Forward: <i>discussion on the best way to implement these activities moving forward</i> | MOHW |
| 11:00-11:30 | Session 3 Plenary: presentation by Pillar groups | |
| 11:30-12:30 | Session 3 – Recommendations: <i>discussion in plenary on key findings and recommendations arising from the group sessions</i> | MOHW |
| 12:30-13:00 | Next steps and closure | |
| 13:00-14:00 | Lunch | All |

Annex 3: Completed note taking template

Country COVID-19 intra-action review (IAR):



Final report template
March 2021

COUNTRY COVID-19 INTRA-ACTION REVIEW (IAR)

COVID-19 VACCINATION

REPORT

[Botswana]

[Gaborone : 27/04/2021]

- *This template should be used by the designated report writer to highlight the key findings and recommendations arising from the review, instead of a duplication of the content of the note-taking template.*
- *This report should preferably be kept as short and concise as possible. Additional background, contextual information, as well as tables from the note-taking templates should be moved to the annexes.*
- *This report should be shared with participants for their comments to ensure information are accurately captured before validation by senior management.*

Countries are encouraged to share their IAR findings through their final report by using this template or part of their IAR findings through their success stories (see tool n°10).

We encourage countries to share their IAR final report or success stories with other countries, WHO and partners to enable peer-to-peer learning of best practices or new capacities implemented in the country, via their own ministry website or others such as WHO's COVID-19 Partners Platform, WHO's Strategic Partnership Portal, etc.

Do not hesitate to contact your WHO country office or regional office for technical assistance.

5. EXECUTIVE SUMMARY

Provide an overview of the key findings, recommendations and way forward for implementing the recommendations.

6. CONTEXT OF THE COVID-19 RESPONSE AND OBJECTIVES OF THE IAR

2.1 Context of the COVID-19 situation and response

Botswana recorded its first COVID-19 cases on 30th March 2020 and comprised three imported cases. To-date the country has recorded 44, 702 total COVID 19 confirmed cases, with 1, 832 active cases, 39, 733 recoveries and 684 deaths (As of 16th April 2021). The Greater Gaborone health district has over 50% of all the confirmed cases and deaths in the country. Cognizant of the ever-changing national disease epidemiology in the country, current statistics indicate males constitute 50.4% of confirmed cases compared to 49.6% of females; Males aged 15-24 years are the most affected followed by Females aged 25-34 years. About 68% of all deaths involved at least one co-morbidity and most deaths are among those aged 55 years and above (Botswana COVID-19 Epi Overview, 1 Feb 2021).

Since the start of the pandemic, the Government moved swiftly to establish strategic and technical coordination structures such as the Presidential COVID-19 Taskforce; the Inter-agency Coordination Committee and its technical working group, strengthened ports of entry protocols, laboratory capacities, escalated contact tracing, commissioned establishment isolation and quarantine facilities across the country, and a treatment facility, passed laws to control movement of people into the country and across COVID-19 Zones, and to control the size of gatherings. These measures are implemented in addition to public health preventive protocols of wearing a mask in public spaces, proper handwashing or using a sanitizer, and always maintaining a social distance of 2 meters. In the last quarter of 2020, the Government of Botswana joined global efforts to accelerate the deployment of the COVID19 vaccines through the COVAX Facility. As a middle-income country, Botswana is a self-financing country committed to purchasing and distributing COVID-19 vaccines to its citizenry. The Government has also procured vaccines through bilateral agreements with manufacturers.

Botswana has a mature Expanded Program on Immunization (EPI) that has been in place for decades and has delivered millions of vaccines to children, pregnant women, and adolescents over the years. The COVID-19 vaccination campaign will use and build on these existing structures for coordination, planning, implementation, monitoring, and evaluation working with relevant stakeholders to reach the target populations. The aim is to deploy safe, efficient and effective vaccines to the population to reduce serious illness and death as a consequence of COVID-19. A National Deployment and Vaccination Plan (NDVP) has been developed to guide COVID-19 vaccine deployment and vaccination campaign in the country. The goal of the NDVP is to guide COVID-19 vaccine deployment and vaccination, save lives and mitigate societal and economic impact by reducing transmission and mortality due to COVID-19 infections. The aim is to attain vaccination coverage sufficient to obtain population herd immunity, targeting all persons aged 18 years and above. However, due to global demand for vaccines resulting in global shortages, vaccination will be done in phases. In Phase 1, a total of 264,383 persons will be targeted. Phase 2 targets 765,764 persons while Phase 3 targets 501,351 persons to attain the total target of 1,531,498 persons. The estimated cost of implementation of the National Deployment and Vaccination Plan over 24 months is BWP P163,261,541 (USD 15,116,810).

