### MPOX VACCINE ROLLOUT IN SOUTH AFRICA







# EXPANDED PROGRAMME ON IMMUNISATION

#### **MPOX VACCINATION TRAINING**

11 MARCH 2024

Facilitators: EPI
Ms Elizabeth Maseti
Ms Phuti Mashiane







# **AGENDA & TOPICS**



Chairperson: Ms E. Maseti – NDOH EPI Manager

ITEM	TOPIC	RESPONSIBILITY
1	Vaccine Overview and Programme Related Matters	Dr Simangele Mthethwa: WHO VPD-NPO
2	Regulatory Issues, Procurement and Distribution	Ms Sisanda Mtatambi: National EPI Policy Specialist
3	Service Delivery Model	Ms Feni Motshwane: NDOH ISHP
4	Monitoring & Evaluation/Data management	Mr Thulasizwe Buthelezi: WHO Data Manager
5	Surveillance & Adverse Events Monitoring	Ms Ester Khosa-Lesola: WHO Surveillance officer
6	Social Mobilisation and Communication	Ms Nomkhosi Mokoena: RCCE







### **Outline**



- Mpox Vaccine Workstreams
- Target Audience
- Overview of Mpox Disease
- National Advisory Group On Immunisation (NAGI) Recommendations
- Vaccine Estimates
- Service Delivery Platform
  - Vaccine Administration
  - Vaccine Sites
- Vaccine Supply And Procurement
  - Regulatory Issues, Procurement And Distribution
  - Cold Chain Management
  - Vaccine Stock & Wastage Management
- Information, Monitoring & Data Management
- Vaccine Safety Surveillance
- Risk Communication And Community Engagement (RCCE)





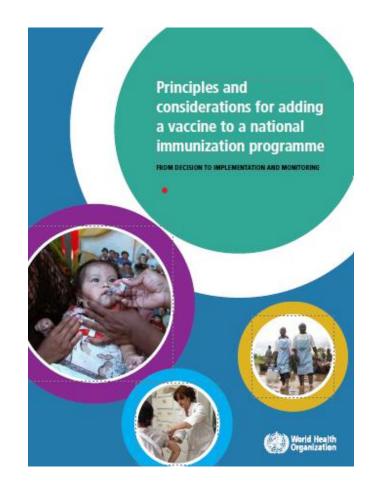


# **Mpox Vaccine Workstreams**



- Coordination and communication with provinces and other stakeholders
- Technical issues
- Service delivery model
- Regulatory issues, procurement and distribution
- Capacity building
- Data management
- Pharmacovigilance









# **Target Audience**



Training is intended for health workers involved in vaccination response to a Mpox outbreak.

- EPI Programme Managers
- Logisticians/Supply chain officers
- Cold Chain Managers
- Supervisors
- Health workers
- Hast Managers
- CDC managers
- Vaccination team members
- Field monitors
- Local partners supporting vaccination response













## **OVERVIEW OF MPOX DISEASE**







# What is Mpox?



Mpox (monkeypox) is a viral infectious disease which commonly manifests with a skin rash or mucosal lesions which can last 2–4 weeks, accompanied by fever, headache, muscle aches, back pain, low energy, and swollen lymph nodes.

There are two main Mpox virus strain (clades):

- Clade I formerly central African or Congo Basin clade
  - Subclades Ia and Ib
  - Ib emerged in 2023 & is more severe
- Clade II formerly West African clade
  - Subclades IIa and IIb



### **Mode of Transmission**



- Person-to-person, mainly through close contact
- Direct contact with contaminated material (such as clothing, bedsheets, used dressings, injection device, etc.)
- Transmitted from animal to person in endemic areas where the virus occurs in animal hosts
- Pregnancy, when virus can be passed on to the newborn baby.







# WHO is at risk of Mpox



- People who have been in close contact with someone who has Mpox;
- Health and care workers, including clinical laboratory and health care personnel performing tests to diagnose Mpox;
- People who have multiple sex partners, including men who have sex with men;
- Sex workers of any gender and their clients;
- Mpox outbreak response team members.

Children, pregnant people and people living with HIV/weak immune systems are at higher risk for serious illness and death due to serious complications.







## South Africa Mpox Outbreak Overview

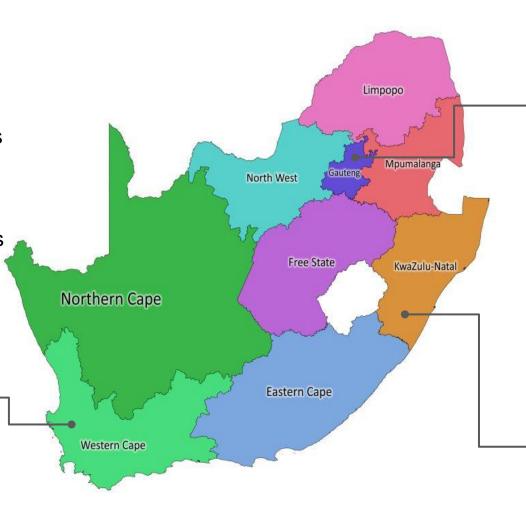


#### 28 confirmed cases

- May 2024 February 2025
- 3 deaths (CFR:7%)
- 27 Males, 89% identifying as engaging in male-to-male sexual activities, 1 Female
- Age Distribution: 17- 43 years
- Over half of the cases occurred among people living with HIV (PLHIV)
- Currently no health disparities by race or ethnicity
- Last case confirmed on 8th February 2025
- Hotspots in each province
- Clade Ib and IIb reported

District	Subdistrict	Confirmed cases
City of Cape Town Metropolitan Municipality	Western	2





District	Subdistrict	Confirmed Cases	
City of Johannesburg	Region F	5	
	Region D	3	
City of Tshwane	Region 6	3	
City of Ekurhuleni	Nigel	5 (4 B th - 27 1 d	
	Tembisa	5 (1 Death, 37-year old)	
Sedibeng	Midvaal	1	
West Rand	Merafong	1	

District	Subdistrict	Confirmed cases
eThekwini Metropolitan Municipality	eThekwini	8 (1 Death, 39-year-old)
uThukela	Alfred Duma ( (Ladysmith)	1 (1 Death, 40-year-old)
Umzinyathi	Nquthu	1
uMgungundlovu	Msunduzi	1











## NAGI RECOMMENDATIONS







# Phase 1 Control Phase (10 700 MVA-BN doses)



#### Pre-exposure vaccination

- Gay, bisexual, or other men who have sex with men (GBMSM) and transgender people
  - At highest risk of MPXV exposure (people with a recent history of multiple sexual partners and those participating in group sex or sex-on-premises event)
  - In the districts with previously reported cases,
  - People at higher risk of severe mpox disease within these target populations (e.g., people with advanced HIV disease).
  - Health care workers participating in care of key population services should also be considered, as the risk is higher for those caring for infected patients.







# Phase 1 Rapid outbreak response



- Post-exposure vaccination following detection of new cases
  - A small stockpile should be maintained to be used for post-exposure vaccination of
    - close contacts (sexual contacts and household contacts),
    - health care workers
    - and laboratory workers as part of rapid outbreak response following detection of new cases.







### Phase 2



This will be determined based on the epidemiological situation and on the uptake and acceptability of vaccination in phase 1.

#### Pre-exposure vaccination

- laboratory workers and frontline health care workers at high risk of exposure
- sex workers in the districts with previously reported cases,
- people with occupational risk through travel to high-risk areas in Africa (e.g., people working on mines, military personnel and humanitarian aid workers).













## **VACCINE ESTIMATES**







### Parameters for vaccine estimation



#### Data sources used

- South African Census 2022
- South Africa Men's Health Monitoring Study-I and Study-II
- Beyond Zero PSE project
- Research studies

#### Parameters established based on these resources

Parameters	MSM	TG
Estimated number of people	66785	39775
Estimated highest risk of exposure	60%	40%
Estimated vaccine acceptance	50%	50%
Estimated programmatic reach / access	60%	40%
Estimated uptake of the 2 <sup>nd</sup> vaccine dose	60%	60%







# Vaccination of high-risk groups



- Vaccination to be offered in a staggered approach initially targeting <u>GBMSM</u> and transgender people at <u>highest risk of exposure</u> in <u>districts with reported cases</u>. Those considered at the highest risk are people with a recent history of multiple sex partners and those participating in group sex
- Vaccine estimations for GBMSM and TG at highest risk in the five metropolitan municipalities (Cape Town; Durban; Ekurhuleni; City of Johannesburg; Tshwane): 37 600 doses

Estimations	MSM	TG	Total
Number of people reached and accepting vaccination	19 100	5 000	24 100
Number of vaccine doses	30 600	7 100	37 600

**Note.** Transgender persons include transmen, transwomen and non-conforming people. People reached is based on utilizing exiting facility-and community-based key population programmes for vaccine roll-out

 Health workers and laboratory staff at risk of repeated exposure: suggested to have 1000 doses for HCW at frontline hospital that may get into contact with Mpox patients/body materials







# Post-exposure vaccination of contacts



- Vaccination of contacts of persons with Mpox; this includes household contacts, sexual contacts, health workers with specific exposure to Mpox, and laboratory workers that handled Mpox specimens
- Estimated 5 contacts per index cases based on household survey and ratio of household vs non-household contacts including HCW and laboratory staff

	100 cases	500 cases	1000 cases
Number of contacts	500	2500	5000
Vaccination uptake	200	1000	2000
Vaccine doses	320	1600	3200











## SERVICE DELIVERY PLATFORM









### Introduction



- A **solid service delivery platform** is necessary to increase access to and delivery of Mpox vaccines. Based on the **hotspot mapping**, strategic vaccination efforts will **focus on individuals at the highest risk of infection**, including close contacts of recent cases and healthcare workers, to interrupt transmission chains.
- Vaccination strategies include both post-exposure and pre-exposure approaches.

**Vaccination aim: Stop the outbreak** 

X Not a mass campaign!

X Not a vaccine roll-out!

X Not a vaccine introduction!

