OUTBREAK OVERVIEW & GLOBAL MPOX STOCKPILE INVESTMENT CASE - ANNEX B

BOARD MEETING
24-25 July 2025, Geneva, Switzerland

Contents

Gavi The Vaccine Alliance

Mpox Stockpile Investment Case: Executive Summary

Key findings

In June 2024, the Gavi Board approved a global mpox vaccine stockpile in-principle through the Vaccine Investment Strategy (VIS) 2024 contingent on the availability of licensed vaccines and a SAGE recommendation.

The conditions for reassessing a Board approval have now been met, including vaccines with WHO prequalification and Emergency Use Listing, and a SAGE recommendation on the use of the mpox vaccines for outbreak response.

Gavi, in coordination with other partners, has played a key role in the response to the 2024-25 global mpox outbreak through the coordination of dose donations, vaccine procurement/supply, vaccine access, and allocation.

However, there is a high risk of a supply gap for mpox vaccines in 2025-26 once Gavi-funded and donated doses have been exhausted. Continued Gavi support will require a transition to a sustainable and planned approach - including a vaccine stockpile when available.

A stockpile with 500k total doses would have health and economic benefits and is estimated to successfully respond to 44-52% of mpox outbreaks and avert ~US$ 750k – 1.4 million in medical costs in Gavi-eligible countries between 2026-2030.

- If stockpile is activated after 20 reported cases, the vaccine is estimated to avert **566 (or 19%) of total expected deaths over five years** in the indicated population, while if activated after 100 reported cases, 306 deaths (10%) could be averted over five years
- If stockpile is activated after 20 reported cases, the vaccine could avert **~10K cases and ~26K DALYs over five years** in the indicated population, while if activated after 100 reported cases, between ~5.5K cases and ~14K DALYs could be averted over five years

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Outbreak overview – June 2025

Emergency declarations and extensions in 2024-2025

- **In Aug 2024, mpox emergency declarations** by Africa CDC, WHO and Gavi
  - Africa CDC declared mpox a public health emergency of continental security (**PHECS)** on 13 August 2024.
  - WHO declared mpox a public health emergency of international concern **(PHEIC)** on 14 August 2024.
  - Gavi declared emergency for the African region on 15 August 2024.
- **In June 2025, maintaining the emergency status by WHO and Africa CDC:**
  - WHO convened emergency committee on 5 June 2025 that recommended to maintain the PHEIC for another three months; this was affirmed by the WHO DG
  - Africa CDC convened their emergency committee on 22 May 2025 which decided that a PHECS should be maintained
- **WHO convenes its EC every three months** – next meeting expected in early Sept 2025; **expect Africa CDC will also review again in three months**

Fourth meeting of the International Health Regulations (2005) Emergency Committee regarding the upsurge of mpox 2024 – Temporary recommendations

9 June 2025 | Statement | Geneva |Reading time: 6 min (1654 words)

The Director-General of the World Health Organization (WHO), following the fourth meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the upsurge of mpox 2024, held on 5 June 2025, from 12:00 to 17:00 CEST, concurs with its advice that the event continues to meet the criteria of a public health emergency of international concern and, considering the advice of the Committee, he is hereby issuing a revised set of temporary recommendations.

News / Press Releases

Africa CDC's Emergency Consultative Group Recommends Continuation of Mpox as a Public Health Emergency of Continental Security

28 February 2025

Theme

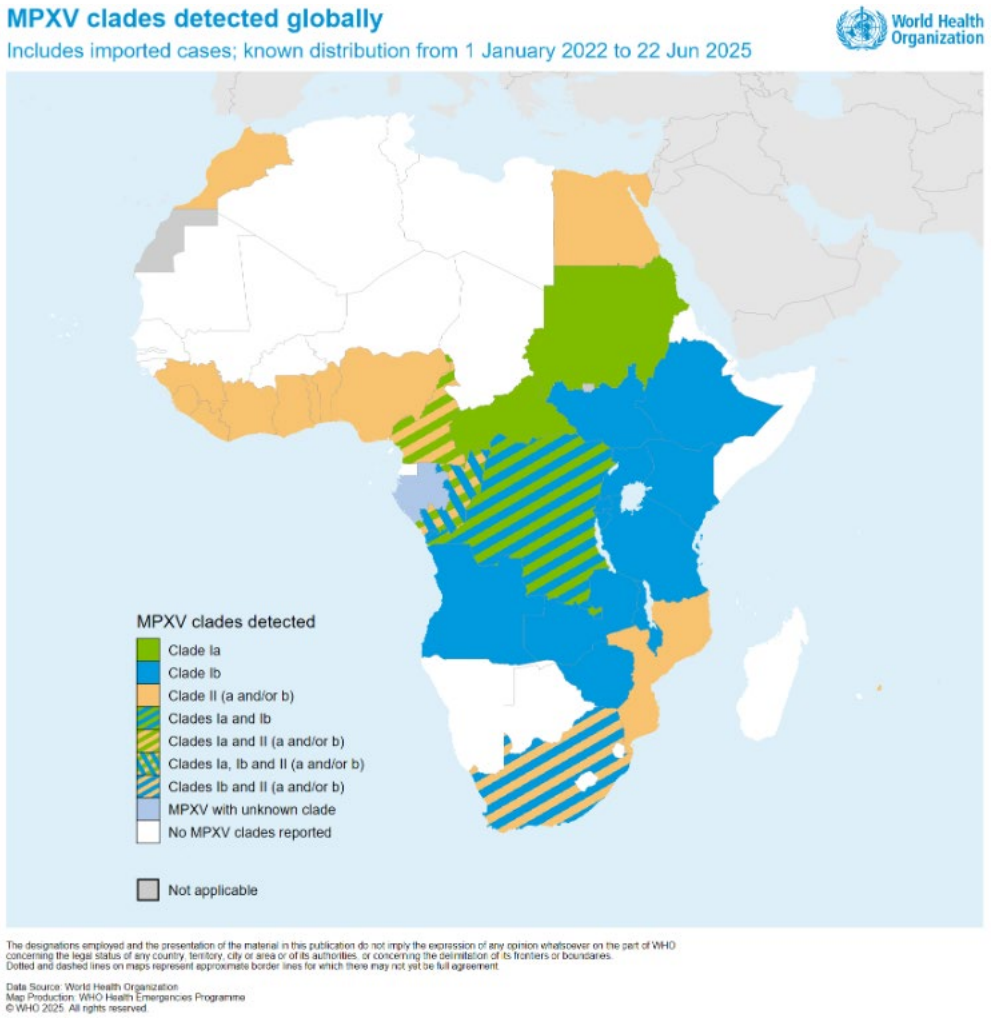
Emergency Response a
Public Health Emergenc
Security (PHECS)

Region

Rationale for emergency declarations in 2024

The increase of mpox cases and deaths in Africa since 2024 was due to a number of factors:

- Increase in mpox cases and deaths in the DRC.
- The detection and rapid spread of a new clade (clade Ib) of mpox in eastern DRC.
- The detection of mpox clade Ib in countries neighbouring the DRC that had not previously reported mpox.
- The potential for further spread of clade Ib mpox within Africa and beyond.
- Outbreaks of other clades of mpox in other parts of Africa.



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Mpox epidemiological overview of current mpox emergency

Across African Region (01 Jan 2024 – 22 June 2025)

- **43,351** confirmed cases and **142** confirmed deaths have been reported from 26 countries in 2024-2025:
  - Clade I: Angola*, Burundi*, CAR, Republic of Congo*, DRC*, Rwanda*, Uganda*, Kenya*, Zambia*, Zimbabwe*, South Africa*, South Sudan, Tanzania*, Malawi*, and Ethiopia*
  - Clade II: Nigeria, Cote d'Ivoire, Ghana, Guinea, Liberia, Morocco, South Africa, Sierra Leone, Mauritius and Togo
  - Clade I & II: Cameroon
  - Clade not yet confirmed: Gabon

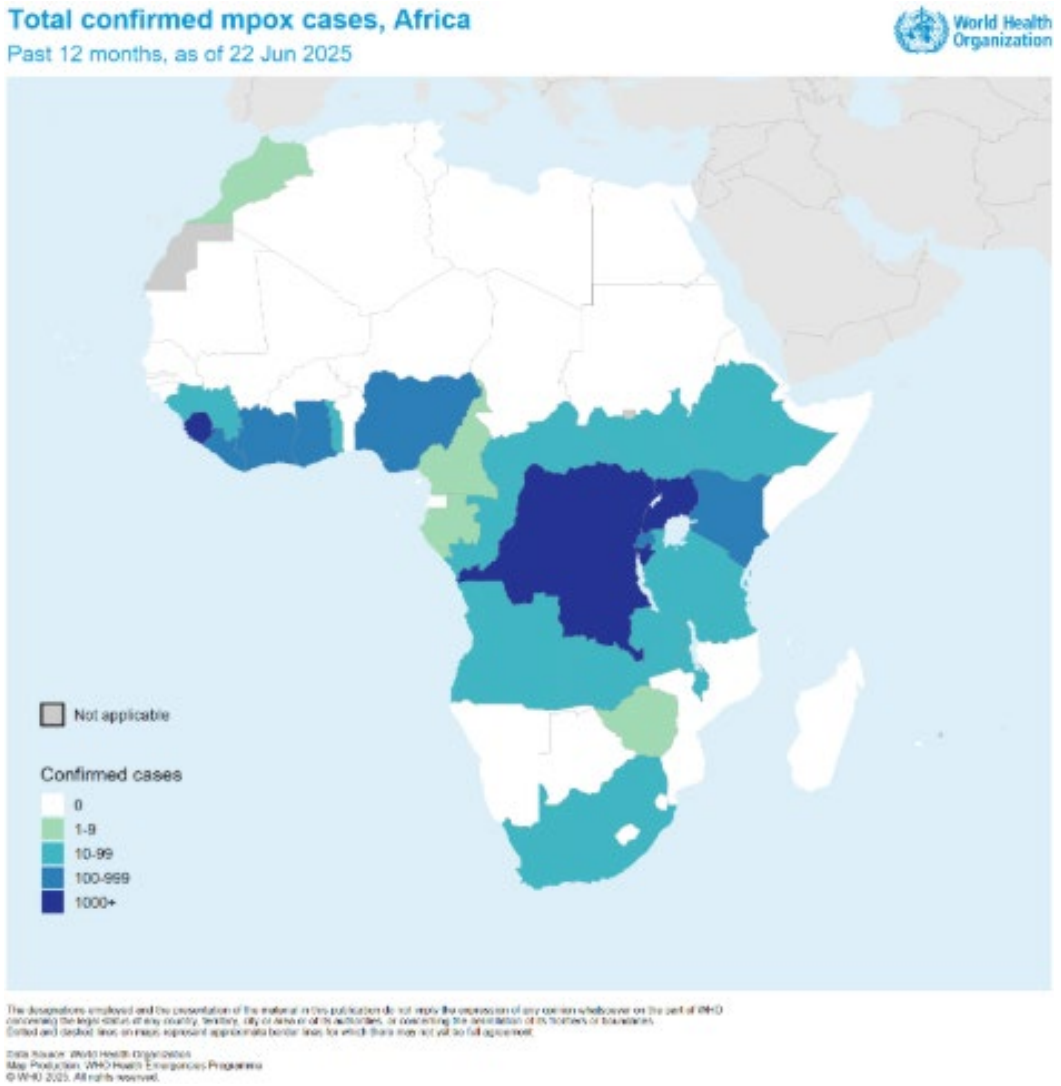
Democratic Republic of the Congo

- As of 15 June 2025, WHO reports **26,431** confirmed cases, including **49** confirmed deaths

Globally

- **18** countries outside of Africa have reported Clade Ib cases: Belgium, France, China, Pakistan, Germany, India, Sweden, the United Kingdom, Thailand, Canada, the UAE, the USA, Oman, Qatar, Brazil, Switzerland, Australia and Italy

*Countries reporting Clade Ib cases.