Botswana received 54 000 doses of AstraZeneca Vaccines between March and April 2021; 30 000 doses of COVISHIELD as a bilateral donation from Government of India and 24 000 doses of SK-Bio through the COVAX Facility. Due to severely constrained global supply of COVID-19 vaccines, the initial position of the Government was to aim for a direct reduction of morbidity and mortality, and maintenance of most critical essential services, while considering reciprocity towards groups that have been placed at disproportionate risks to mitigate the consequences of the pandemic. Therefore, the age groups of 55 years and above, who are currently at higher risk of severe illness, hospitalization, and death, were prioritised to be the first to receive the vaccine.

On the 26th of March 2021, the Government of Botswana commenced COVID-19 vaccination in seven (7) districts recording high mortalities due to COVID-19 disease, targeting adults aged 55 years and above. The remaining eleven (11) districts were activated on the 9th of April 2021 targeting adults aged 75 years and above. The variation in the age categories targeted was due to vaccine supply constraints. Health workers in clinical and high-care areas for COVID-19 and isolation centres were also vaccinated regardless of their age. As of the 21st April 2021, Botswana has vaccinated 51 568 people, representing 95.4% of the doses received. A total of 63 adverse events have been reported including 4 deaths. The campaign was conducted using both fixed and mobile sites which included public and private facilities and areas.

2.2. Objectives: overall objective and specific objectives (if applicable)

- To provide an opportunity to share experiences and collectively analyse the ongoing in-country COVID-19 vaccination rollout, by identifying challenges and best practices;
- To facilitate consensus building and compile the lessons learned by various stakeholders

- During the response to improve the current COVID-19 vaccination rollout by sustaining best practices that have demonstrated success and by preventing recurrent errors;
- To document and apply lessons learned from the COVID-19 vaccination rollout efforts to date to

7. METHODOLOGY OF THE IAR

| | |
|---|--|
| Date(s) of the IAR activity | 21/04/2021 |
| Location(s) | Country: Botswana Province/State: City:Gaborone..... |
| Set-up | <input type="checkbox"/> Online <input type="checkbox"/> Onsite <input checked="" type="checkbox"/> Mixed (online and onsite) |
| Participating institutions and entities | <i>Ministry Health and Wellness, WHO, UNICEF, Botswana Medicines Regulatory Authority (BOMRA)</i> <i>Please list the main participating institutions and entities here and attach the full list of participants to the Annex)</i> |
| Total number of participants and observers (if applicable) | <i>33 Local participants</i> --- IST ---- Geneva |
| Period covered by the review | (21/04/2021 - 22/04/2021) |
| Response pillar(s) reviewed | <input checked="" type="checkbox"/> COVID-19 vaccination |

8. FINDINGS

This is the key part of the report. Present the findings of the review and the prioritized course of actions to strengthen the response to the ongoing COVID-19 pandemic.

Focus on the root causes that explain why best practices and challenges occurred. Actions should be recommended for institutionalizing and maintaining best practices, as well as for addressing challenges. Findings can be presented as dot points in a tabular form (as below) or as a summary text based on your preference.