It is an integrated, targeted outbreak control response



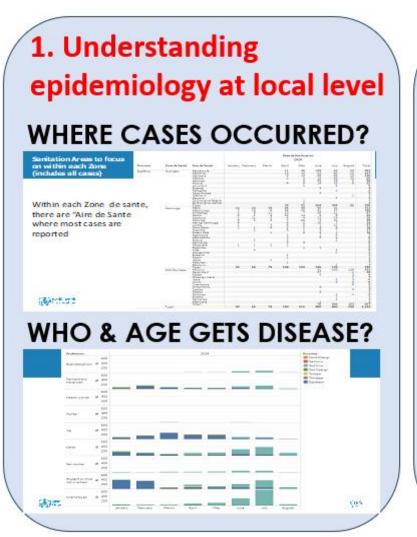


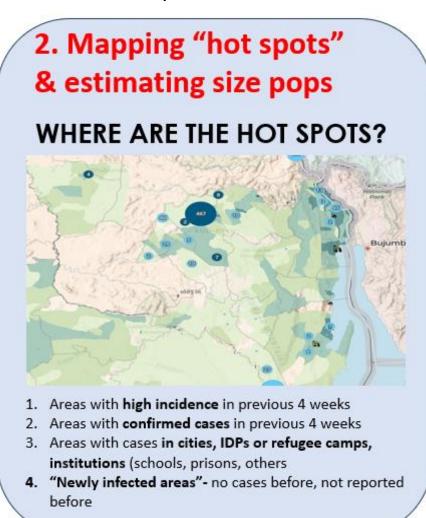


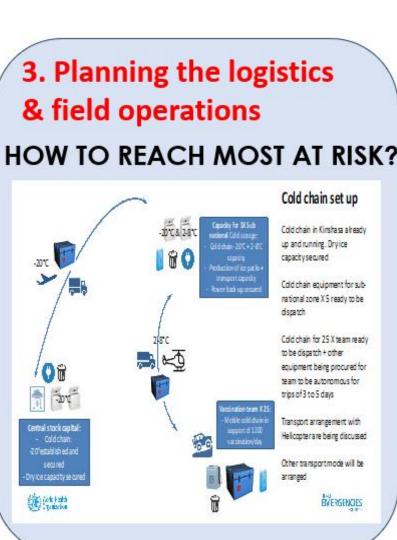
# Vaccine deployment approach



This is not a vaccine introduction but vaccination to stop the outbreak (human to human) transmission







## Vaccine deployment approach (continued)



- Targeted approach will be used
  - Adhering to principles of equity, inclusion, human rights, and dignity of all individuals
- Target Population
  - the target population, which is the population at high risk of infection.
  - the target facility where the key population accesses services: (drop-in centres, pop-in centres, and centres of excellence)
  - the target geographic area districts which have reported a case of mpox













## **VACCINE ADMINISTRATION**







# **Mpox Vaccine Schedule**



- A delayed dose approach will be done in South Africa;
- Administering the MVA-BN vaccine in a single dose (0.5 mL) may be done in case of limited vaccine supply.
- Clients will receive the 2<sup>nd</sup> dose once more stock is available







## Preparing for vaccination



#### What you need

- Screening tool for eligibility
- Vaccination register
- Vaccination card
- Vaccine
- Syringe and needle
- Sharps container
- Cotton ball

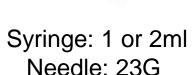
#### Main supplies:



**MVA-BN** vaccine

single-dose vial







Safety or biohazard box

All patients must be screened for vaccine eligibility using the Mpox Pre-Vaccination Assessment Tool

Mn	ov Vaccinatio	an Dac	ord Card
мр	ox Vaccinatio	on Rec	ora Cara
Last Name:			First Name:
Date of birth			Patient Number:
	Product		
Vaccine	Name	Date	Healthcare Professional
1st Dose			
2nd Dose			

Vaccination card



Mpox Vaccination Tick Register

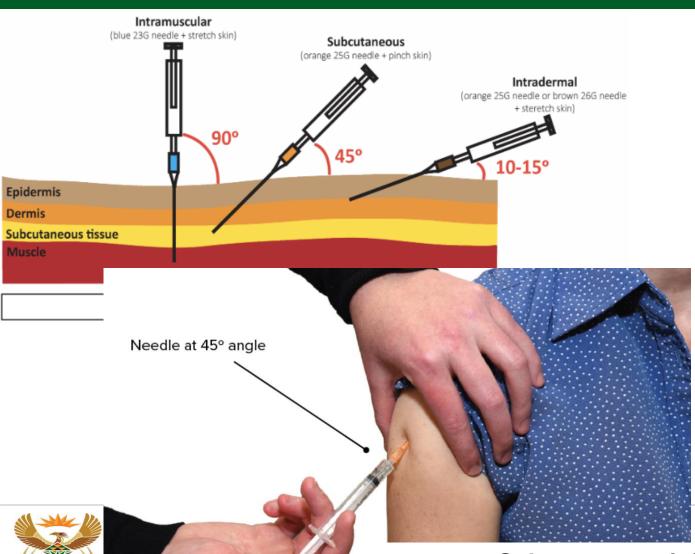






# The Technique

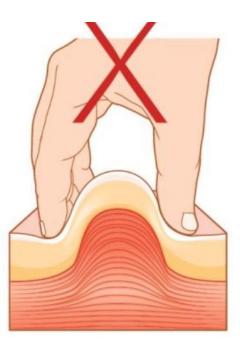




Lift the skin between thumb and 2 fingers with one hand, pulling the skin and fat away the underlying muscle



Incorrect technique



Subcutaneous injection
Preferred site: fatty tissue in the upper arm





### Vaccine dose administration



- 1. Take the number of vials required for the session.
- 2. Place the unopened vaccine vials in a vaccine carrier based on manufacturers instructions.
- 3. Thawed vaccine is ready to use. **Do not dilute**.
- 4. Swirl the vaccine vial gently for at least 30 seconds. **Do not shake**.
- 5. Visually inspect the vial.
  - Vaccine should appear as milky, light yellow to pale white colored suspension, free of particulate matter.
  - If discolored or containing any particulate matter, do not administer and safely discard the vial.
- 6. Open vaccine vial one at a time.



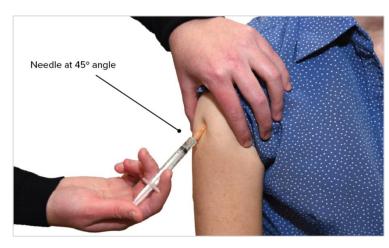




## Vaccine dose administration (continued)



- 7. Draw up 0.5 ml of vaccine just before administration.
  - Use one vaccine vial per vaccinee
  - Do not prefill syringes with vaccine
  - Use the vaccine immediately after loading the syringe.
  - Use one needle to withdraw and administer vaccine
- 8. Remember to wear gloves before touching the patient
- 9. Administer the dose subcutaneously in the fatty tissue over in the upper arm.
- 10. Do not recap or remove the needle
- 11. Dispose of the used syringe and needle immediately in the safety/biohazard box.
- 12. Record administered dose on vaccination card and tally sheet.
- 13. Observe the vaccinee for up to 15 minutes for any reaction.



If injection site is dirty, cleanse the area with a cotton ball wet with water.













## **VACCINATION SITES**







# Service delivery site selection



- Provinces with Mpox cases GP, KZN and WC to finalise lists
- Sites selected by provinces based on:
  - Affected districts
  - Hotspot for key populations
  - Population size estimates
  - NGOs supporting key populations
  - Centers of service excellence for key populations
  - Mobile services for key populations
  - NB: Sites to be reviewed post Executive Orders







### **KZN Province vaccination sites**



#### Public health clinics and hospitals in high transmission areas

- Priority facilities under operation Phuthuma at ETK District.
  - 1. Cato Manor CHC
  - 2. Hlengisiwe CHC
  - 3. Inanada CHC
  - 4. KwaDabeka CHC
  - 5. KwaMashu CHC
  - 6. Phoenix CHC
  - 7. Tongaat CHC
  - 8. PMMH Gateway
  - 9. Prince Cyril ZULU CDC
  - 10. Pinetown Clinic







## KZN Province vaccination sites (continued)



Clinics that cater to populations at higher risk, such as LGBTQ+ health services, STI clinics, or HIV treatment centers.

#### **CDC supported Implementing Partners**

- Aurum
- HST
- TB/HIV Care

#### **USAID Supported Implementing Partners**

TBD

Mobile health units that can reach underserved populations and provide vaccinations on the go

- Aurum: 2 mobile units (1 x eThekwini and 1 x Umgungundlovu)
- HST: TBD
- TBHIV Care: TBD







## **KZN Province vaccination sites** (continued)



Clinics that cater to populations at higher risk, such as LGBTQ+ health services, STI clinics, or HIV treatment centers