Sources: **WHO Mpox Trends Dashboard as of 22 June 2025. Link: https://worldhealthorg.shinyapps.io/mpx_global/**

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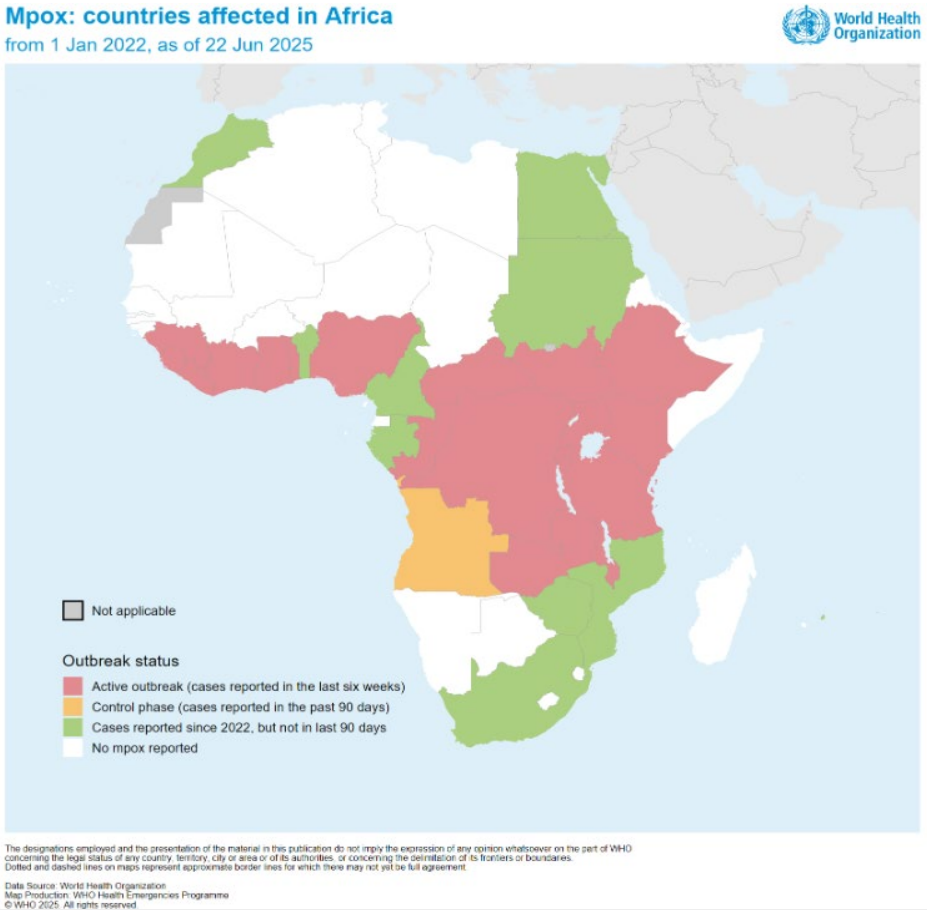
Mpox outbreak and response

Active outbreak continues to affect multiple countries in the African region (with DRC the epicenter), with exported cases reported globally



With continental and global public health emergency declarations extensions in Feb, Gavi continues to support vaccine response as part of cross partner efforts

- Progress has been made in terms of access to vaccines and vaccine delivery**, but mpox control efforts face ongoing challenges** related to conflict, and reduction in global funding, notably for surveillance and testing.
- **Gavi is working with partners to tackle the mpox emergency**, including through the Vaccination Operational Group (VOG), as part of the Access and Allocation Mechanism (AAM), and the Continental mpox Incident Management Support Team (IMST).
- **Gavi has engaged in both internal as well as cross-partner led learning efforts** and will continue to closely monitor progress and results, collaborating with partners, to ensure learning is appropriately integrated.

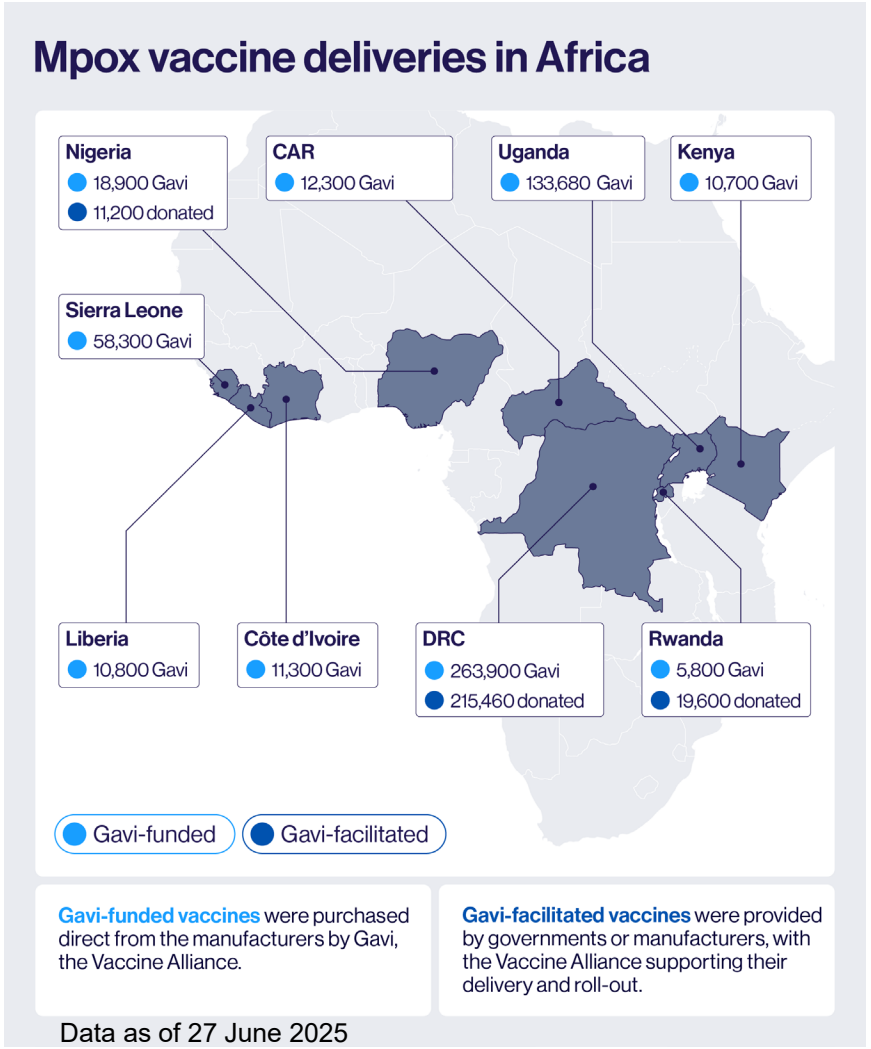
2024-2025 numbers in Africa*	
Total confirmed cases	43,351
Total confirmed deaths	142
Countries w. a confirmed case	26
Countries w. an active outbreak	19
Countries in control phase	1

*Data source: World Health Organisation. Confirmed cases and deaths only. Data as of 22 June 2025

Engagement in mpox response: Gavi is to date the largest provider of MVA-BN mpox vaccines globally

Rapid access to financing, vaccines and delivery support

- **First Response Fund:** Steering Committee approved drawdown 30 days post-PHEIC
- **Rapid reprogramming of funding**
- **Securing supply:** Gavi APA for 500,000 MVA-BN signed 35 days post-PHEIC
- **All APA doses now delivered** to 9 countries
- **Vaccination: 7** countries & >780,000 doses administered to date
- **Delivery: >US$ 8.8 million approved/disbursed** to date for FRF delivery support funded by Gavi



[1] Gavi-funded vaccines were purchased direct from the manufacturers by Gavi, the Vaccine Alliance. Gavi-facilitated vaccines were provided by governments or manufacturers with the Vaccine Alliance supporting their delivery and rollout.

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Rationale for Investment and Programmatic Timeline

Global mpox stockpile for outbreak response: conditions for a final Board approval have now been met

Investment conditions

A global mpox stockpile was approved in-principle through the VIS 2024, contingent on conditions, which key ones have now been met:

✓Outcomes of regulatory and technical reviews (WHO PQ/EUL)