10.A Regulatory Preparedness

Observations

- How was the process of regulatory approval of the vaccines implemented?
What were the challenges in securing regulatory approval?

| | |
|---|---|
| <p>Best practices</p> | <ul style="list-style-type: none"> - BoMRA already had a policy for assessment of products availed during public emergencies - WHO issued a guidance document for manufacturers “Points to consider for manufacturers of COVID19 vaccines” which assisted respective applicants and evaluators on critical aspects that had to be submitted for products to be considered for emergency use listing (EUL) - WHO also availed a process to access reports for vaccines that would have already been considered and approved for emergency use listing (EUL) |
| <p>Challenges</p> | <ul style="list-style-type: none"> - Some WHO assessment reports were not available for sharing at the time we did assessment, therefore, we could not rely on them. - The dossiers (applications) were provided through links, and the folders in the links were not arranged accordingly, hence it was time consuming to retrieve information. - For vaccines that are not yet WHO listed required more time for assessments while these were needed urgently by the country. - One applicant has not responded with the additional information requested following initial assessment. |
| <h3>Prioritized actions</h3> | |
| <p>c. For immediate implementation:</p> <ul style="list-style-type: none"> - Folders should be labelled following CTD Format for easy retrieval. - <p>d. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:</p> <ul style="list-style-type: none"> - Training of Officers on assessment of biologicals would reduce assessment times. | |

10.B Planning, Coordination, & Service Delivery

Observations

- Coordination committee established and the different TWGs contribution
- Operational readiness (Readiness assessment overall)
- Strategies of service delivery planned and used (Microplan guided)
- Health worker and volunteer training means used
- Infection Prevention and Control measures

Trigger questions planning & Coordination

- Did the coordination and the operational roll-out involve all the important stakeholders? Did various stakeholders play their expected roles in the vaccine roll-out?
- Was the program flexible in implementing the roll-out plans? How was this managed from the central and operational levels?
- How well was the coordination of vaccine roll-out implemented from the central level?
- Did the coordination and the operational roll-out involve all the important stakeholders? Did various stakeholders play their expected roles in the vaccine roll-out?
- How was the information flow between the central coordination and lower levels during the roll-out?

Observations on Service Delivery

- What was the country's process for the prioritization of target populations for the different phases of the vaccination roll out? How does this compare with WHO/SAGE recommendations?
- What were the identified priority population(s) for each of the phases of available COVID-19 vaccine supply?
- Was the identification of target populations done using microplanning exercises or through some sort of enumeration/ pre-registration of individuals?
- If multiple vaccine products are in use, which products are allocated for each priority group? How was the decision for allocation made?
- How have special populations in need of humanitarian assistance (e.g. refugees, internally displaced persons or others) been considered or included in priority groups eligible for vaccination?
- Were any changes required in the planned vaccination strategy compared to what was stated in the NDVP? What were the reasons for the changes (e.g. product allocated, decision taken by the government, etc.)?

Trigger questions on Service Delivery

- Did the phase of roll-out target the right priority group as per the plan, and was the implementation equitable across various geographic areas?
 - Was the micro-plan well implemented? What were the challenges?
 - How was the screening and identification of target groups implemented?
- What were the major challenges we faced at service delivery points, and how were these handled?
- Did the service coverage attain the target by administrative unit? What were the programmatic reasons identified for the gaps in meeting the targets? What action is required to improve coverage for subsequent phases?
- What were the efforts to reach hard-to-reach populations and areas?
- How consistent was the implementation of IPC protocols at the operational level?

- How was the workload at the vaccination post managed?
- If the private sector provides COVID-19 vaccine doses, how are those doses reported?
- Have vaccine doses been administered only to identified priority populations as planned? If no, how did individuals outside the priority populations get access?
- Were there differences in vaccine uptake among priority populations and by geographic areas (between regions or urban vs rural)? If yes, what were the reasons?
- What was the coverage of target populations?
- What were the barriers, if any, for administering the vaccine to the target group?
- Were there enough tally sheets, immunization registers and summary books? Were they used? Were the records kept properly?
- What specific actions should be implemented for the next phase and for those coming for a second dose vaccination?