#### **Key population centres of excellence**

- Addington CHC
- Eastboom CHC
- Walton Clinic
- KwaDukuza CHC

#### **Facilities currently undergoing training**

- Newcastle Gateway Clinic
- Empathe Clinic
- Sundumbili CHC







# **Gauteng Province Mpox service delivery sites**

REPUBLIC OF SOUTH AFRICA

ORGANIZATION NAME/ Facility	POPULATION SERVED (MSM, FSW ETC)	SITE TYPE	District	District and sub- district/region	clinic	Site name and address	Site manager name, email and contact number
OUT LGBT Wellbeing	мѕм	Clinic drop in centre	Johannesburg	Sub district B	Engage Men's Health	Engage Men's Health (DIC) 23 Glenhove Street, Melrose Estate	Maurice Greeves- 0740240546
OUT LGBT Wellbeing	мѕм	Clinic drop in centre	Johannesburg	Sub district F	Engage Men's Health	Engage Men's Health (Braam Service Site) Reserve Street, Braamfontein	Maurice Greeves- 0740240546
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district D	Itereleng CHC	Itereleng CHC, 5/6 Elias Motsoaledi Road	Rona Oldjohn, 011 989 0304/ 0824753943, Itireleng.Clinic@gauteng.gov.za,
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district G	Stredford CHC	Stretford CHC, 15573 x2 Orange Farm Link Road Orange Farm	Fikile Dikolomela-Lengene,010 344 2990/ 0723714189, CHC, Stretford.CHC@gauteng.gov.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district A	OR Thambo	OR Tambo, 353 Ingonyama Road, Ext 2, Diepsloot	Debbie Moloi,011 464 5005, 0605847220, ORTambo.Clinic@gauteng.gov.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district C	Discoverers	Discoverers,35 Clarendon Drive, Discoverers, Roodepoort	Debby Sibanda,011 472 3648/0826002519, Discoverers.CHC@gauteng.gov.za
GDOН	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district D	Chiawelo	Chiawelo CHC,1753 Rihlampfu Street Chiawelo, Soweto	Sylvia Mvula,060 584 7213 010 345 4328, ChiaweloCHC.ChiaweloCHC@gauteng.gov.za
Wits RHI Key Populations	тgw	Clinic drop in centre	Johannesburg	Sub district F	Wits RHI Key Populations	Esselen Street, Hillbrow, 2001, Johannesburg. GPS: - 26.190820040203327,	Nothando Madondo
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Johannesburg	Sub district E	Alexandra CHC	Alexandra CHC, No. 33 arkwirght Avenue, Wynberg	nmandondo@wrhi.ac.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	West Rand	West Rand District Health Council, RandWest (Westonaria) Sub District	Bekkersdal West CHC	Bekkersdal West CHC, 3545 Khomo Ya Hlaba Street, Bekkersdal, 1779	011 358 5300
GDOH	KEY POP FRIENDLY FACILITY	Clinic	West Rand	West Rand District Health Council, Merafong Sub District	Carletonville Central	Carletonville Central, Eden Village, 3 Agnew Road, Carletonville, 2499	Sr Matlou Machaba, 073 837 0227, Matlou.Machaba@gauteng.gov.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	West Rand	West Rand District Health Council, Mogale Sub District	Krugersdorp Central	Krugersdorp Central Clinic, Cnr Commissioner and Fountain Street, Krugersdorp, 1740	Sr Sindi Mongae, 073 853 9694, Sindi.Mongae@gauteng.gov.za
AURUM POP INN	MSM AND TGW	Clinic drop in centre		Ekhurhuleni North	Aurum Pop Inn	21 Margarete avenue Kempton Park	Mpho Tafane, MTafane@auruminstitute.org +27 (0) 60 276 1163
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Ekhurhuleni	Ekhurhuleni South	Jabulani Dumane CHC	Jabulani Dumane CHC, nguza str, vosloorus	Mr S Matchaba, '072 419 0359,
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Ekhurhuleni	Ekhurhuleni East	Kwa-thema CHC	Kwa-thema CHC, 7001 Moshoeshoe str, kwa thema springs	Ms Moeketsi, 0832335751, Tshepiso.Moeketsi@gauteng.gov.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Sedibeng	Sedibeng - Emfuleni	Market avenue	22 Market avenue Vereeniging	Monica Sekati - 073 225 6734 Monica.Sekati @gauteng.gov.za
GDOH	KEY POP FRIENDLY FACILITY	Clinic	Sedibeng	Sedibeng - Emfuleni	Zone 17	62064 Zone 17 Sebokeng	Dolly Moreetsi - 073 229 3696 Dolly.Moreetsi@gauteng.gov.za
coopealt	POP FRIENDLY FACILITY	Clinic	Sedibeng	Sedibeng- Midvaal	Midvaal	45 Carvalho st Meyerton	Susan Myaka - 072 230 0085 susan.Myaka@gauteng.gov.za
AUR DEBANMent:	MSM AND TGW	Clinic drop in centre	Tshwane	TSHWANE 3	Aurum Pop Inn	complex, 416 kirkness street, building A, 1st floor.	Pontsho Komane, PKomane@auruminstitute.org; +27 (0) 73 443 7174

# Western Cape Province Mpox service delivery sites



#### Initial Phase:

 Commence at the Ivan Toms Centre for Men's Health, located at 1 Portwood Road, Greenpoint, Cape Town.

#### Expansion Phase:

 Depending on the vaccine allocation for the Western Cape and community uptake, the program will expand to additional clinics.







# **VACCINE SUPPLY AND PROCUREMENT**













# REGULATORY ISSUES, PROCUREMENT AND DISTRIBUTION









#### **Mpox Vaccine Donation Update**



Africa CDC has donated a total of 10 700 doses of IMVANEX vaccine sourced from Luxembourg and Malta:

Batch Number	448770						
Manufactruing Date	16/09/2024						
<b>Expiry Date</b>	If stored at – 20°C	If stored at – 50°C	If stored at – 80°C				
	31/08/2027	31/08/2029	31/08/2033				

- Section 21 approval has been granted for 10 000 doses
- Application for the additional 700 doses in progress
- Submission for acceptance of donation has been submitted to DG
- Service provider to be appointed for importation, warehousing & distribution of the vaccine once submission has been approved
- Lot Release conditions: All imported lots will be subject to lot release by the South African National Control Laboratory (SANCL) as per SAHPRA Lot release guidelines.

#### Reporting of AEFI's



- Bavarian Nordic to supply summary periodic safety update report (simplified PSUR) (worldwide data) 6 weekly or 3monthly to pvsubmission@sahpra.org.za.
- A summary of AEFIs must be reported to SAHPRA and the National Department of Health (NDoH) / EPI every twoweeks
- All serious AEFI's should be reported within 24hrs and
- All other AEFIs should be reported within 14 working days of identification.
- Patients and healthcare professionals can report AEFIs through the Med Safety App.



#### Section 21 Response Letter

10/15/2024 3:58 PM

Marione Schonfeldt

1112 Voortrekker Rd Dr AB Xuma Building Pretoria Townlands

marione.schonfeldt@vodamail.co.za

Dear Marione Schonfeldt,

REQUEST TO USE UNREGISTERED MEDICINE IN TERMS OF SECTION 21 OF THE MEDICINES AND RELATED SUBSTANCES ACT, 1965 (ACT 101 OF 1965):

Your application dated 10/10/2024 8:33 AM refers

A. STATUS: Approved

B. APPLICANT: Marione Schonfeldt

c. IMPORTING COMPANY: Biovac

D. PATIENT/(S):

E. UNREGISTERED MEDICINES:

GENERIC NAME: Modified Vaccinia Ankara – Bavarian Nordic Live virus1

no less than 5 x 107 Inf.U\*

TRADE NAME: JYNNEOS

F. QUANTITY: 5000 doses

G. LETTER NUMBER: B-31231







#### **MVA-BN** Importation











Freight
Forwarding
from sourcing
country

Arrival in South
Africa

**Customs clearance** 

SAHPRA
approval
Import permit
(DAFF permit)

Transport from airport to appointed Supplier's storage facility

Storage at central warehouse

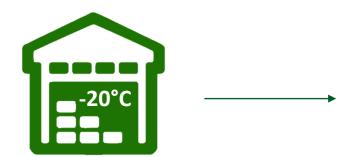






# MVA-BN Distribution from Supplier to selected Depots in GP, KZN and WCP









Appointed Supplier Warehouse

Transport from
Supplier to
Provincial
Depot

Provincial Depot

Vaccine shelf life is up to 3 years at this storage temperature

Temperature range for -20°C is include -15°C to -25°C

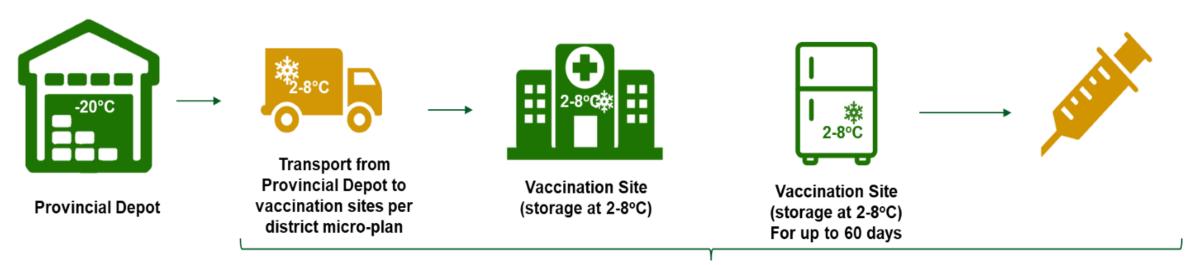






# MVA-BN Distribution from Depots in GP, KZN and WCP vaccination sites







60 days (maximum)

Use it within 2 months from thawing date, but not exceeding the original/ marked expiration date.







## MVA-BN Vaccine Registration



Specification	MVA-BN					
Different brands	a. Jynneos® GENERICS b. Imvanex® c. Imvamune®					
Pharmaceutical form	Liquid frozen					
Presentation	Single dose vial					
Administration	Two doses (0.5ml)					
Registered for	12 years and above					
Storage	2°C to 8°C away from light for up to 2 months					
	Can be stored at temperatures lower than -20°C for up to 3 years					
Reconstitution	Not required					
Administration site	Subcutaneous SC/ upper arm (deltoid area)					
Administration device	0.5 ml or 1ml syringe, with needle (23Gx1" or 0.6x25mm					





#### **COLD CHAIN MANAGEMENT**









#### **MVA-BN** vaccine presentation



- Live non-replicating vaccine
- Prequalified as a single-dose vial
- Preservative-free suspension
- Delivered frozen in-country at -20°C
- Vaccine is ready-to-use once thawed
- No dilution









#### **MVA-BN** vaccine characteristics



#### Freeze Sensitivity

Never
 refreeze a
 vaccine vial
 once it has
 been thawed

#### Light Sensitivity

 Store vials in the original package and protected from light

# Multidose vial policy

- N/A
- Presented as a single dose

# Vaccine Vial Monitor

• N/A







## **MVA-BN** vaccine packaging

Department:

**REPUBLIC OF SOUTH AFRICA** 



Name	Secondary Packaging	Tertiary Packaging
Jynneos  Interdistrense Smallpax and Monkeypox Vaccine, Jule, Non-replicating JYNNEOS Suspension for subcutaneous injection	<ul> <li>Carton of 10 single-dose vials</li> <li>Dimensions: 3.8 x 5.4 x 9.3 cm.</li> <li>Cold chain volume: 19.08 cm3/dose</li> </ul>	<ul> <li>Box containing 48 secondary cartons (480 vials/ 480 doses)</li> <li>Dimensions: 12.4 x 24.6 x 39.2 cm.</li> </ul>
Imvamune	<ul> <li>Carton of 20 single-dose vials (20 doses)</li> <li>Dimensions: 4.5 x 9.7 x 12.6 cm.</li> <li>Cold chain volume: 27.50 cm3/dose</li> </ul>	<ul> <li>Box containing 70 secondary cartons (1,400 vials/ 1,400 doses).</li> <li>Dimensions: 26.4 x 33.1 x 49.7 cm.</li> </ul>
health		

# Changing expiry dates as moved to different temperature ranges



- Vaccine is delivered to countries frozen with a longer shelf-life.
- Vaccine shelf life becomes shorter once it is thawed or stored in a refrigerator.
- It is important to track the remaining shelf life by updating the vaccine's new expiration date.
- Original expiration date printed on label must be respected if it comes earlier than the expiration date at +2°C to +8°C.