✓WHO/SAGE recommendation

Updated analysis and learning agenda

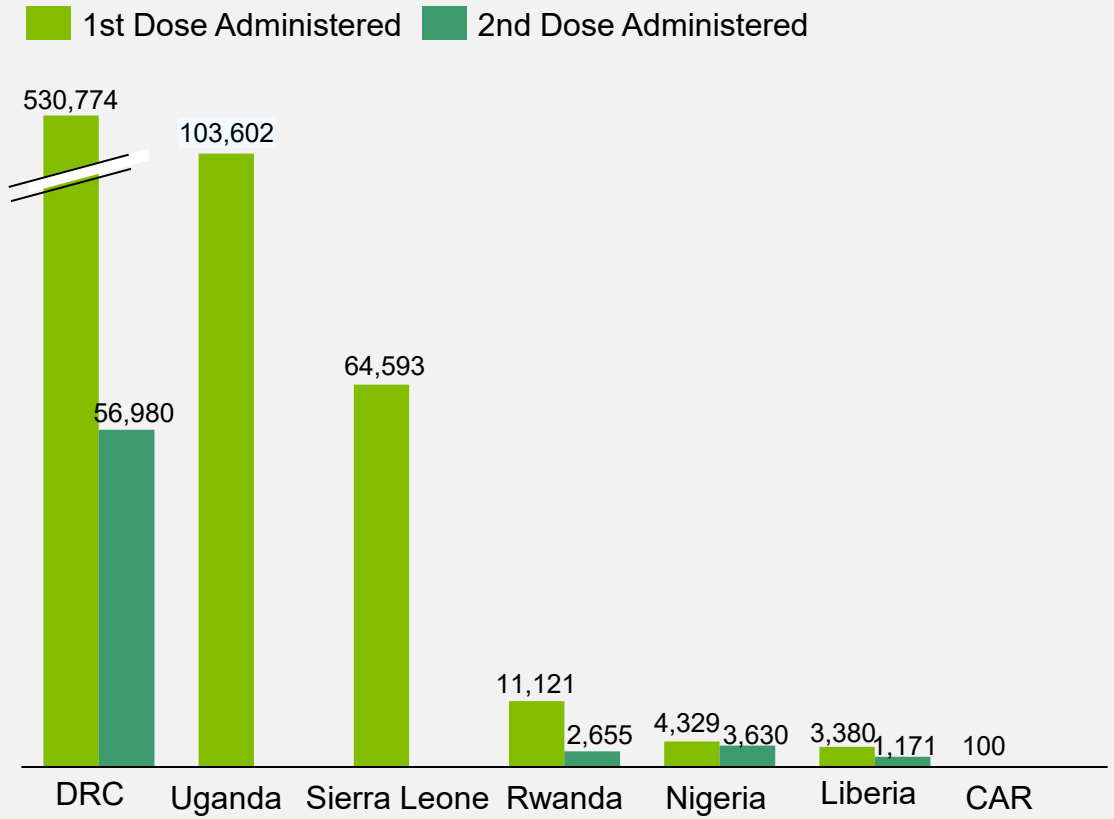
- Reflecting consultations, lessons learned, revised assumptions, and financial implications
- Results from a Board-approved learning agenda are now available- with estimates of stockpile sizes and the associated health and economic impact

Final Board approval required

- To ensure a long-term solution and secure funding for Gavi 6.0
- Initiate programme planning & design for its operationalisation with partners
- Contingent on financial resources being made available for the Gavi strategic period

Risk of a supply gap and need to transition to a stockpile

As of 3 July 2025, eleven countries have received **over 3 million** mpox vaccines, through Gavi and other partners; seven countries have commenced vaccination with over **780,000 doses administered**.*



However, there is an imminent risk of a supply gap once current supply has been used up:

- Currently, the global effort has access to ~300k unallocated doses of MVA-BN with >6 month remaining shelf life (at -20°C).
- These doses have been secured by UNICEF via its tender. However, use of these doses requires funding to backfill UNICEF's commitments made under its Vaccine Independence Initiative (VII)
- Available supply unlikely to increase – further donations unlikely and additional FRF drawdown not expected

*Source: WHO / Africa CDC Regional Mpox Vaccination Dashboard

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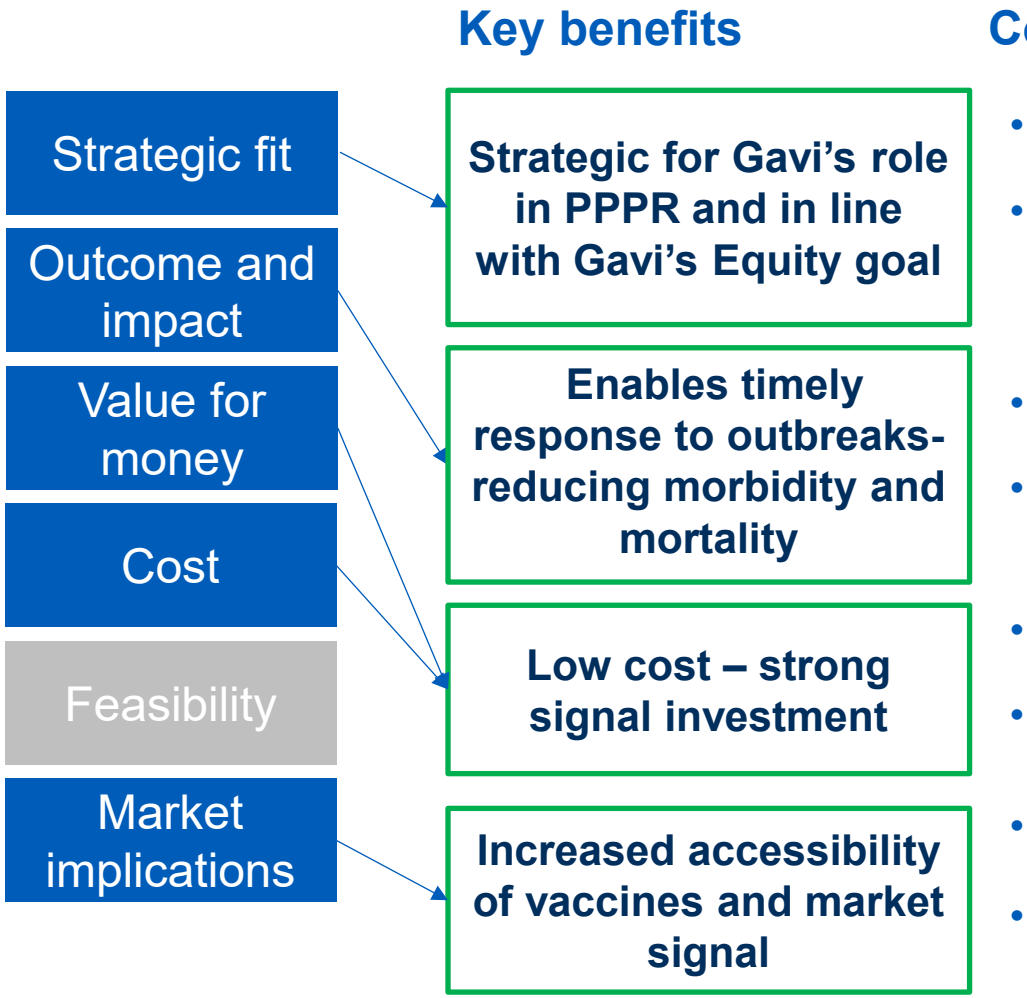
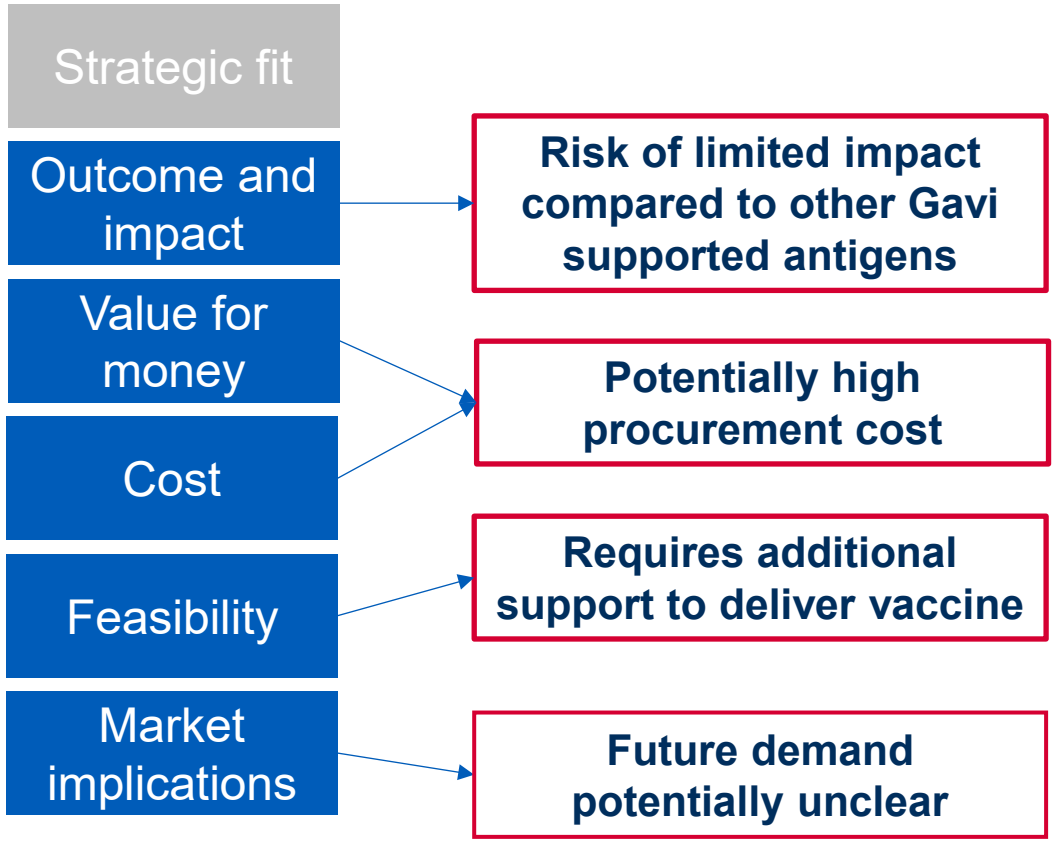
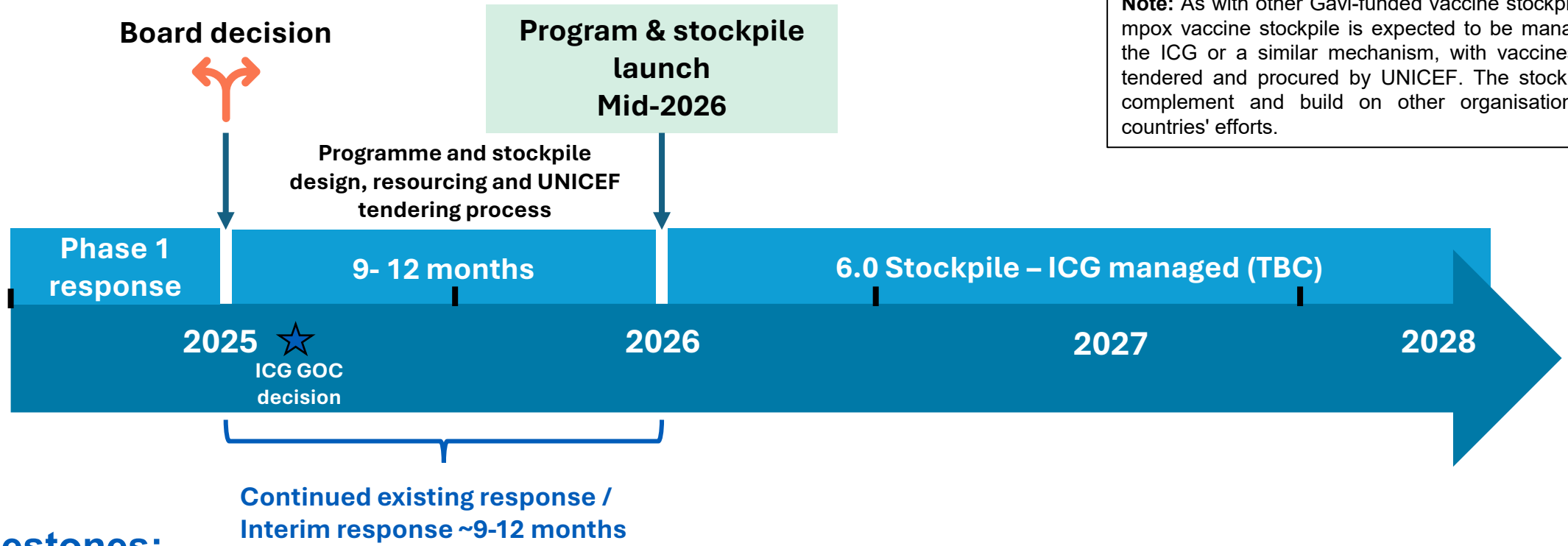
Key stockpile benefits



Key stockpile challenges and risks



A Gavi 6.0 Global Mpox Stockpile could launch in H2 2026 at the earliest – Timeline as of June 2025



Note: As with other Gavi-funded vaccine stockpiles, the mpox vaccine stockpile is expected to be managed by the ICG or a similar mechanism, with vaccines to be tendered and procured by UNICEF. The stockpile will complement and build on other organisations' and countries' efforts.