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none"> - Expansion of the role of ICC to serve as the National Coordinating Committee for the vaccine deployment. - NVDP was agile to accommodate the changing vaccine supply scenarios - Level of readiness was frequently(monthly) assessed to guide preparation progress - Uploading the NDVP on partners platform for advice, assistance and feedback - The presidential task force coordinates the vaccine rollout while MOHW provides technical and operational support - Established National Emergency Operation Centre (NEOC) with representative structures at district level (DEOC) which provide support on operational and tactical issues, eg, pooling transport from different departments to support the rollout - There is a MOHW Control Command under `DHS office that facilitates flow of information to the districts on the rollout - The country adopted age as the primary determinant factor for prioritization (adults 55 years and above, as per local epidemiology are at high risk of mortality) - Phase 1 included health care workers for protection of the health care system - The country activated a few sites initially and snowballed to other sites - Appointed liaison officers for all the districts as a constant communication and technical link between national and implementing districts - Prominent persons such as former president, vice president, ministers and traditional leaders were used as champions and influencers - Mobile services to cater for hard to reach populations |
| Challenges | <ul style="list-style-type: none"> - Uncertainty of vaccine supplies due to global limited supply of |

| | |
|---|--|
| | <p>vaccines</p> <ul style="list-style-type: none"> - Vaccine hesitancy by some health workers especially the young age - The country not able to keep up with the fast-paced global media/information releases leaving the country communication and media response trailing behind, especially social media. - Internet challenges resulting in delayed online registration - Overcrowding at vaccination sites due demand for vaccinations resulting in failure to comply with COVID protocols |
| Key indicators | |
| <p>a. Key indicators reviewed during IAR</p> <ul style="list-style-type: none"> - Number of vaccines available - Number of implementing districts - Number, types and location of vaccination sites - Coverage of vaccination (by geographical distribution, gender, age, target group) - Number of doses administered per district, per target group - Number of supportive supervision visits, meetings conducted | |
| Prioritized actions | |
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Establish the National Immunization Technical Working Group (Scientific) - Harmonise COVID-19 vaccine response committees for better coordination and unified response <p>b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:</p> <ul style="list-style-type: none"> - | |

10.C Funding

Observations on Resource mobilization and allocation process

Trigger questions

- Has the coordination been able to effectively mobilize the structures and resources available for the roll out?
- Were financial resources made available timely to the operational level as in the micro plan(s)?

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none">- Availability of designated vote (funding) for Covid-19 activities- Development of NDVP and district microplans to inform the vaccine deployment exercise- Mobilization of resources from partners- Pooling of resources by other governments and agencies (e.g., air support and logistics) |
| Challenges | <ul style="list-style-type: none">- Inadequate funding for extension of vaccination activities including data management.- Delayed procurement processes |

Prioritized actions

- For immediate implementation:
 - Streamline procurement
 - Resources mobilization to strengthen vaccination activities
 - Engagement of private sector for capacity building
- For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:
 -

10.D Supply Chain & Waste Management

Observations -

- o Bundled Vaccine and cold chain equipment
- o Tools and other inputs
- o Means of transportation

Trigger questions

- Did the program implement the necessary logistics preparations before roll-out? What was the readiness level at national and district levels for the logistics component?
- Was there any challenge with the secure storage of bundled vaccines at national and subnational vaccine cold stores?
- How was the implementation of the cold chain from receipt of vaccine to service delivery point? Was there any shortage of cold chain storage space? How was it handled?
- Were there any major issues with the availability of supplies at the posts?
- Were there any major logistics disruptions reported? What was the root cause of the disruption? What can be done to prevent such a disruption in the upcoming phases?
- Was the reported vaccine wastage rate within acceptable levels at national and subnational levels? What measures were taken to minimize vaccine wastage?

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none"> - Adherence to EPI standards - Maintenance of Cold Chain Systems - Training of personnel involved in vaccination roll out - Resourcing (Time, Finance, Information etc) |
| Challenges | <ul style="list-style-type: none"> - Insufficient Manpower - Limited Doses of vaccines spread over a vast area hence stretching resources - Transport shortages particularly for hard to reach areas. - Lack of coordination between stakeholders. |

Key indicators

a. Key indicators reviewed during IAR

- Total number of doses available across districts
- Number of doses allocated per district, per target group
- No. of wasted doses
- Number of doses used per vaccination phase
- Adequacy of cold chain equipment
- Availability of Cold Chain Systems and Processes
- Process Documentation
- Availability of pharmaceutical supplies

Prioritized actions

- a. For immediate implementation:
 - a. Fast track procurement of pharmaceutical supplies
 - b. Maintenance and servicing of cold chain
 - c. Procurement of active and passive cold chain equipment
- b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:
 - a. Replacement of aging EPI equipment

10.E Human Resource Management & Training

Observations;

- Training materials/reference documents used in COVID-19 vaccination training sessions and means of training used at each level

Trigger questions

- Was the training of health workers done on time, and were there major gaps noted in health worker skills during implementation?
- Were available tools used adequately for training health workers and volunteers (e.g. SIMEX, drills, preparatory checklists, ...)?