#### **Frozen Vaccine**

- 3 years shelf life
- frozen vaccine stored at -25°C to -15°C

#### Thawed unopened vaccines

- 2 months\* shelf life
- thawed vaccine stored at +2°C to +8°C
- \* from the date the vaccine was thawed and within the original/marked expiration date.

Dynamic labeling is the process of manually updating the vaccine's expiration date on the carton label. It is done immediately once the vaccine is taken out of the freezer to thaw or to be stored in a refrigerator.

#### Thawing frozen MVA-BN vaccine



#### DO NOT REFREEZE THE VACCINE ONCE THAWED!

#### Thawing procedure if vaccine is FOR immediate use:

- 1. Keep vaccine vials in their original packaging, protected from light.
- 2. Take vaccine from freezer and bring to ambient temperature (+8 °C to +25 °C).
- 3. Ensure vaccine is placed in a secured location, do not expose to sunlight.
- 4. Allow vaccine to thaw completely this may take about 5 to 10 minutes.
- 5. Apply dynamic labeling as indicated in slide: "Application of dynamic labeling of expiration date"
- 6. Ensure original expiration date remains visible and thawing date and new expiration date at +2°C to +8°C storage are visible and legible.
- 7. Keep vaccine in the refrigerator and use it within two months from thawing date.
- Discard any unused vaccine at the end of the two-month period.







# Dynamic labelling: Monitoring the remaining shelf-life of thawed vaccine



#### **Key considerations:**

- Keep the vaccine vials in original carton during storage.
- Keep the original expiration date printed on the carton readable.

Exp. Date: May 2027 Keep the vaccine at -25°C to -15°C

- Ensure training of Depot staff to ensure implementation of dynamic labeling.
- Ensure responsible health workers at different levels are trained and provided with the required supplies to implement dynamic labeling.
  - Options: Use of permanent marker, waterproof stickers, printed labels, or color coding
  - Any of these options may be used to track the remaining shelf life once vaccine is moved from freezer to refrigerator.







# Dynamic labelling: Monitoring the remaining shelf-life of thawed vaccine



#### **Key considerations:**

- Once vaccine is moved from freezer to refrigerator, indicate the new expiration date at +2°C to +8°C on the carton.
- Remind to not refreeze thawed vaccine.
- Cross out expiration date at -25°C to -15°C on label but keep it readable.
- Printed expiration date at -25°C to -15°C storage should be respected if it comes earlier than the expiration date at +2°C to +8°C.
- Once vaccine is thawed, all necessary vaccine transport and use should take place within the next
   2 months from thawing date.
- Any unused vaccine vials should be discarded 2 months after thawing date.







Exp. Date: May 2027

Keep the vaccine at -25°C to -15°C

Date thawed: 1 Nov. 2024

New exp. Date: 31 Dec. 2024

Store at +2°C to +8°C

Do not refreeze!

#### Packing vaccines for distribution





- Packing arrangements must be planned in advance and documented in an SOP
- Correct packing arrangements prevent vial breakages in transit
- Empty spaces inside the container must be filled with bubble wrap or suitable materials
- A continuous temperature monitoring device (CTMD) must be placed in the passive container
- A CTMD will monitor for freeze if storing freeze sensitive vaccines



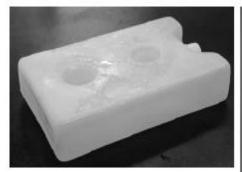




#### **Conditioned Ice packs**



- Coolant-packs must be prepared correctly.
- If conditioned icepacks are not properly conditioned, freeze-sensitive vaccines will be exposed to sub-zero temperatures and may be damaged.
- Ice packs that have been removed from the freezer and left at room temperature until they begin to melt
- Mixture of water and ice at a temperature of about 0°C
- Eliminates the initial freezing risk without much reduction in cold life









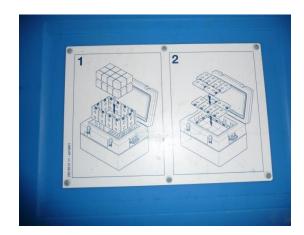




## Correct Vaccine Packaging Practices



- Pack prequalified vaccine carriers according to the manufacturers' instructions
- Use passive containers with published cold life at least as long as that required for longest planned trip
- Confirm minimum ambient temperature in transit does not fall below +5°C
- Pack a continuous temperature monitoring device with the vaccine load
- Remember that MVA-BN vaccines that was distributed at 2-8°C should not be frozen again.













#### Continuous Temperature Monitoring Devices











Only comprehensive temperature monitoring system can record the temperature history of vaccines passing through the supply chain



Vaccine Cold Chain Management







#### **Ancillaries**



- Syringes 1 syringe per dose, (1ml, 0,5ml)
- Needles suitable for subcutaneous vaccination: 1 needle per vial, 23g x 25mm
- Cotton wool balls (2 per number of vaccinees)
- A safety box for disposal of used syringes and needles (1 per 100 doses supplied)
- Viricidal disinfectant, e.g., Biocide
- PPE -3 ply surgical masks for vaccinators and boxes of gloves
- Sterile water for irrigation for sites with no running water
- Handwash and alcohol-based (70%) sanitizer













# VACCINE STOCK & WASTAGE MANAGEMENT







## Vaccine Stock Management



- MVA-BN vaccine will NOT be recorded on SVS
- Manual stock cards should be kept
- Facilities in selected districts should not order more than 1 month supply from the provincial depot
- The calculation of required doses should be based on the target population and session size:
- The estimated volume of vaccine required to reach the target population in these 3 provinces are 40 000 MVA-BN doses
- Initially only 10 700 doses will be available 26, 75 % of the need
- Selected facilities should initially target only 26,75 % of the target population and order the vaccines for the 1st dose and the 2nd dose separately to ensure the expiry date at 2-8C can be utilized optimally.







#### Quantification



MVA-BN vaccine required (Clinic A) = number of persons in the target population (X) x wastage multiplication factor (1,05) x number of doses to be administered (2) x expected coverage (100%)

If X = 200

MVA-BN vaccine required (Clinic A) 1st dose =  $200 \times 1,05 \times 1 \times 1$ 

= 210 doses required for the target population

Ensure stock on hand does not exceed a 1 month supply



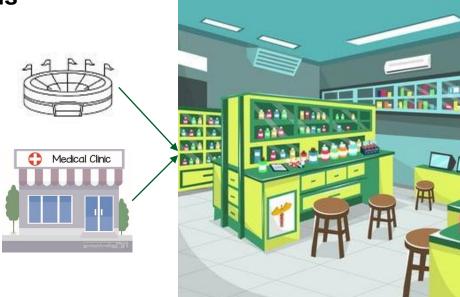




#### Record keeping



# Record the number of vials

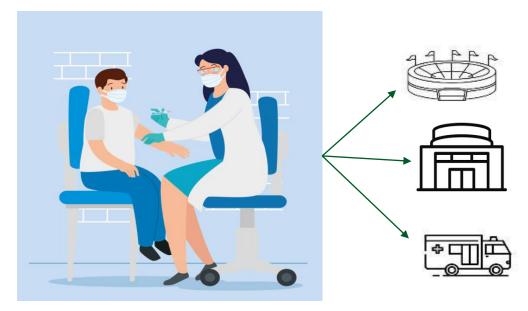


**Use Stock card** 

**Medicine store-room or** 

**Pharmacy** 

#### **Vaccination Station**



Record vaccine movement on a tally sheet or vaccine stock card







#### **Stock Cards**



- The stock card is used to record and monitor orders,
   receipts issues and disposal of stock
- Transactions entered on stock cards:
- Receipts (+): These include receipts from any supplier,
   such as the Hospital or another facility
- **Issues (-):** These include issued to the consulting rooms or other facilities. Goods returned to the Supplier should be recorded as an issue.
- Stock adjustment (+/-): After stock take of physical count the required adjustments are entered on the stock cards.

#### ANNEXURE E: VACCINE STOCK CARD

VACCINE STOCK CARD									
Facility Name:									
Product:			Strength:			Presentation:			
ICN/NSN/Stock Number :			Issue Unit:			Max Stock Level:			
Order Frequency:		Lead Time:			Maximum Stock Factor:		Re- order Factor:		

Date	Start/ Opening Balance	Transaction Number	Quantity Ordered	Quantity Received	Quantity Issued	Issued To	No. of vials Discarded Unopened	No. of vials Opened for Use	Batch Number	Expiry date	End/ Closing Balance	Remarks and Initials

#### TOTAL MONTHLY ISSUES FOR LISE IN OWN EACH ITY

Financial Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average Monthly Consumption
FY:													
1													
FY:													
1													

Vaccine wasted / disposed (-)







## Calculating Vaccine Wastage



# THE NUMBER OF VACCINE DOSES AND NOT THE NUMBER OF VACCINE VIALS WILL BE USED IN ALL VACCINE WASTAGE CALCULATIONS







#### Wastage Calculations: Storage Level



- Should be calculated monthly using the physical stock cards.
- All discarded doses should be divided into the following categories in a loss/variance report:
  - Exposure to freezing
  - Exposure to heat
  - Expired vaccines
  - Damaged vaccines
  - Missing vaccine

		STOCK LO	OSS / STOCK \	/ARIANCE / EX	PIRED STO	CK REPORT			
Name of The		Financial Year		Pharmacy M		me			
Store				Signature:		gnature			
Month:	Document			Authorized I	Person: Na	me			
	Number:					gnature			
ICN / NSN	Product Descriptio	discarded/missing discard			l/missing of	ansaction number the stock system	Remarks		
		Na	ture of loss (indica	ate total quantity th	roughout the m	onth)			
			•				0 "		
Quantity damaged durin transit	Quantity g damaged during storage	Quantity discarded due to VVM discard point	Quantity discarded due to Freezing	Quantity discarded due to Expiry	Quantity discarded due Heat Exposure		Quantity discarded as Missing Inventory	Quantity discarded due t another reasor	
			Recommendation	s for corrective act	ions and dispos	sal			
		List of documents at		r Survey Board Sul		patch & expiry dates	)		
Board of Surve	ey Chairperson:		Signature				ted/Approved:		







## Wastage Calculations: Storage Level



The formula for calculating vaccine wastage at storage level:

Proportional vaccine wastage rate = <u>Number of doses discarded</u> x 100 in unopened vials wastage Start balance + number of doses received

- A large volume of vaccines is usually stored at these facilities
- Any cold chain failure would have a significant impact on vaccine availability at the lower levels of distribution.
- There is no acceptable wastage rate at the storage level, as vaccine wastage at this level is considered avoidable and should be zero