Milestones:

- **Gavi Board decision** – July 2025
- ICG Governance Oversight Committee decision**:** Expected by September 2025.
- **Programme planning and co-design with ICG** (UNICEF, MSF, IFRC, WHO) **& partners** – H2 2025 & H1 2026
- **Programme & global stockpile launch** – H2 2026

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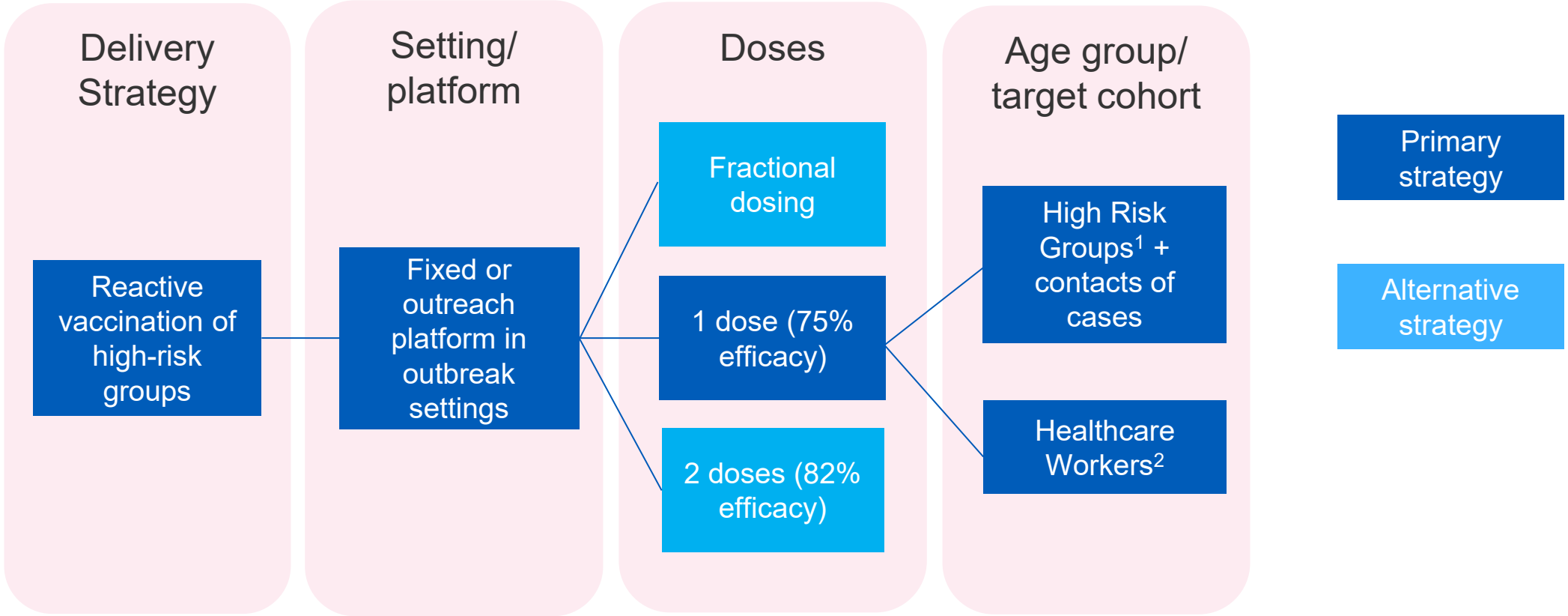
Learning Agenda on Stockpile Sizing and Health Impact

Mpox vaccination strategies modelled



[1] High risk groups with reliable population estimates are modeled: (1) men who have sex with men (MSM), (2) female sex workers (FSW), and (3) children under the age of 5 years old.
[2] Vaccination of healthcare workers is only represented in the final number of vaccine doses used, and not included in the epidemiological model, as they are not considered to have a major impact on the epidemiology of an outbreak.

Rationale for vaccination strategy

	Modelled strategy	Rationale / Source
Vaccination schedule	Main strategy; 1 dose: assuming a 5-day delay for vaccination of contacts	• WHO Position Paper (2024): SAGE recommends a 2-dose schedule for MVA-BN (1-dose and fractional dosing are recommended off-label in **supply-constrained outbreak situations**) • Vaccination plans for Gavi-eligible countries in 2024 and 2025 reflect a preference for a one-dose strategy.
Target Population	Persons at high risk of exposure to mpox in an outbreak: Children, MSM, FSWs, HCWs, case contacts	• WHO position paper, 2024: Persons at high risk of exposure to mpox in an outbreak per SAGE/WHO recommendation.
Setting	Reactive vaccination campaign in outbreak settings	• WHO Position Paper, 2024: Recommendation for outbreak response: based on local epidemiology, targeted vaccination strategy with focus on high-risk groups

Mpox Vaccine: Key Model Details

	Model characteristics	*Model-specific limitations and direction of bias*
CORI-JHU	**Model structure: Deterministic compartmental SEIRD-V model.** • The SEIRD-V model simulates mpox transmission dynamics across a population, which is stratified into four distinct subpopulations: children <5 y/o, men who have sex with men, female sex workers and health care workers, and the remaining general population • Risk multipliers were added to transmission risk to better model existing transmission dynamics, where transmission appears to be more likely within high-risk groups than in the general population. Each group in the model is tracked through eight epidemiological compartments representing susceptible individuals • The model incorporates crossover transmission effects where transmission can occur between high-risk groups and the general population and implements both targeted vaccination of high-risk groups and contact tracing vaccination strategies. • This epidemiological model was applied to three archetypal post-2022 mpox outbreak settings: (1) Kamituga Health Zone, Sud Kivu, DRC; (2) Kawempe Division, Kampala, Uganda; and (3) the Mushin Local Government Area, Lagos, Nigeria. These locations were chosen to mimic an array of outbreak dynamics and response capabilities across Gavi-eligible countries	• The model focuses on human-to-human transmission and does not account for enzootic transmission among animals leading to ongoing spillover risk into humans. • 100% vaccination coverage of high-risk groups is assumed. These are simplifying assumptions as we know that not all members of these groups will be identified or will accept vaccination. • Targeted mass vaccination of geographic areas or communities (e.g. villages) is also included in the SAGE recommendations but is not modeled given that the size of a targeted geographic area or community would vary widely depending on the outbreak context • Uncertainty in diagnostic and testing rates. Model structure includes a single diagnostic rate.

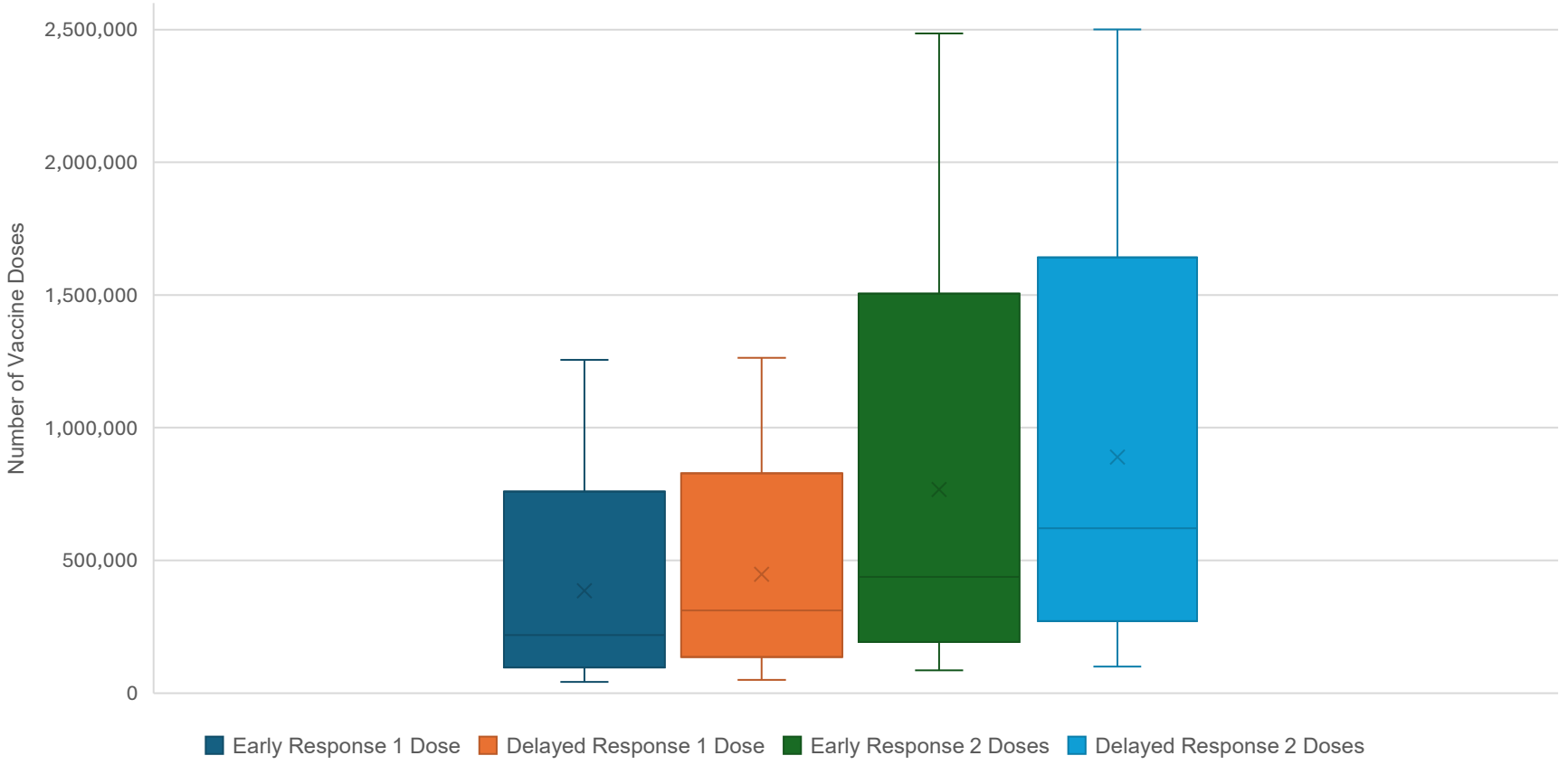
Impact modelling assumptions

Modelling team: Center for Outbreak Response and Innovation, Johns Hopkins University