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Have hired the following to strengthen M&E: - 108 Data clerks for the districts (data, entry, cleaning, reporting) - 18 System support officers for the districts (supervisory) - 3 Desk officers for DHIS2 registration and vaccination (HQ) - 2 Analysts for HQ (consolidation of districts reports into national report) - Request for doctors, nurses, etc. by districts - Appointment of district liaison officers at national level - Efficiency of Online trainings helped to scale up training |
| Challenges | <ul style="list-style-type: none"> - Knowledge gaps in AEFI assessment and management, medical screening for vaccination eligibility e.g. very sick patients - Human Resource shortage (nurses, doctors, health care auxiliary, safety, health and environment officers, health education assistants, data clerks) - Delay in finalization of national guidelines |

Key indicators

- a. *Key indicators reviewed during IAR*
 - Number of individuals trained for Covid-19 vaccination (all modules)
 - Type of training
 - Number of national level participants and number of district TOT participants
 - Number of participants who attended district level cascading trainings
 - Knowledge gaps observed during vaccination

- Adequacy of implementers during vaccination

Prioritized actions

- a. For immediate implementation:
 - Hiring of data clerks
 - Strengthen partnership with private sector for vaccination
 - Expedite finalization and dissemination of guidelines
 - Determine and undertake refresher training for district implementers
 - Intensify supervision and mentorship
 - Hiring of nurses and doctors and other cadres as needed
- b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:
 - Hiring of nurses and doctors and other cadres as needed

10.F Vaccine Acceptance & Demand

Observations

- Demand generation and community engagement (Strategies and means of communicating with the vaccines to raise demand)
- Social listening
- Hesitancy

Trigger questions

- How well was the coordination with other sectors for public communication and social mobilization?
- How was communication with target groups and demand generation implemented before the roll-out? Were activities implemented as per plan? Were there specific channels that could have been included or specific activities that should have been implemented in hindsight?
- How were expectations managed in the face of inadequate vaccine doses and a limited population group targeted per phase?
- Was there any evidence generated on public perceptions to guide communications activities? What were the findings, and how do these inform decisions for future phases? Were there any identified barriers to demand for vaccination?
- Did we do adequate social listening, and did we use the findings to tailor the communication and mobilization efforts? What were the findings? How were rumors and misinformation managed? How are these findings likely to change over time?
- Were there any known resistance groups and any negative publicity documented before the vaccine roll out? How was it managed?
- Has there been any emerging vaccine hesitancy during the rollout? What do we understand about the reasons for and the scale of the hesitancy?
- What additional unused opportunities exist for better demand-generation?
- What was the preparations for crisis communication like? Was there a need to launch crisis communication, and how effective was it in terms of the ensuring successful vaccine rollout?
- Was there adequate communication about the need for and the timing of a second dose vaccination?

Best practices

- Development of Communication Strategy and Implementation Plan for vaccine acceptance and uptake.
- Undertaking vaccine acceptance rate and risk perception survey for the general public.
- Demand creation and uptake national campaign launch (#ArmReady).
- District activation of demand creation and uptake campaign launch.
- Widely publicized vaccination activations on various media platforms.
- Effective use of Political, Community and Religious leaders as campaign champions.