- Calculating wastage at service delivery level requires different data elements which should be collected while providing immunisation services
- A vaccine stock card is included in the guide, to ensure all relevant data elements are collected and could be
  used in all immunisation rooms, hospital wards where immunisation is provided.
- This include:

						VACC	INE STO	CK CAF	RD					
Facility N	lame:													
Product:							Strength:					Presentation:		
CN/NSN/	Stock Num	nber:					Issue Unit:					Max Stock Level:		
Order Fre	equency:				Lead 1	ime:			Maxi	imum Stock	Factor:		Re- order Factor:	
Date	Start/ Opening Balance	Transaction Number	Quantity Ordered	Quantity Received	Quantity Issued	Issued To	No. of vials Discarded Unopened	No. of vials Opened for Use		Batch Numb	er	Expiry date	End/ Closing Balance	Remarks and Initials
									-					
									+					
	1			-	TOTAL MO	NTHLY	SSUES FOR	USEIN	OWN FA	ACILITY				
Financial Year	Apr	May	Jun	Jul	Aug	Se	ep O	ct	Nov	Dec	Jan	Feb	Mar	Average Monthly Consumption
FY:														
rv.						_								







- The accurate collection of data should be ensured through the training and commitment of all relevant stakeholders including vaccinators, vaccine handlers, pharmacist assistants, pharmacists, and operational managers.
- When calculating the vaccine wastage, the data should be collected on the vaccine stock card (Annexure E) and converted to the number of **DOSES** (for Mpox 1 vial =1 dose) before wastage calculations are conducted

Always start by calculating vaccine usage









The formula for calculating vaccine usage at the service delivery point is as follows:

Number of doses administered (a) x 100

Vaccine usage (rate) = Number of dose issued (b)

This data is collected on the tally sheet (a): The number of doses administered in the vaccination room or site

This data is collected on the stock card (b): The number of vials issued to the vaccination room / site









OR

Number of doses administered x 100

Vaccine usage (rate) = (Number of usable (Number of doses (Number of usable doses at beginning + received during - doses in stock at of period) end of period)

The challenge with calculating wastage in this way- it does not indicate what proportion of the wastage was avoidable or unavoidable







## **Vaccine Wastage Monitoring Tool**



ANNEXURE G: SERVICE DELIVERY POINT MONTHLY REPORTING TOOL									
VACCINE W	ASTAGE MON	ITORING TO	OOL FOR	WARDS/IM	MUNISATIO	ON ROOM			
			Vacc	ine Name					
Facility Name			Repo	rting Period	Month	Year			
District			Sub-	district					
Average Monthly Live Birt	hs/ Target Population								
Date	Start Balance	Number of doses received	Number of doses discarded Unopened	Number of dose Opened for use		End Balance			
	^	В	С	D	E	F= (A+B) - (C+D)			
				1					







#### **Monthly Facility Report**



Rate	Formula	Monthly Result
Vaccine Usage Rate	H=(E x 100)/(A + B - F)	
Vaccine Wastage Rate (overall)	100 H	
Proportional wastage rate in unopened vials	(C x 100)/(A + B - C)	
Proportional wastage rate in opened vials	(D - E) x 100/D	
Unopened-vial-specific wastage rate	(C x 100)/(A + B - F)	
Opened-vial-specific wastage rate	(D - E) x 100/(A + B - F)	
Immunisation coverage rate	DHIS Data	

COMPLETED BY:

FULL NAME DESIGNATION DATE

For multi-dose vials, the data must be captured in doses instead of vials e.g. Measles: 1 vial = 10 doses

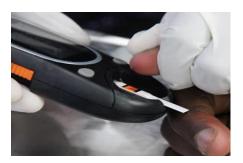












# INFORMATION, MONITORING & DATA MANAGEMENT







## **Summary of Key Indicators**



Category	Indicator	Disaggregation	Data Source
Vaccination Cites	Number of vaccination sites meeting compliance criteria	Public sector: province, district	MFL
Vaccination Sites	Number of sites approved for Mpox vaccination services	Public sector: province, district	MFL
Vaccinators	Number of vaccinators allocated per site	Public sector: province, district	Province/District
vaccinators	Number of vaccinators trained for Mpox vaccination	Public sector: province, district	Province/District
Mpox Vaccine Supply Chain	Mpox Vaccine Supply Chain Number of vaccines procured		Supplier contracts, stock received at central stores
Mpox Vaccine Supply Chain	Number of vaccine doses distributed/allocated to sites	Public sector: province, district and vaccination site	Stock Visibility System
Mpox Vaccine Supply Chain	Percentage of sites reporting vaccine stock shortages	Public sector: province, district and vaccination site	Stock Visibility System
Vaccination Coverage	Percentage of people fully vaccinated against Mpox	Geographic coverage, age categories, gender, vaccine type and public vaccination sites	DHIS2







# Summary of Key Indicators (Continued)



Category	Indicator	Disaggregation	Data Source
Vaccination Coverage	Proportion of the target population fully vaccinated against Mpox	Geographic coverage, age categories, gender, vaccine type, public health vaccination sites, beneficiary group	DHIS2
Dose Uptake	Rate of uptake for the first dose	Geographic coverage, age categories, gender, vaccine type, public health vaccination sites, beneficiary group	DHIS2
Drop-out	· ·	Geographic coverage, age categories, gender, vaccine type, public health vaccination sites, beneficiary group	DHIS2
Adverse Events Following Immunization	Number of vaccinated individuals reporting serious adverse events	Geographic coverage, age categories, gender, public health vaccination sites, beneficiary group	Vaccine AEFI system & SAHPRA
Post-vaccination Mpox Infection	Post-vaccination Mpox infection rate	Geographic location, cases, admissions, mortality	NMC







## Mpox Vaccination Collection Tool: Vaccination Card





#### MPOX VACCINATION RECORD CARD

#### **VACCINEE DETAILS**

Surname

- C															
First Name(s)															
Identity Number/ P	assport Number														
Next appointment	date														
VACCINE DOSE	VACCINE NAME	<b>~</b>	1ANUFA	CTURE	:R	ВА	TCH NUM	1BER			VAC	CCINE	DATE		
1 <sup>st</sup> Dose															
2 <sup>nd</sup> Dose															
<b>VACCINATO</b>	R'S DETAILS														
	Surname														
1 <sup>st</sup> Dose	First Name(s)														
	Signature														
	Surname									•					
2 <sup>nd</sup> Dose	First Name(s)			•				•		•		•		•	
	Signature														







## Mpox Vaccination Collection Tool: Register Cover page



	MPOX TICK REGISTER	
Facility Name:		
District:	Sub-District:	
Starting Date:		
Ending Date:		







# Mpox Vaccination Collection Tool: Instructions to fill in the register



#### **INSTRUCTIONS TO FILL IN**

а	Month/Year	Enter the month and year in which the Mpox vaccination took place
b	Date	Enter the date on which the Mpox vaccination took place.
С	Name & Surname	Enter the Name of the client, followed by the Surname of the client.
d	Unique identifying number	Enter the full South African ID number of the client, a passport number for clients without a South African ID, Assylum seeker or Patient Folder Number.
е	Age	Enter the clients numeric age (a number) during the time of the vaccination
f	Gender	Write in full "Female" if the client is female and "Male" if the client is a male.
		Write the acronym of the relevant category as indicated by the client.
		MSM stands for a men who have sex with men.
<b>a</b>	High rick population	SW stands for an individual who provide sexual services for a fee.
y	High risk population	HCW stands for People with certain occupational risks, such as healthcare workers or laboratory personnel working with orthopoxviruses.
	!	II stands for Immunocompromised individuals
		Other: Stands for other higher risk group not included in the above categories
h	Contact of the confirmed acco	Contacts of confirmed cases: Those who have had prolonged close contact with an individual diagnosed with mpox are typically recommended to receive the vaccine to
n	Contact of the confirmed case	prevent the spread of the virus.
i	Vaccine administrator	The clinicial who will be administering the vaccine
j	Comments	Enter any important information such as: any side effects







## Mpox Vaccination Collection Tool: Register



Mon	h:			Year:																
ber	ntifier nber ort)	D 0	г е) F/M		ø	Number		Higl	h risk popul			of case	dose	first	0	puo	ose Ose	0		
Row number	Unique identifier (Folder number ID/passport)	Name and Surname	Gender (Male/Female) F/M	Age	Address	Contact Nu	MSM	Sex workers	Health care worker	Immunoco mpromised individuals	Other	Contact of confirmed case	Date of first dose	Mpox Vacc first dose	Batch No	Date of second dose	Mpox Vacc second dose	Batch No	Vaccine administrator	Comment
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
Tota																				







#### Mpox Vaccination Collection Tool: Monthly Summary



#### **MONTHLY SUMMARY SHEET**

Start a new page for a new month

MONTH & YEAR:					
Indicators	Ge	nder		Age	9
(data source)	Male	Female	<18 ve	ars	>18 vears
# MSM					
# Sex workers					
# Health care workers					
# Contact of the confirmed case					
# Immunocompromised					
# Other					
Total					
Complied by:					
Name:	Date:		Sign:		
Reviewed by:	·		-		
Name:	Date:		Sign:		
# Contact of the confirmed case # Immunocompromised # Other  Total Complied by: Name: Reviewed by:					













## **VACCINE SAFETY SURVEILLANCE**













# Modified Vaccinia Ankara-Bavarian Nordic (MVA-BN): Vaccine Safety Surveillance







#### **Presentation Outline**



- Aim and objectives of Adverse Events Following
   Immunisation (AEFI) Surveillance
- Vaccine Safety Surveillance Types
- Vaccine Safety Surveillance Cycle in SA
- MVA-BN Surveillance
- MVA-BM Vaccine Profile
- Adverse Events Following Immunisation
- Causality Assessment Classification
- MVA-BN Vaccine AEFIs/Side Effects
- Contraindications
- Clinical Features of Anaphylaxis
- Anaphylaxis Management
- Management of AEFIs and AESIs

- Post–vaccination Recommendations
- Events related to immunisation-error
- Prevention of Immunisation Error-Related AEFI
- Case Reporting & Investigation
- Health Facility Pharmacovigilance Requirements
- AEFI Reporting
- Causality Assessment of AEFIs and AESIs
- Key Points for Communicating with MVA-BN Vaccine Recipients
- PV Surveillance Requirements
- Challenges in Vaccine Safety Surveillance
- Conclusion
- References







#### **Presentation Outline**



#### Aim:

The purpose of monitoring adverse events following MVA-BN vaccine administration is to ensure safety, inform risk-benefit assessments, and continuously improve immunization practices