	Assumptions	Rationale / Source
Vaccination strategy	• Targeted vaccination of high-risk groups during an outbreak with 1 dose	WHO Position Paper/SAGE Recommendations
Efficacy	• 82% after 2 doses • 75% after 1 doses	WHO Position Paper, WHO MVA-BN Interim Guidance
Response threshold	• 20 reported cases • 100 reported cases	Qualitative interviews, Gavi and Learning Agenda Steering Committee feedback
Timing of response	• 5-day delay in vaccination of contacts of mpox cases	Data from vaccination campaign in DRC
Coverage	• Vaccination of high-risk groups assumes 100% coverage of the high-risk groups over time	Lack of coverage data from past vaccination campaigns
Burden of disease	Modelled after 3 archetypal outbreak curves from: • Sud Kivu (DRC), Kampala (Uganda) and Lagos (Nigeria)	*See* JHU Stockpile Sizing Report, p 9 [Appendix 2]

The average demand for an mpox vaccine in the country archetypes is estimated between ~42K - ~2.5m doses

Vaccine demand for 1 dose and 2 dose strategies for two response scenarios- at 20 cases and 100 cases- averaged across the 3 archetypal countries: (1) Sud Kivu, DRC (2) Kampala, Uganda and (3) Lagos, Nigeria



Total number of doses per outbreak

Max **~2.5m**

Min **~42k**

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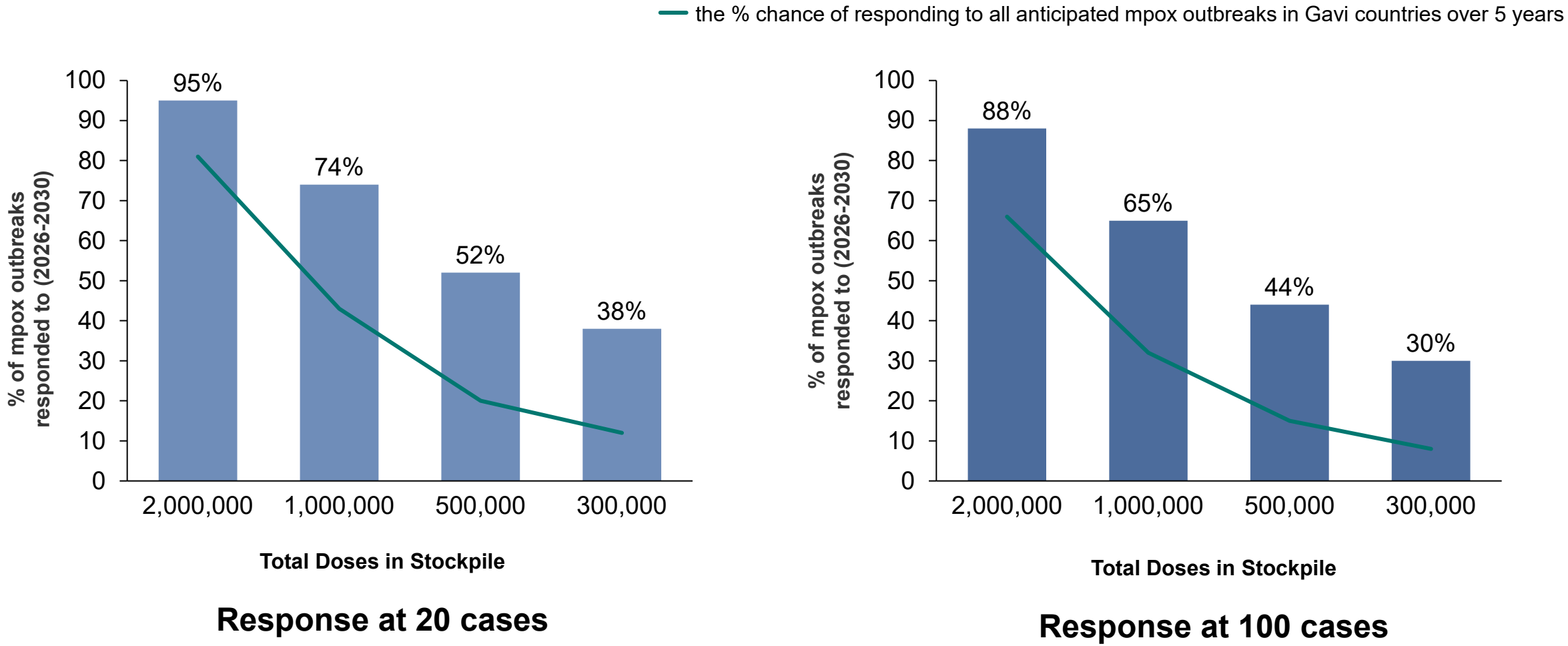
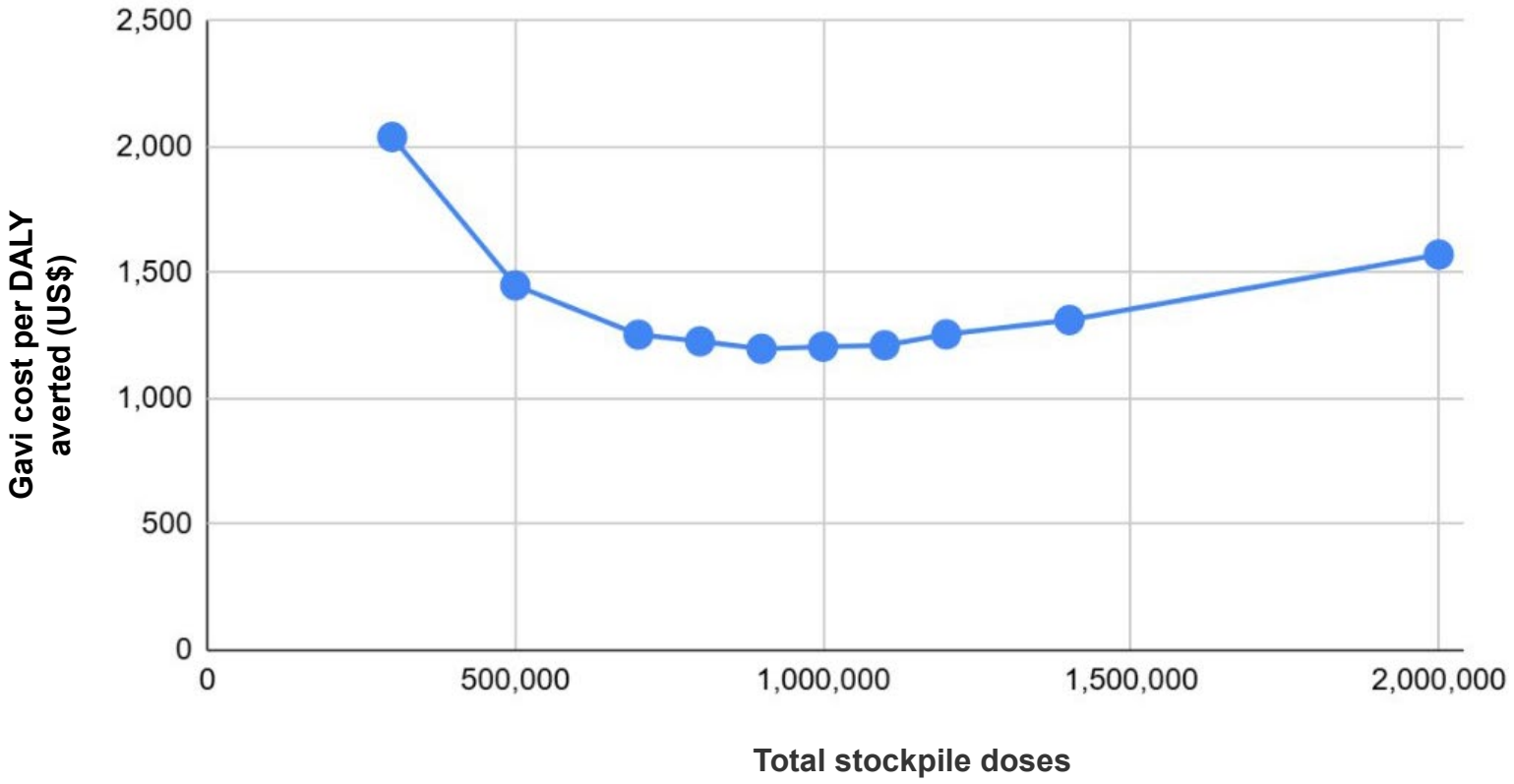
Proportion of mpox outbreaks successfully responded to, in Gavi eligible countries over 5 years, depending on speed of response to outbreaks