| | |
|--|--|
| | <ul style="list-style-type: none"> - Continuous social listening, media monitoring, rumor tracking to appropriately response. - Effective partnerships for leveraging resources and technical capabilities. - Diverse expertise for comprehensive and evidence-based planning. - Existing strategic relationships to leverage different communication platforms. - Effective collaboration with District Health Management Teams (DHMTs) for community-based data collection. - Multi skilled team (academia, development partners, NGOs) to inform survey planning, tools and report writing. |
| Challenges | <ul style="list-style-type: none"> - Change in prioritizing target groups, requirements at vaccination sites and other information updates not communicated to the Communication team (at all and or on time). - Difficulty in keeping up with social media rumours, myths and sometimes prematurely reported true issues. E.g. AEFI |
| Key indicators | |
| <p>a. Key indicators reviewed during IAR</p> <ul style="list-style-type: none"> - % uptake of COVID-19 vaccine - Number and types of IEC materials developed and available - Number of media platforms utilized and content | |
| Prioritized actions | |
| <p>a. For immediate implementation:</p> <ul style="list-style-type: none"> - Vaccine Acceptance and Perceptions Survey for Health Workers - Targeted messaging for middle aged cohorts (including health workers). - WHO to share guidance on social listening response for debunking myths and rumours. <p>b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:</p> <ul style="list-style-type: none"> - Action Plan implementation dashboard for ease of monitoring. - Liaise with different Pillars to get up to date information for timely communication with target population. | |

10.G Vaccine Safety

Observations;

- AEFI surveillance and causality assessment (notification, reporting, investigation etc.), updated tools for reporting and monitoring the AEFI
- Management of AEFIs

Trigger Questions on Vaccine Safety

- Did the AEFI surveillance system in place function as expected?
 - How well have AEFI been handled in terms of reporting, medical management, investigation, causality assessment, and crisis communication?
 - Were there any clusters of AEFIs? Were these investigated promptly and thoroughly?
 - Were there AEFIs as a result of programmatic errors? Were these investigated promptly? What actions were taken to address these errors?
 - Was the national AEFI committee involved in causality assessment for clusters and severe AEFIs, and was the report available timely?
 - How smooth was the flow of information between the operational level and the central coordination?

| | |
|----------------|--|
| Best practices | <ul style="list-style-type: none"> - Training for District HCP on vaccine safety monitoring. - Media engagement and sensitization on medicines and vaccine safety. - Resuscitation of the AEFI Committee. - Refresher training for AEFI Committee on Conduct of Investigation and Causality Assessment of AEFIs. - Streamlining of reporting Channels. - Covid 19 Guideline - AEFI Line listing |
| Challenges | <ul style="list-style-type: none"> - Inadequate AEFI reporting forms at vaccination site - Unclear communication lines with district EPI focal persons - Delayed updates on issues faced by HCPs at vaccination sites |

Key indicators

- Key indicators reviewed during IAR
- Total # of AEFIs reported, by dose and by type of vaccine (rate per 100,000 doses provided)
 - # of severe AEFI reported, by dose and by type of vaccine (rate per 100,000 doses provided)
 - % of districts with >10 COVID-19 related AEFI reports/100,000 doses of COVID-19 vaccines doses administered;

Prioritized actions

- a. For immediate implementation:
 - Facilitate reporting and exchange of issues or challenges to AEFI reporting.
 - Provide AEFI reporting forms to all vaccinating sites
- Print and publish Covid 19 Guideline and provide to HCP at vaccinating sites

- Refresher training at facilities especially when new vaccines are being used
 - b. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:

10.H Monitoring & Evaluation

Observations

- Monitoring (readiness assessment, implementation documentation)
- Supervision (Pre implementation and during implementation supervisions)
- Data and documentation (record keeping and data analysis)

| | |
|----------------|---|
| Best practices | <ul style="list-style-type: none"> - Developed the COVID-19 Vaccination Monitoring Plan and Guidelines.... - Customized data collection tools on DHIS2 Tracker. - Developed Manual backup data collection tools (COVID-19 Vaccination Register, Tally Sheet, Summary Form and the Vaccination Card) - Developed training material (Power Point training Slides) - Conducted training for districts - Use of DHIS 2 for data collection and reporting... - Continuous support on COVID vaccination monitoring provided to districts from MoHW. |
| Challenges | <ul style="list-style-type: none"> - Low access and use of electronic data systems due to shortage of equipment and internet bandwidth.... - Delay in reporting and consolidation of national vaccination data due to manual data collection. - Shortage of manpower at facility level (data clerks). - Delay of clients registration due to lack of knowledge on use of ICT (phones and ICT equipment by the community (older adults) and Internet bandwidth. - Limited supply of vaccines impacted on the monitoring plan, target setting and data collection tools. |