#### **Specific Objectives:**

- Detection of Adverse Events
- Evaluation and Causality Assessment
- Risk Assessment
- Safety Monitoring
- Communication and Public Trust
- Strengthening Immunization Programs
- International Collaboration







# Vaccine Safety Surveillance Types



- Passive: Relies on healthcare providers and public reports
- Active: Systematic follow-ups with vaccinated individuals
- Enhanced: Increased scrutiny during specific periods (e.g., outbreaks)
- Pharmacovigilance: Monitoring the effects of vaccines post-marketing and administering
- Registry-Based: Using health databases for monitoring
- Community-Based Reporting: Engaging the public for direct feedback







# Vaccine safety surveillance cycle in SA



Vaccine Manufacturing Industry



South African
Health Products
Regulatory
Authority (SAHPRA)



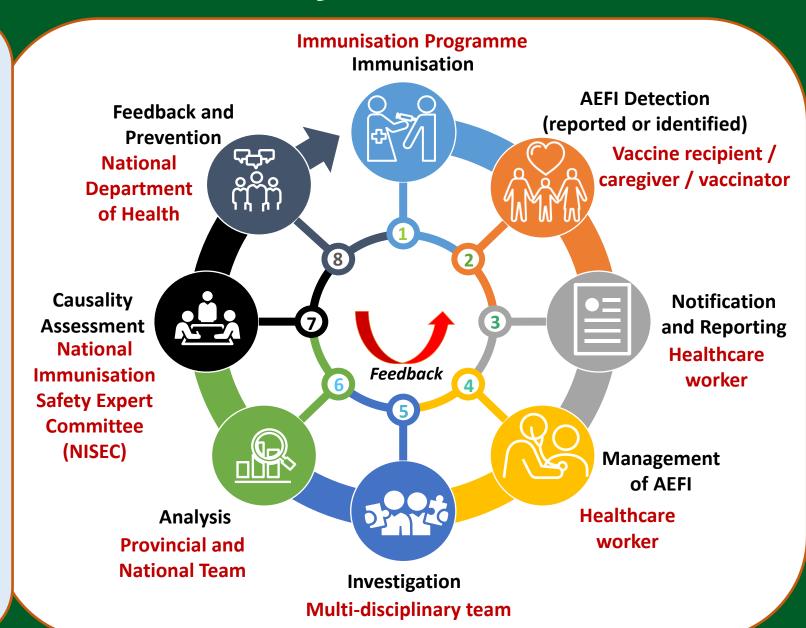
National
Department of
Health (NDoH)



World Health Organization (WHO)



Ministerial
Advisory
Committees on
Vaccines and
Immunisation



#### **MVA-BN Active Surveillance**



- The National Department of Health does not plan to establish sentinel sites for active surveillance but will monitor AESIs through the existing safety network, as described in the Vaccine Safety Surveillance in South Africa: Manual for Surveillance and Response to AEFI
- AESIs will be recorded using standard forms and included in the national AEFI line list, with causality assessments conducted per WHO methodology using Brighton Collaboration case definitions







# **MVA-BN Vaccine profile**



#### Clinical Trial Data:

- Over 7,800 participants; consistently showed a favorable safety profile
- Extensive use during the 2022 mpox outbreak with over a million doses administered
- Rare but serious effects: no significant myocarditis risk

#### Safety in Special Populations:

- Safe for immunocompromised individuals
- Limited data but no safety concerns in pregnant and breastfeeding women
- MVA-BN vaccine, is a non-replicating
  - ✓ Cannot reproduce in human cells, making it safer for individuals with conditions like pregnancy compared to other live replicating vaccines
- Well-tolerated in adolescents







#### **AEFI: Definition**



An AEFI is any untoward medical occurrence (unfavourable or unintended sign, abnormal laboratory finding, symptom or disease) which follows immunisation, and which does not necessarily have a causal relationship with the usage of the vaccine.







# Causality Assessment Classification Consistent with causal association to immunisation

- A. Consistent with causal association to immunization
- A1. Vaccine productrelated reaction (As per published literature)
- A2. Vaccine quality defect-related reaction
- A3. Immunization errorrelated reaction
- A4. Immunization anxiety-related reaction (ISRR\*\*)

A1
Vaccine
product-related
reaction

Individual's response to inherent properties of vaccine, even when vaccine has been prepared, handled and administered correctly

A2
Vaccine quality
defect-related
reaction

**Caused or** precipitated by vaccine, due to one /more quality defects of the product, including its administration device, provided by manufacturer

A3 Immunisation error-related reaction

Caused by inappropriate vaccine handling, prescribing or administration

A4 Immunisation stress-related reaction

Arising from anxiety about the immunisation and fear of injection e.g. fainting

C. Inconsistent with causal association to immunization

C. Coincidental

Underlying or emerging condition(s), or conditions caused by exposure to something other than vaccine

Event caused by something other than the vaccine product, immunisation error or immunisation anxiety

# Causality Assessment Classification Inconsistent with causal association to the immunisation

Coincidental event

An event that happens after vaccination but is not caused by the vaccine or vaccination process

#### Implications for immunisation programme

- Potential comorbidities → especially in elderly e.g. hypertension, diabetes, heart disease
- Coincidental events can occur in healthy individuals without comorbidities
- Newly acquired or diagnosed illness
- Spontaneous occurrence of an event without known risk factors
- Other exposures to drugs or toxins prior to event
- Surgical or other trauma leading to a complications
- Estimate population-based background rates
  - Pre-specified adverse events of special interest
  - Mortality per age group / disease

# **MVA-BN Vaccine AEFIs/Side Effects**



#### **Common Side Effects**

- Injection Site Reactions:
  - Redness, Swelling, Pain or tenderness,
     Induration (hardened area), Itching
- Systemic Reactions:
  - Fatigue, Headache, Muscle pain (myalgia), Nausea, Mild fever, Chills
- Less Common Side Effects:
  - Lymphadenopathy (swelling of lymph nodes)
  - Allergic Reactions: Rash or hives, Mild hypersensitivity reactions
  - Localized Skin Reactions: Bruising or discoloration at the injection site

#### Rare but Serious Side Effects

- Severe Allergic Reactions:
  - Anaphylaxis (immediate medical attention required if difficulty breathing or swelling occurs)
- Myocarditis or Pericarditis:
  - No significant increase was observed compared to the general population

# Safety in Special Populations Immunocompromised Individuals:

- It is safe for individuals with weakened immune systems.
- Pregnant and Breastfeeding Women:
  - Data are limited, but the vaccine is considered safe when the benefits outweigh the risks.
- Children and Adolescents:
  - Well-tolerated with a safety profile similar to adults







#### Contraindications



- The MVA-BN vaccine should not be administered to individuals with known allergies to any of its components, including:
  - ✓ Chicken Protein: Derived from the vaccine production process
  - ✓ Benzonase: An enzyme used during manufacturing
  - ✓ Gentamicin: An antibiotic used as a preservative

Record: The individual's medical history and any potential contraindications







# Clinical Features of Anaphylaxis



#### Acute onset of signs and symptoms:

- Urticaria (hives) or angioedema
- Bronchospasm, wheezing, dyspnoea, chest tightness
- Laryngeal oedema with upper airway obstruction or stridor
- Gastrointestinal symptoms such as nausea, vomiting, diarrhoea
- Hypotension and/or shock
- Dizziness, paraesthesia, syncope, sweating, flushing, dysrhythmias







# **Anaphylaxis Management**



- The standard treatment guidelines for managing anaphylaxis are outlined in the VACCINE SAFETY SURVEILLANCE IN SOUTH AFRICA: Manual for Surveillance and Response to Adverse Events Following Immunisation
- The required items should be included in an AEFI management kit, along with the Case Reporting Forms (CRFs)
- Ensure anaphylaxis kits are also accessible at outreach sites
- All cases of anaphylaxis should be recorded immediately







## Management of AEFI and AESIs



- AEFI/AESIs should be managed in line with the standard treatment guidelines
- The AEFI must be reported, and clinical records should be available at the time of AEFI/AESI investigation
- All vaccination teams have the capability, tools, knowledge, and access to the medicines and equipment needed to manage anaphylaxis should it happen







#### **Post-Vaccination Recommendations**



#### Monitor Symptoms:

 Most side effects resolve on their own, but medical advice should be sought if severe or prolonged reactions occur

#### Symptomatic Treatment:

- Over-the-counter pain relievers (e.g., Paracetamol or ibuprofen) for pain or fever
- Cold compresses for injection site discomfort







#### **Events Related to Immunisation Error-Related** Reactions **Infection** (e.g. local suppuration at injection **Increased local** site, abscess, cellulitis, systemic infection, reaction from a sepsis, toxic shock syndrome, transmission of frozen vaccine Avoidable severe Local reaction or Ineffective blood-borne virus (e.g. HIV, HepB, HepC) vaccine reaction abscess vaccine Death **Contraindications** Vaccine and/or Wrong site, route Reuse of **Vaccine transported** and technique of or precautions syringe or stored at incorrect disposable syringe administration ignored contaminated or needle temperatures **Expired Shaking vial or mixing** Wrong vaccine Wrong dosage Multi-dose vial vaccine or diluent and/or diluent into inappropriate administered or policy not administered administered combinations incorrect interval observed **Local reaction or abscess** Vaccine ineffective **Vaccine ineffective** Avoidable severe vaccine reaction Toxic shock syndrome

## Prevention of Immunisation Error-Related AEFI





Follow the manufacturer's recommendations and train healthcare providers on vaccine preparation, route & technique of administration.

#### Cold chain management:

- Check the expiry- or manufacturing date.
- Check for signs of freezing. Use conditioned ice packs for cooler boxes.
- Recommended temperature: between 2°C and 8°C.

**NB:** Do NOT use beyond specifications

#### Screen for:

- contraindications to vaccination e.g. previous anaphylaxis. If any contraindications → do NOT vaccinate
- confirm eligibility for approved age and risk categories
- precautions and determine if the benefits of the vaccine outweigh the risks. If any precautions → vaccinate with CAUTION

#### **Accurate Administration:**



- **Draw the vaccine into the syringe** just before vaccination and **do not touch** the **needle** to avoid contamination of the vaccine and/or the syringe
- Ensure the correct dose(0.5 mL subcutaneously)

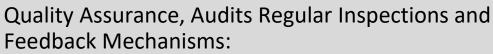


- Use the appropriate site, such as the upper arm (deltoid)
- Administer MVA-BN subcutaneously



NB! Ensure documentation (i.e. maintain records) and communication

Establish clear protocols for reporting immunization errors





- Conduct routine checks of vaccine storage facilities and administration sites
- Provide regular feedback to healthcare providers to correct practices and prevent future errors



**NB!** If in doubt, contact your supervisor for clarification. Do not hesitate to report issues or concerns when identified.