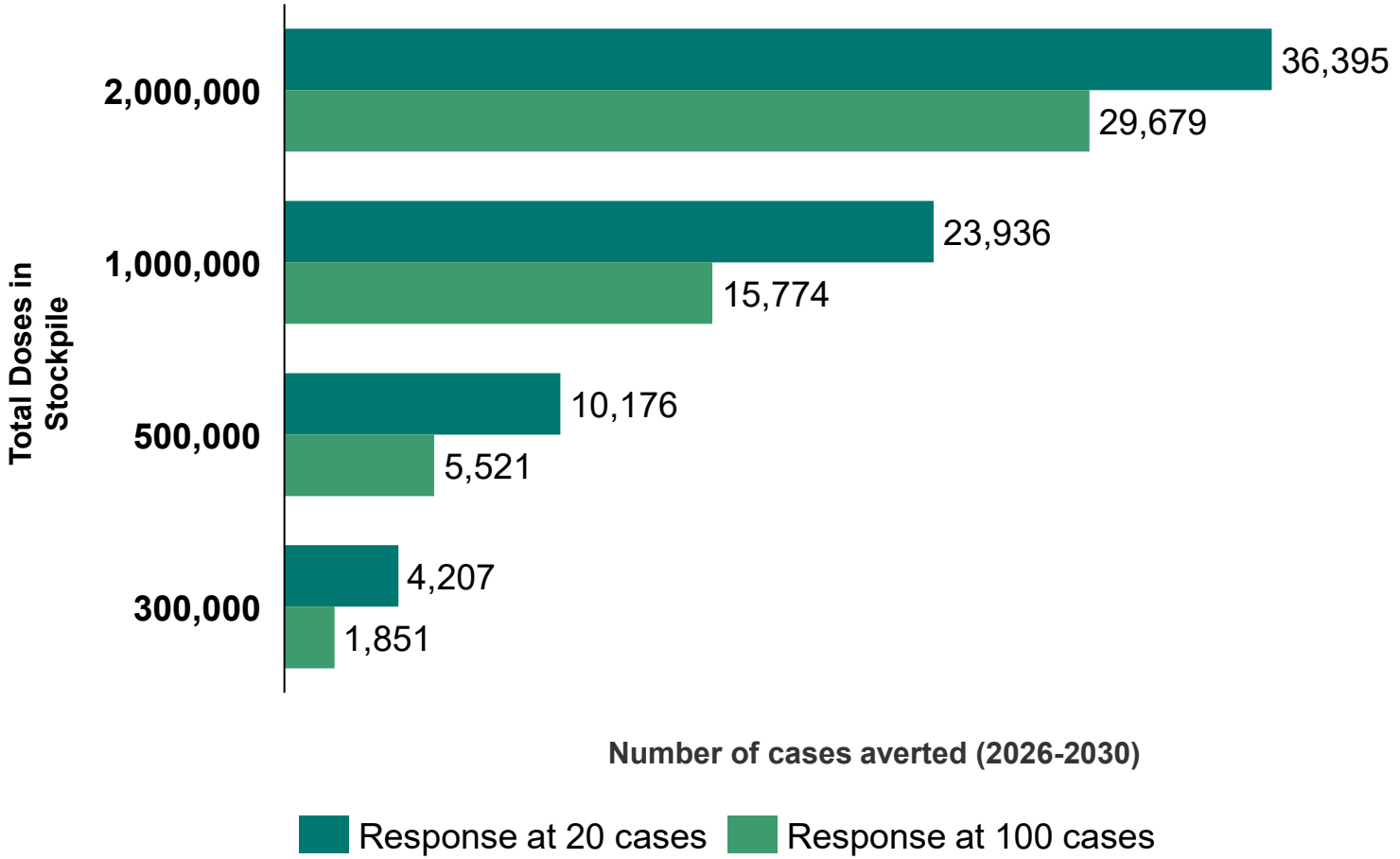


Cost per DALY averted is minimised at a total stockpile procurement of 900k doses



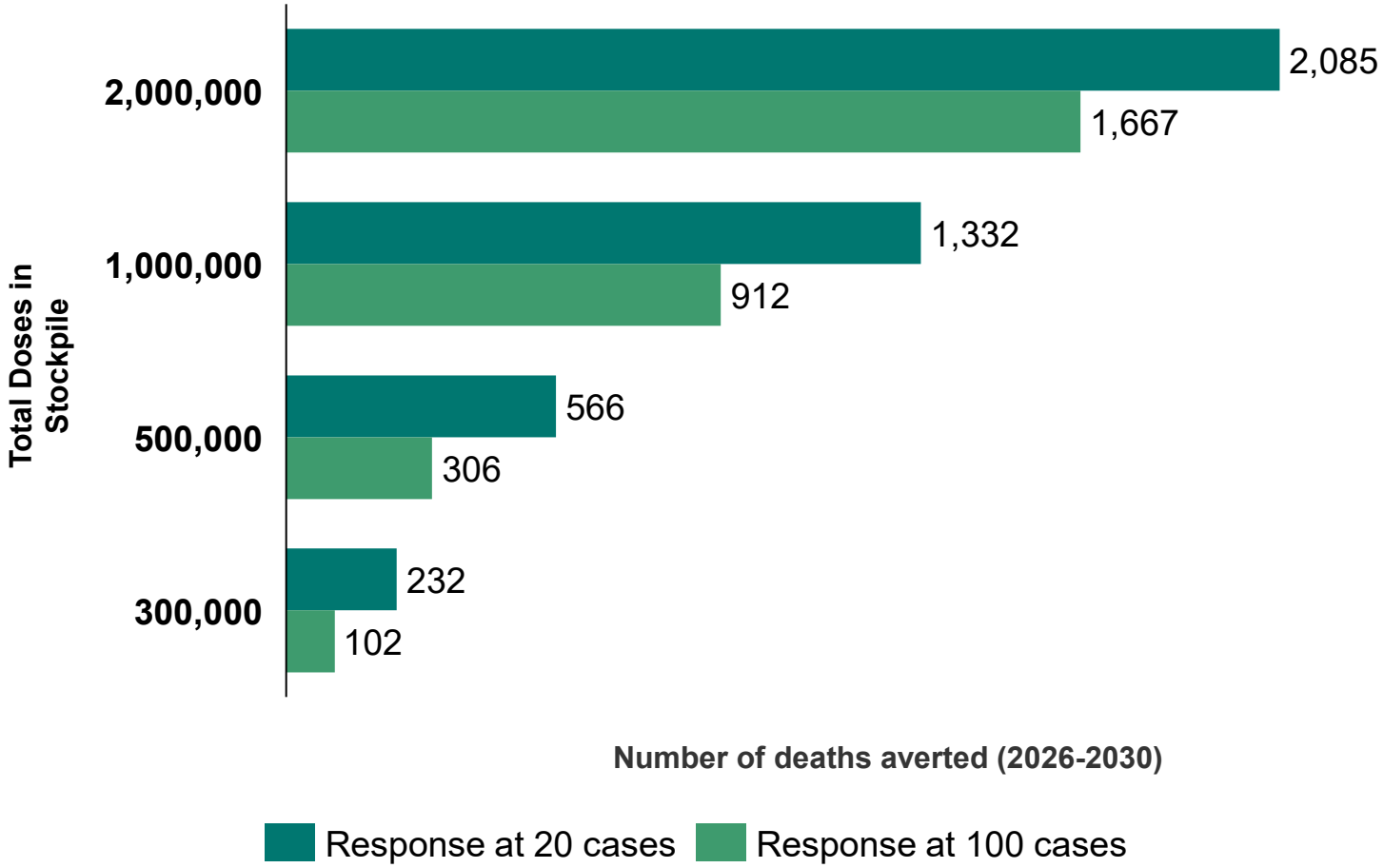
- **Cost-effectiveness is maximized** (i.e., the lowest cost per DALY averted) at a total stockpile of **900,000 doses**
- This stockpile size responds to **70% of individual outbreaks** and **maximises efficiency** by combining low vaccine waste with the capacity to stop many outbreaks from spreading.

An mpox vaccine stockpile could avert between ~1.8k and ~36k cases over 5 years, depending on the speed of response to outbreaks and the stockpile size



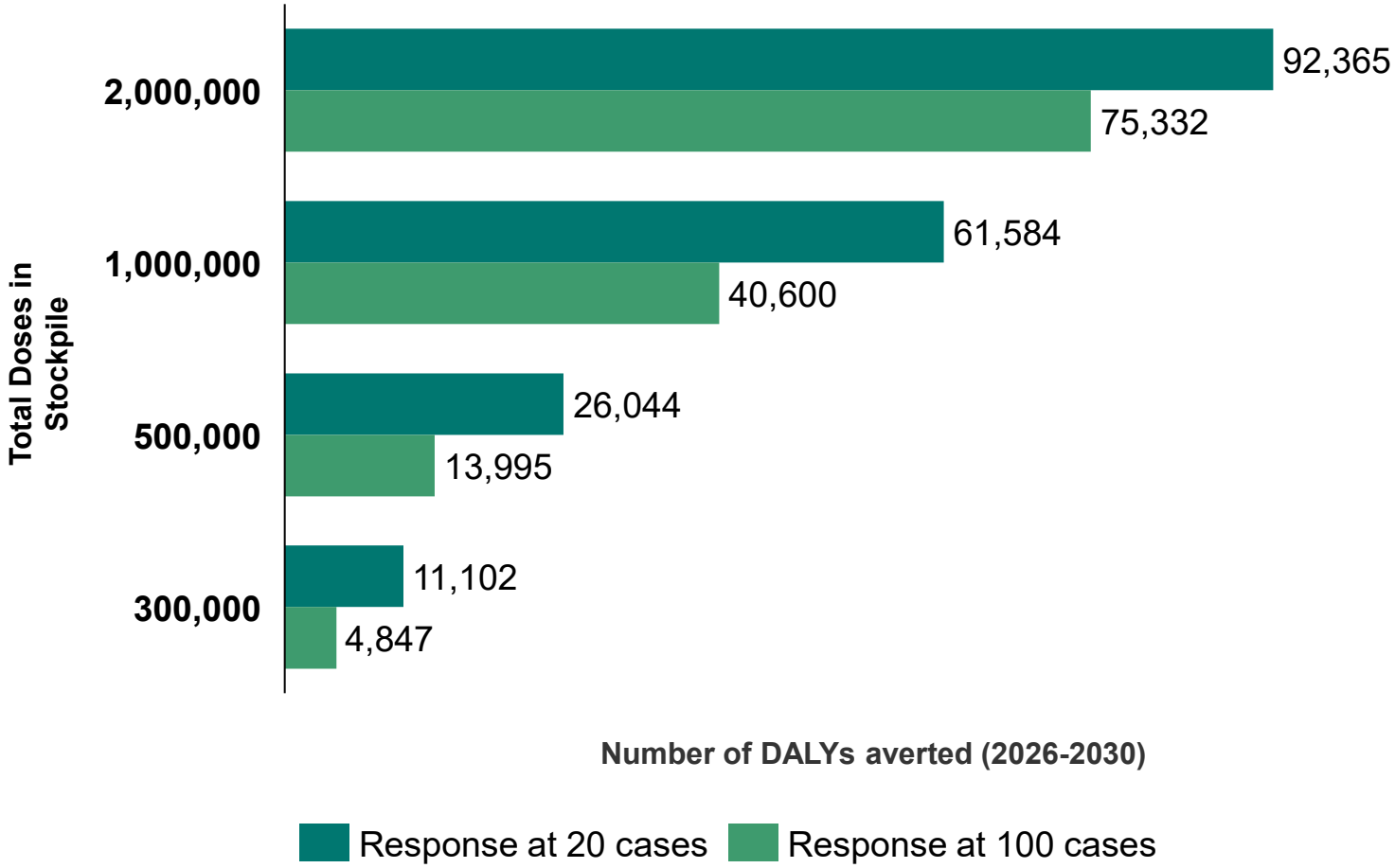
- Modelled estimates show that between 2026-2030, Gavi-eligible countries would experience an average **total of 54,000 cases of mpox**
- A stockpile of 500k total doses could thus avert 10%-19% of mpox cases estimated to occur in that 5-year period.