Key indicators

Key indicators reviewed during IAR

- Total number of health workers vaccinated
- Total number of people with at least one health condition vaccinated
- Total number of elderly persons vaccinated (as per national age cut-off point)
- % coverage against the target population by phase
 - % coverage with 1st dose vaccination;
- % coverage with 2nd dose vaccination
- % drop-out rate between 1st – 2nd dose

- % actual vaccine wastage rate

Prioritized actions

- b. For immediate implementation:
 - a. Recruitment/mobilization of data clerks to improve data collection on COVID-19 Vaccination.
 - b. Mobilize support from network providers to facilitate access to internet.
 - c. Procurement and distribution of additional ICT equipment to vaccinating facilities.
 - d. Continuous sufficient field support and mentoring.
 - e. Conduct continuous data quality improvement initiatives and training.
 - f. Produce reports and provide feedback to districts/facilities on routine basis.
- c. For mid to long-term implementation to improve the response to the ongoing COVID-19 outbreak:
 - a. Recruitment/mobilization of data clerks to improve data collection on COVID-19 Vaccination ...
 - b. Procurement and distribution of additional ICT equipment to vaccinating facilities.

9. THE WAY FORWARD

Overall best practices from the country's implementation of COVID-19 vaccine (top 3-5):

- Establish the National Immunization Technical Working or Scientific Committee to oversee and advise in delivery of vaccines and research since the country will be receiving multiple vaccines
- Harmonise COVID-19 vaccine response committees for better coordination, communication and unified response
- Determine private sector partnership needs for Districts and guide collaboration for vaccination to strengthen capacity of the public sector to deliver vaccination campaign (virtual planning meetings with DHMT coordinators)
- Expedite finalization and dissemination of guidelines
- Determine training needs and undertake refresher training for district implementers (Regional TOT refresher trainings: face to face/ virtual)
- Intensify supervision and mentorship by liaison officers
- Continue with recruitment and mobilization of human resource e.g. data clerks, nurses to support vaccination roll out.
- Conduct continuous field support and mentoring to districts and facilities on DHIS 2.
- Facilitate WHO/MOHW data collaboration at all levels for experience sharing on data analysis and reporting.
- Conduct continuous data quality reviews and intra-campaign monitoring (guidance and coordination).
- Technical support and facilitation to conduct Post Introduction Evaluation.
- Resource mobilization for procurement of additional ICT equipment and Post Vaccine Introduction Evaluation.
- Vaccine Acceptance and Perceptions Survey for Health Workers
- Develop Social Listening Response Plan for Targeted Messaging

Overall key challenges from the country's implementation of COVID-19 vaccine (top 3-5):

- Uncertainty of vaccine supplies due to global limited supply of vaccines resulting in change in prioritizing target groups.
- Limited supply of vaccines impacted on the monitoring plan, target setting and data collection tools.
- Vaccine hesitancy by some health workers especially the young age
- Fast-paced global media/information releases leaving the country communication and media response trailing behind, especially social media.
- Knowledge gaps in AEFI assessment and management, medical screening for vaccination eligibility e.g. very sick patients
- Human Resource shortage (nurses, doctors, health care auxiliary, safety, health and environment officers, health education assistants, data clerks
- Delay in finalization of national guidelines

- Difficulty in keeping up with social media rumors, myths and sometimes prematurely reported true issues e.g. AEFI
- Inadequate AEFI reporting forms at vaccination site
- Unclear communication lines with district EPI focal persons resulting in delayed updates on issues faced by HCPs at vaccination sites
- Low access and use of electronic data systems due to shortage of equipment and internet bandwidth resulting in delay in reporting and consolidation of national vaccination data
- Delay of client's registration due to lack of knowledge on use of ICT (phones and ICT equipment by the community (older adults) and Internet bandwidth.

The most important piece of advice you would give another country just starting their program:

- The country activated a few sites initially and snowballed to other sites served as a pilot exercise and guided implementation going forward
- Expansion to use more vaccination sites improved compliancy to COVID 19 protocols and vaccine uptake
- Use of prominent persons such as former president, vice president, ministers and traditional leaders as champions and influencers improved vaccine acceptance and demand