#### **Post-Vaccination Recommendations**



 The CIF collects clinical information to determine the certainty of reported AEFIs and AESIs





			(CBE) FOR ADVERSE EV	-				health
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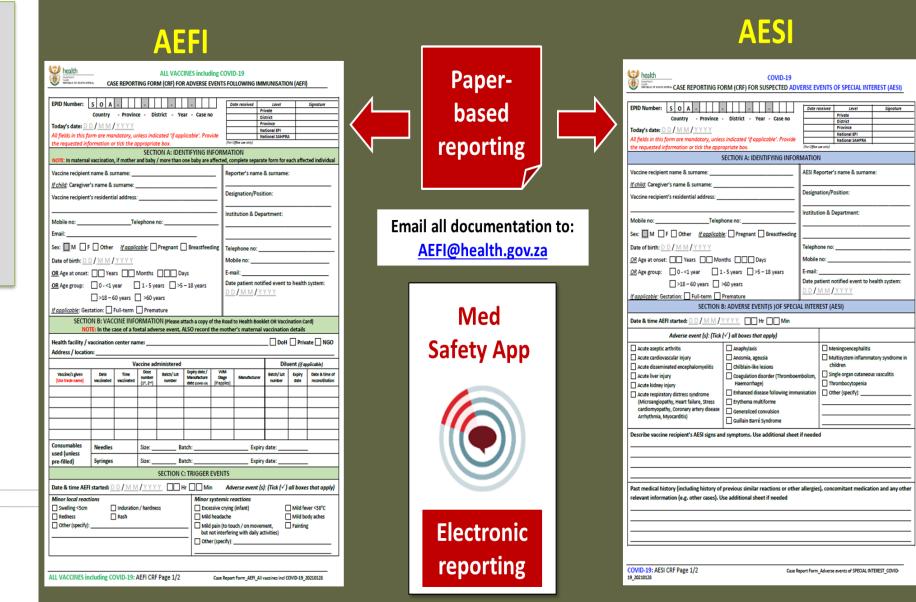
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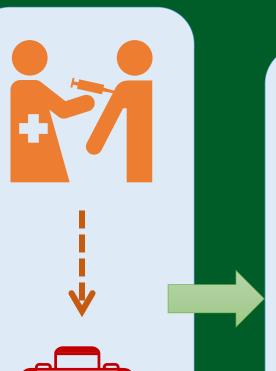
# Health Facility Pharmacovigilance Requirements

# Pharmacovigilance (PV) responsibilities:

- Vaccinee Counselling
- Identification of AFFI & AFSI
- Treatment of AEFI & AESI
- Notification of AEFI & AESI
- Reporting of AEFI & AESI
- Providing feedback to the vaccinee, community







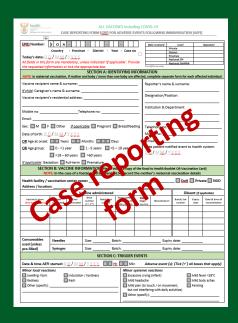


Adverse event of concern





MILD/MINOR EVENTS
Expected



SEVERE EVENTS
Not expected







Fever/ Headache







**Fatigue** 

Muscle aches Nausea

#### **Serious events**

**Investigated** 

- Result in death
- Require inpatient hospitalisation
- Life threatening
- Result in persistent or significant disability/incapacity
- Congenital anomaly/birth defect
- Medically important event or reaction

#### **Non-serious events**

- Need clinical management
- Usually do not result in long-term problems

# **AEFI** Reporting



#### **AEFI** Reporting:

• All AEFIs must be reported within 24 hours, following the procedures in the Vaccine Safety Surveillance Manual

#### **AESI Reporting:**

Serious AEFIs are to be reported to SAHPRA and the NDoH/EPI within 24 hours

Patients and healthcare professionals can report AEFIs via the Med Safety App. Choose to report an AEFI not an ADR

> For more information, visit the Med Safety App.







# **District Requirements**



#### **District responsibilities:**

- AEFI & AESI investigation
- Follow-up call centre
- District AEFI & AESI line list
- Allocation of EPID number to all cases
- Update cases on Vigilance hub
- Monitoring cases on Vigilance hub
- Providing feedback to the health care facility



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Marcise Events Pollowing Immunisati	ion (AEFI) AND Adverse Events of Special Interest (AESI)
ONLY for Serious and Severe Adverse Events Following	Immunisation, Clusters and Adverse Events of Special Interest
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Province: EPI District:	Country - Province - District - Year - Case no
	L to the number on the CASE REPORTING FORM IDENTIFICATION
	ne baby are affected, complete separate form for each affected individual
Vaccine recipient name & sumame:	Note: Use a separate form for each case in a cluster
Sex: M F Other	
	Years Months Days
OR Age group:	
Patient's full residential address with landmarks (Street name, ho	
-	
Telephone no: Mobile no:	E-mail:
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DETAILS	OF THE EVENT
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Autopsy NOT done nor planned. Provide reasons:    IMMUNIS   Name of vaccinator:     Name of vaccination site:     Address of vaccinations:   Govt. health facility   Private health     Type of site:   Fixed   Mobile   Outreach     Vaccination in:   Campaign   Routine   Other (specify):     TRIGE     Minor local reactions   Induration / hardness	SATION HISTORY  Designation:  fedity   Other (specify)    GER EVENTS   Minor systemic reactions     Excessive crying (infant)   Mild fever <38°C
Autopsy NOT done nor planned. Provide reasons:    IMMUNIS	SATION HISTORY  Designation:  facility   Other (specify)  GER EVENTS  Minor systemic reactions   Excessive crying (infant)   Mild fever <38°C   Mild body aches
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Autopsy NOT done nor planned. Provide reasons:    IMMUNIS	SATION HISTORY  Designation:  facility   Other (specify)  GER EVENTS  Minor systemic reactions   Excessive crying (infant)   Mild fever <38°C     Mild plain (to touch / on movement,   fainting     but not interfering with daily activities)
Autopsy NOT done nor planned. Provide reasons:    IMMUNIS	SATION HISTORY  Designation:  fedity Other (specify)  GER EVENTS  Minor systemic reactions  Excessive crying (infant) Mild fever <38°C  Mild headsche Mild body aches  Mild plain (to touch / on movement, fainting







# District surveillance teams



**Multi-disciplinary** 

**Case investigation** 

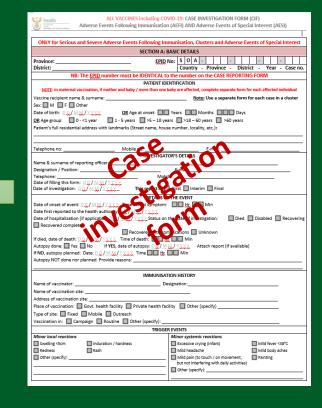
Investigation





# Collect essential evidence:

- Personal details
- Vaccine administered
- AEFI experienced
- Dates of events
- Clinical notes
- Laboratory results
- Co-existing conditions
- Other medicines taken
- Previous allergies
- Autopsy report



Causality assessment



Systematic review
of data about AEFI case to
determine the likelihood
of a causal association
between the event and
the vaccine

# **Investigation of Events**



- The district Investigation Team leads the response for AEFIs and AESIs requiring follow-up, starting investigations within 48 hours, and concluding within seven days
- Completed reports are submitted to the national AEFI coordinator and SAHPRA
- For complex cases, support may be sought from provincial and national levels, NISEC, WHO, and other partners





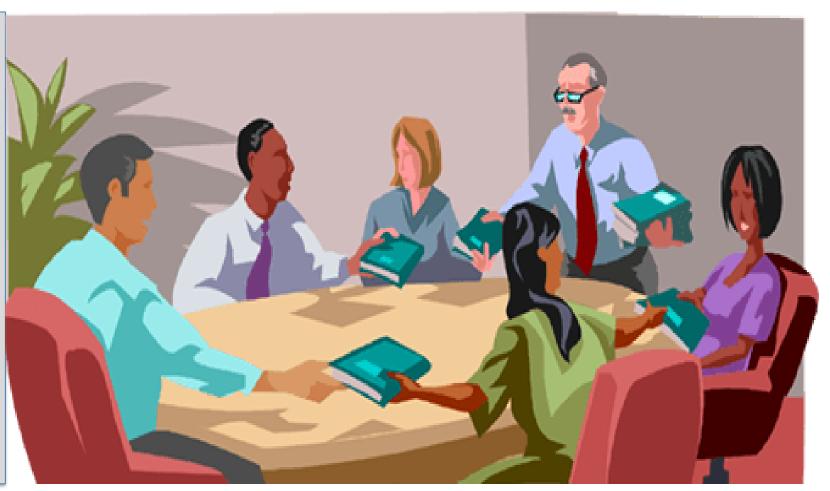


# **Provincial requirements**



#### **Responsibilities:**

- Preliminary Causality assessment (PISEC)
- Provincial AEFI & AESI line list
- Update cases on Vigilance hub
- Monitoring cases on Vigilance hub
- Providing feedback to the district









# Main responsibilities of Provincial AEFI Committees



- Strengthen AEFI reporting in the provinces
- Ensure maintenance of national policy and standards
- Ensure prompt and thorough investigation of severe and serious AEFI
- Carry out periodic review of AEFI for trends of non-serious AEFIs reported
- Respond to media and community concerns -> allay fears regarding vaccine safety

#### **Experts** serving on the committee

- Assist in timely assessment of causal association between the vaccine and the event based on the WHO
  assessment and classification system
- Submit the preliminary reports of cases to the National Immunisation Safety Expert Committee (NISEC) for final independent assessment







# National Requirements



#### **Responsibilities:**

- Causality assessment
- National AEFI & AESI line list
- Update cases on Vigilance hub
- Monitoring cases on Vigilance hub
- Providing feedback to the committee, provinces

- Complete case report form (CRF) for ALL detected AEFI and AESI cases
- Submit CRF within
   24 hours of detection or notification
- Complete line list

AEFI and AESI Serious or severe cases and clusters



- Case investigation by multi-disciplinary healthcare team in the district
- Submit completed CIF and documentation to District Surveillance Officer within 48 hours