An mpox vaccine stockpile could avert between ~100 and ~2.1k deaths over 5 years, depending on the speed of response to outbreaks and stockpile size



- Modelled estimates show that between 2026-2030, Gavi-eligible countries would experience an average **total of 3,000 deaths caused by mpox**
- A stockpile of 500k total doses could thus avert 10%-19% of deaths caused by mpox estimated to occur in that 5-year period.

An mpox vaccine stockpile could avert between ~4.8k - ~92k DALYs over 5 years, depending on the speed of response to outbreaks and stockpile size



Average DALYs averted (2026-2030)

Max ~92K

Min ~4.8K

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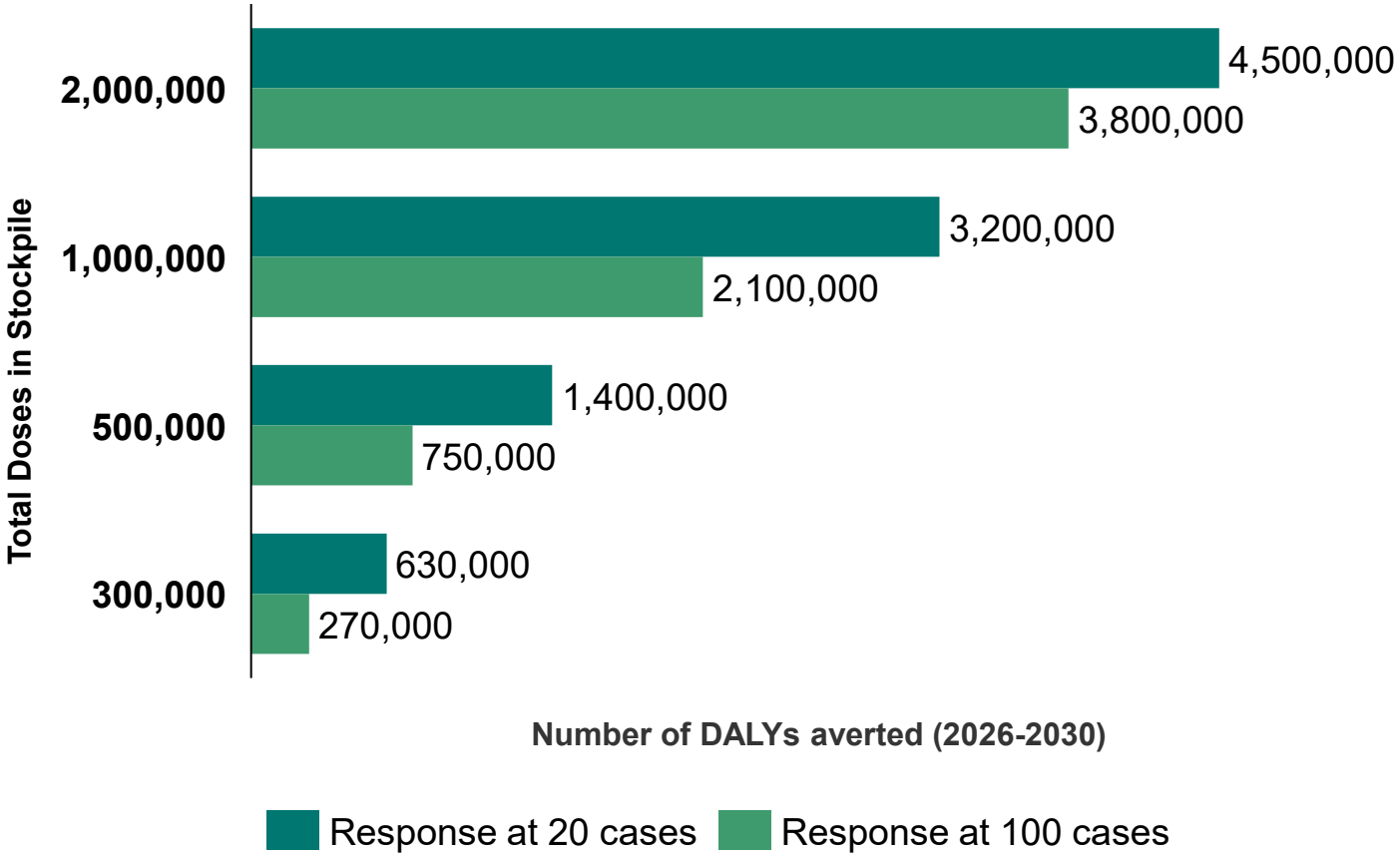
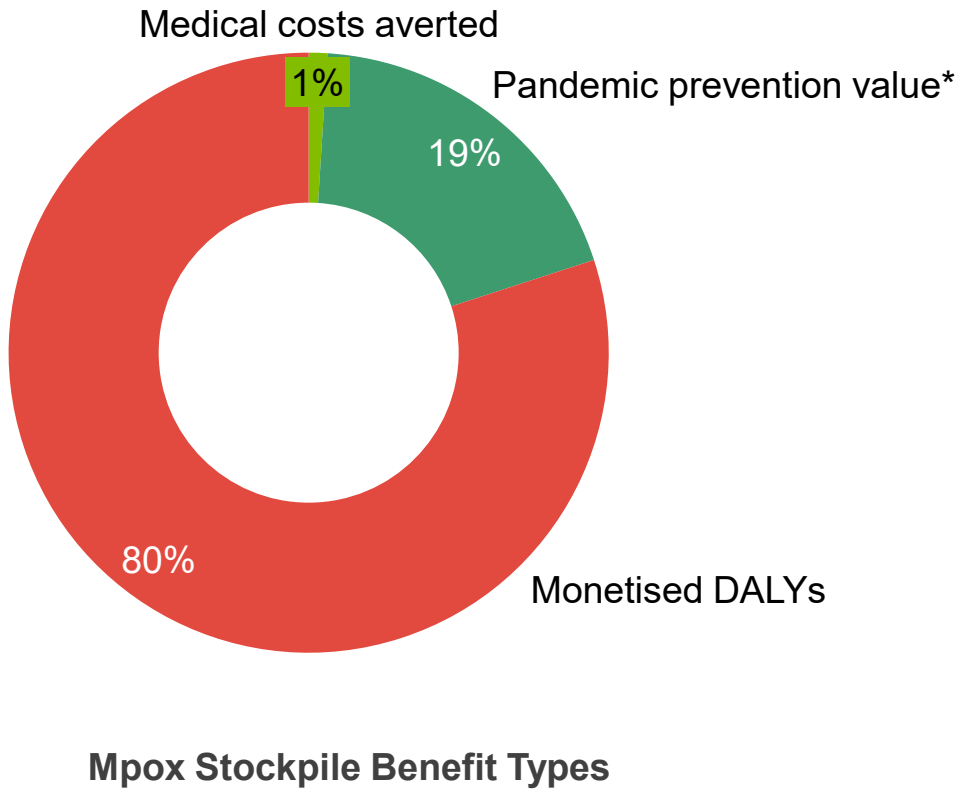
An mpox vaccine stockpile could avert between US$ ~272k - ~4.5m in medical costs over 5 years, depending on the speed of response to outbreaks and stockpile size





* This represents the monetary benefits associated with preventing infections that could contribute to a pandemic

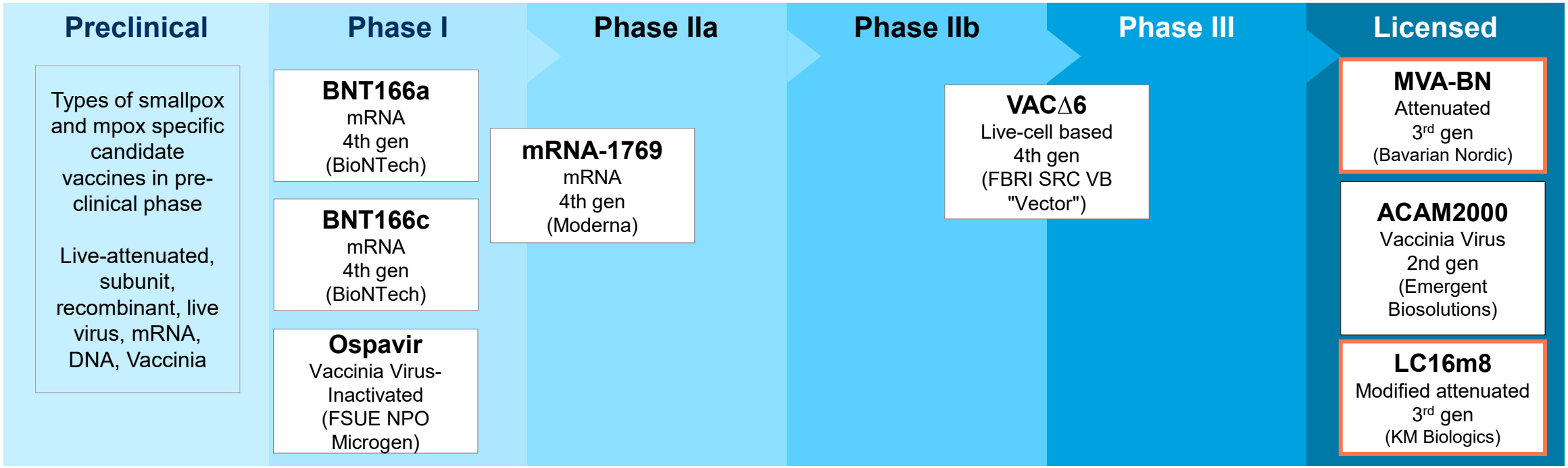
4

Vaccine Policy & Market Shaping Considerations

Policy overview

Source	Policy summary and considerations
WHO (including SAGE)	In August 2024, WHO issued a **position paper** with recommendations on vaccines and vaccination against mpox and smallpox. These recommendations pertain to: • Recommended vaccination for persons at a high risk of exposure to mpox during an outbreak; preventive vaccination in laboratory personnel working with orthopoxviruses • Vaccine choice (from the licensed MVA-BN, LC16m8 and ACAM2000)- for use in different target populations. WHO developed a "**Strategic framework for enhancing prevention and control of mpox (2024–2027)**", which aims to: 1. provide a road map for health authorities, communities, and stakeholders worldwide to control mpox outbreaks in every context, 2. advance mpox research and access to countermeasures, and 3. minimise zoonotic transmission. WHO has also periodically released an "**Mpox global strategic preparedness and response plan**" (SPRP) to guide public health preparedness and response efforts at the global, regional and national levels. WHO AFRO and Africa CDC published an "**Mpox Continental Preparedness and Response Plan 2.0**", which outlines essential priorities to stop outbreaks of human-to human transmission of mpox, around ten key pillars of response.
Gavi policies	• In June 2024, the Gavi Board gave its in-principle approval to investment in an mpox vaccine stockpile, and approved a learning agenda to inform key facets of the programme • In December 2023, the Board approved Gavi's PPPR Approach and a low risk-appetite for vaccine preventable disease (VPD) outbreaks • In December 2016, the Board approved a set of principles to guide Gavi's support for emergency vaccine stockpiles • The living assessment for mpox was updated in Dec 2023 following the outbreak in the DRC