# Line list Submit weekly



 Follow-up on any outstanding documentation from the case investigation

 Submit for causality assessment by NISEC





6

Med Safety App



Reporting AEFI



and AESI:
Complete and
submit CRF
within 24 hours



 Arrange for case investigation by multidisciplinary team, to be completed within

#### 48 hours

 In case of a death, immediately inform District surveillance Officer via phone



Conduct case investigation within 48 hours including the completed CIF



Causality
assessment
completed by
NISEC

- Follow-up on feedback from NISEC
- Communicate outcome of causality assessment with vaccine recipient
- Implement corrective measures in the case of programmatic errors







**AEFI Coordinator** 

# Causality Assessment of AEFIs and AESIs



- The National Immunisation Safety Expert Committee (NISEC) conducts causality assessments
- Since 2017, The NISEC's main purpose is to provide independent, authoritative, scientific advice and recommendations to the NDoH and SAHPRA on matters relating to immunisation safety and AEFI/AESI.
- The mandate of NISEC is therefore to review and assess serious and non-serious serious severe AEFI/AESI cases and AEFI clusters (serious and non-serious) submitted to the EPISA and SAHPRA







# Communicating Points for MVA-BN Vaccine Recipients



- Acknowledge the Possibility of Adverse Events
- Emphasize the Vaccine's Safety Profile
- Contextualize Risk-Benefit Balance
- Set Clear Expectations
- Address Specific Concerns
- Build Trust Through Transparency
- Utilize Trusted Communication Channels
- Provide Reassurance on Monitoring and Response
- Counter Misinformation
- Encourage Open Dialogue

REPUBLIC OF SOUTH AFRICA

Reinforce Key Messages

health

Department:

Provide Resources and Support





# Challenges in Vaccine Safety Surveillance



- Potential underreporting of adverse events
- Limited resources in rural healthcare facilities
- Variability in staff training and awareness levels
- Public scepticism and misinformation about vaccines
- Data management and analysis capabilities may be limited
- Need for continuous engagement and education efforts







#### Conclusion



- The vaccine is generally well-tolerated, with mild side effects being the most common
- The MVA-BN/JYNNEOS vaccine has demonstrated a favourable safety profile in both clinical trials and real-world use.
- Its safety profile makes it a preferred option for many populations, including those at higher risk of complications from live virus vaccines
- Ongoing safety surveillance is essential to promptly identify and address any potential adverse events, ensuring the continued safe use of the vaccine across diverse populations.
- Collaborative efforts across all levels are essential
- Encourage proactive engagement and reporting from all stakeholders
- Continuous monitoring strengthens confidence in vaccination programs

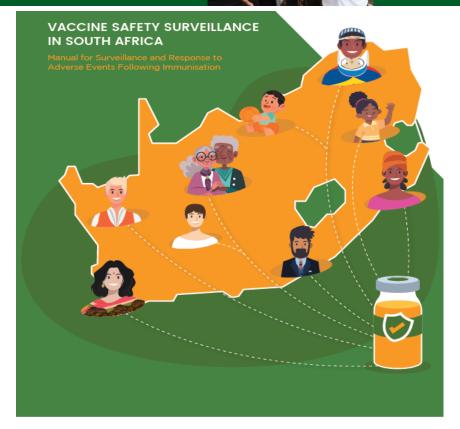






## Key References

- Brighton Collaboration Case Definitions(<a href="https://docs.google.com/spreadsheets/d/1QgF35nYcsaFN3DZ">https://docs.google.com/spreadsheets/d/1QgF35nYcsaFN3DZ</a> TOtV IPOTYqQzsDMUQBAd5M9brrM/edit#gid=1666959512)
- 2. VACCINE SAFETY SURVEILLANCE IN SOUTH AFRICA <a href="https://drive.google.com/file/d/1pY5qX9RFB8zxAhSSG0\_tAJbZlk8uipT0/view?pli=1">https://drive.google.com/file/d/1pY5qX9RFB8zxAhSSG0\_tAJbZlk8uipT0/view?pli=1</a>
- 3. JYNNEOS Package Insert: Provides comprehensive information on indications, dosage, administration, contraindications, and potential side effects. Drugs.com
- 4. European Medicines Agency (EMA) Imvanex: Offers detailed insights into the vaccine's approval status, clinical efficacy, and safety profile within the EU. <u>European Medicines Agency</u>
- 5. Bavarian Nordic MVA-BN Platform: Describes the vaccine's development, underlying technology, and its applications against various infectious diseases. Bavarian Nordic
- 6. Clinical Trial Data: Studies such as the Phase 2 randomized, openlabel trial provide data on the vaccine's immunogenicity and safety across different populations. Clinical Trials
- 7. World Health Organization (WHO) Prequalification: In September 2024, WHO prequalified the MVA-BN vaccine, recognizing its safety and efficacy in preventing mpox. World Health Organization
- 8. WHO's causality assessment manual and a link to the WHO's eLearning course, can be accessed online at: https://gvsi-aefitools.org/.





















# RISK COMMUNICATION AND COMMUNITY ENGAGEMENT (RCCE)







#### Introduction



- The objective of RCCE activities on the Mpox vaccination campaign is to raise awareness
  and to increase uptake, thus improving coverage on the targeted audience/selected
  sites; key population.
- Effective participation is to built on partnerships with targeted communities e.g. key population
- To reinforce positive health practices/behavioral change, discourage dangerous practices and foster community involvement and accountability.
- Key population group is involved as partners in planning, promoting, implementing and monitoring campaigns, develop a stronger trust and ownership in the health service
- Rumours and misinformation about vaccinations rapidly addressed through RCCE, planned and implemented on time.









#### **Social Mobilisation and Demand Creation**



- Increase awareness of the vaccine rollout approach and the prioritisation of key population groups;
- Provide the public with timely, consistent, and accurate information on Mpox vaccines (availability, safety, timelines), to build and maintain trust, and counteract misinformation, myths, and misconceptions;
- Reduce vaccine hesitancy and public resistance to Mpox vaccines;
- Address misconceptions about any AEFI that may occur;
- Tackle perceptions of low infection risk in specific populations and
- Create an environment that supports the widespread adoption and maintenance of non-pharmaceutical interventions to reduce the risk of Mpox infection.







# **Effective RCCE/ACSM planning**



- Planning for RCCE starts at high level to district (national, province & district)
- Activate sub-committees; communication, health promotion, ACSM, and external partners.
- Preparation for implementation and manage risks/crisis and timely respond to low uptake, vaccine hesitancy, misinformation, rumours and AEFIs
- Monitoring and Evaluation of RCCE activities
- Planning consists SIA objectives and be aligned with the timelines







#### RCCE/ACSM Committees



- Committees can be from any pre-existing structures established for previous SIAs or vaccine introductions (e.g., Covid-19, measles & Rubella vaccine)
- The committees at each level should be responsible for:
  - Providing overall direction to the RCCE activities;
  - Ensuring that the coordination of RCCE activities are implemented by appropriate entities;
  - Reviewing, testing and approving information materials;
  - Monitoring the effectiveness of RCCE activities and making any adjustments where required







### Strategies for Advocacy and Social Mobilisation



- Use a variety of channels which include meetings between various levels of government departments, civil society organisations, key partners, news coverage to ensure commitment at all levels
- Use of high placed officials and political leaders at national and provincial levels (MEC for Health, Head of Departments etc.)
- **Sensitisation** of political, religious, faith –based, cultural, traditional and other local leaders.
- Involvement of the local private health sector, other departments, NGOs, CBOs, Higher Learning Institutions, community leaders and volunteers in planning and implementing the SIA
- Involvement of local schools and churches in community Mobilisation.
- Use of community meetings and Imbizos to create and heighten campaign awareness.







# **Community Mobilisation**



Social mobilization/community engagement activities focus on conveying that;-

- the greatest number of people possible is needed to have good vaccine coverage
- the people specifically targeted (e.g., key population) and those who are specifically excluded for the campaign;
- the risks associated with not being vaccinated and with being vaccinated (e.g. AEFI);
- there is a plan to cover areas of most difficult access, where the diseases start; and the most vulnerable populations which have very little or no access to health facilities;







#### **RCCE** Activities



- Multiple channels to be used for communicating the rollout vaccine campaign in multiple channels:
  - Advocacy visits to community leaders (traditional, political leaders and civil society);
  - Conduct house to house visits;
  - Announcements at community events (sports and cultural events), school events, courts, ceremonies, public meetings, malls, markets, and transportation hubs;
  - Conduct visits at places of key population gatherings (pride month, YouTube channels etc);
  - ➤ Utilise Electronic media (Radios, TV, etc.);
  - Utilise the Social media FB, Instagram, and others;
  - ➤ Utilise Printed IEC materials (Booklets, Posters, Brochures, Leaflets, and flyers).
  - Loudhailing, and
  - Utilising all key populations space







# **Rumours & Misinformation Management**



- Specific or support messages such as the target disease, vaccine safety,
   mode of vaccine administration and AEFIs should be transparent and equally communicated through:
  - > All communication channels
  - Theoretical questions and answers,
  - Social mobilization,
  - > Home visits,
  - Health facility visits
  - Interpersonal communication

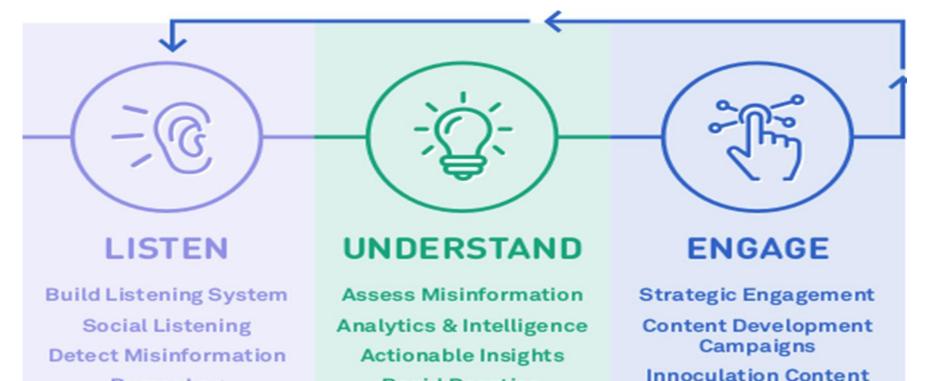






### Rumours & Misinformation Management





Rapid Reaction



Rumor Log



Monitoring & Evaluation

Lessons Learned



# Acknowledgment























HEALTH











BETTER TOGETHER.









# Thank You