Vaccine pipeline



- 1st generation live replicating vaccinia-based smallpox vaccines (used for eradication): Not approved for mpox
- 2nd generation vaccinia-based vaccines but GMP produced in lab (not on live-skin). Side effects are inherent to virus itself
  - ACAM2000: 1-dose, approved for mpox in 2022, associated with more AEFIs than other candidates
- 3rd generation safer vaccines for ongoing smallpox preparedness - Approved also for mpox
  - **LC16m8** (minimally replicating): 1-dose widely used in children. Used in Japan in 2022 mpox outbreak.
  - **MVA-BN** (non-replicating vaccinia virus): 2-dose better safety profile. Licensed for adults in USA, EU, CA
- 4th generation vaccines:
  - VACdelta6 for both smallpox and mpox- Attenuated by deletion of virulent genes. No information on this candidate or its use in 2022 mpox outbreak.
  - BNT166a, BNT166c, mRNA-1769: mRNA-based vaccine candidates from BioNTech and Moderna.

Key:

Vaccine of interest

Vaccine Characteristics

	MVA-BN	LC16m8
Manufacturers	Bavarian Nordic	KM Biologics
Technology	Live attenuated	Live attenuated
Indication	Adult and adolescent population (12+) <12yo (off-label)	Immunocompetent, non-pregnant individuals >1yo
Dosing schedule	2 (0, 28 days). Supply constrained outbreak scenario: 1.	1
Formulation	Suspension for injection	Lyophilised
Doses per vial	1	MDV
Temperature	2 to 8° C (8 weeks)	2 to 8° C (2 years)
Packed volume	19.08 cm^3 per dose in secondary packaging in 10 dose, 27.5 cm^3 per dose in secondary packaging in 20 dose.	0.01 cm^3 per dose
Duration	It is not known how long protection might last, or if protection might decrease over time.	
Licensure year	2019 (USA & Canada), 2022 (epidemic/ outbreak)	2022 (Japan)
WHO PQ or EUL year	2024 (PQ)	2024 (EUL)
Administration	Injection, subcutaneous. Supply constrained outbreak scenario: Two fractional doses (0.1 mL per dose) administered intradermally.	Scarification
Gavi country feasibility?	Yes	Partial

Mpox market assessment and Gavi role

Healthy Market Framework		Mpox market description	Preliminary assessment[1]
Supply dynamics	**Market sustainability & attractiveness**	• **Market remains unpredictable and relatively small** meaning manufacturers largely rely on relatively small high-income country stockpiles and ad hoc sales during outbreaks	
	Geopolitical & regulatory risk	• **Global manufacturing for PQ / EUL'd vaccines spread across three countries** and manufacturers now have experience with mpox vaccine licensure pathways	
	Supplier base risk	• **Only 1 prequalified vaccine** – although the manufacturer has **reliably supplied all customers** during 2022 and 2024 outbreaks	
	Meeting country product preference	• **Licensed vaccines do not align with product preferences**: affordability, dose regimen, age, administration method, use in immunocompromised populations, stability at 2-8°C • **Urgent need for more appropriate WHO prequalified vaccine for <12yrs**	
	Supply meets demand	• **Global supply likely to meet demand,** however given produce-to-order model, critical to send early demand signals given production lead time and competition for doses during an outbreak	
Demand health		• **Demand is difficult to predict** due to unpredictable nature of outbreaks. Uncertainty compounded by limited recommendation on preventive vaccination and reluctance of some countries with active mpox cases to launch a vaccination response	

- **Market shaping challenges: Innovation required to ensure product characteristics meet needs of countries and stockpile; Demand is relatively small and unpredictable** making it challenging to sustain multiple manufacturers**; High expected price** similar to other small outbreak markets; **Potential challenges in accessing additional supply if outbreak demand exceeds stockpile size** given global competition and produce-to-order model
- **Gavi role in addressing market challenges: Ability to shape market** will be limited by size of Gavi investment

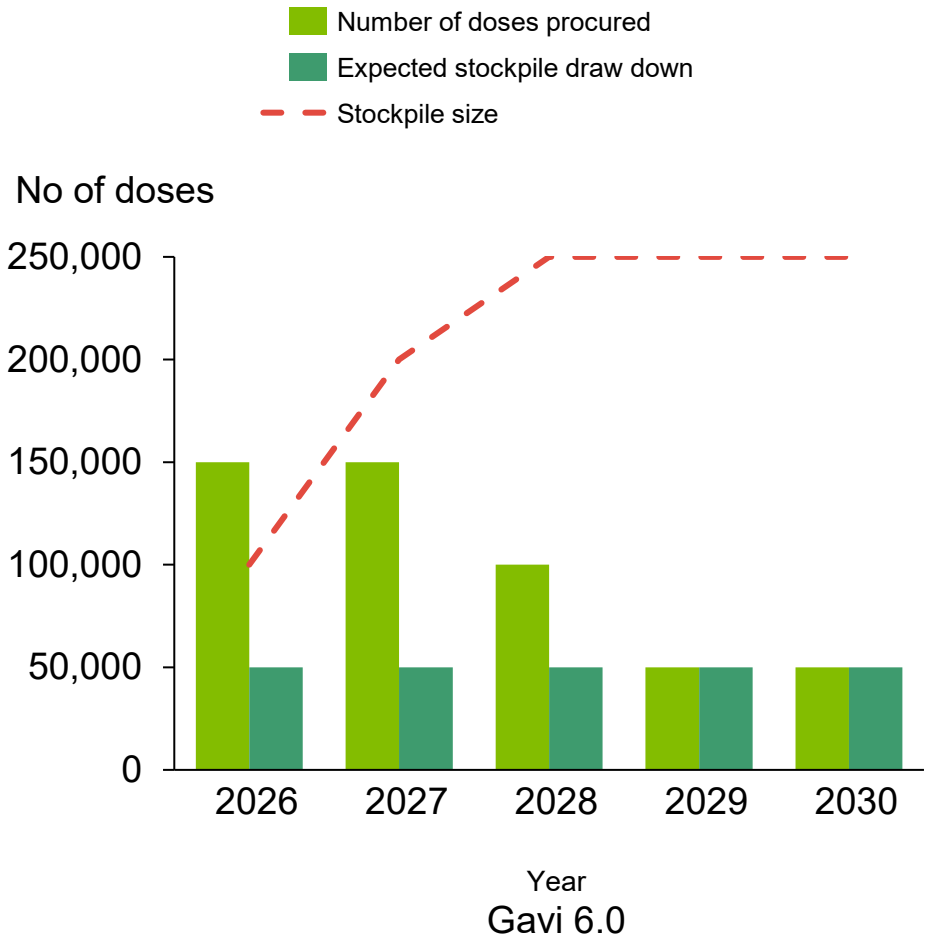
1. Assessments to be validated through Gavi Market Shaping Roadmap. Green = Attribute Met; Orange = Partially Met; Red = Unmet

5

Financial Implications and Stockpile Assumptions

Composition of the Global Mpox Stockpile

	Characteristic	Rationale / Source
Vaccine procurement & delivery	Global stockpile mechanism (ICG) or similar mechanism	• VIS 2024 Board decision on mpox. • Previous Board decision supportive of Global stockpiles for outbreak response (Meningitis, Ebola, Cholera and Yellow Fever).
Stockpile target size	250K to be reached in 3 years.	• VIS 2024 Board June decision – 500k doses procured during Gavi 6.0. Experience with outbreak response stockpiles. • To be redefined with Mpox Stockpile Sizing Learning Agenda lead by JHU (results expected Aug 2025) and ICG decision. • Proposed target size aligns Board's initial approval and reflect current high vaccine costs • The stockpile should be seen as a long-term mechanism, complementing and building on other organisations and countries' efforts, including vaccine donations.
Stockpile replenishment frequency	Yearly, top up to reach 250,000. Assumed 50,000 yearly drawdown.	• 2025 Mpox Market Shaping Roadmap. Experience with outbreak response stockpiles.



6.0 Global Mpox Stockpile – Financial estimates

	Assumption	Total Cost/procurement estimate in 6.0	Rationale / Source
Market share	• 100% MVA-BN during 6.0, with the possibility of shifting to different products. • **Note:** Board decisions are product agnostic. This assumption is only to impact the initial financial request.	500,000 doses	• LC16m8 has WHO EUL but faces commercial access challenges, low country demand, and programmatic limitations (contraindicated for immunocompromised individuals and pregnant women and requires bifurcated needles). • ACAM2000 lacks WHO EUL or PQ and has additional safety concerns.
Vaccine Price & Price forecast	• MVA-BN vaccine procurement cost: US$ 65 per dose. • No change in price forecast over the years. • Ancillary cost: 0.55 USD per dose.	Vaccine procurement: US$ 32.5 million Ancillary costs: US$ 275,000	• Price under existing APA. • Gavi's Vaccine Support Guidelines. • 2025 Mpox Market Shaping Roadmap.
Vaccine delivery – Ops cost	• Resource-intensive delivery requirements (e.g. targeted vaccination strategies to reach high risk populations, use of bifurcated needles if LC16m8 were to be procured) • Operational support would be tailored to each country's context and consider complementarity with resources from other emergency response actors/mechanisms, where available.	US$ 2.5 million	• Forecast assumption based on country budget submissions for 2024/2025 mpox vaccination delivery costs. • Delivery costs for small, targeted campaigns are expected to be higher, averaging around $100 per dose. • This assumption may need to be reassessed as the programme progresses and more data on actual delivery costs becomes available. • Supporting literature: https://immunizationeconomics.org/recent-activity/2024/11/26/what-is-the-cost-of-delivering-mpox-vaccines/
Supply capability	• Bavarian Nordic – no concerns expected during 6.0		• 2025 Mpox Market Shaping Roadmap. Bavarian Nordic's ability to supply all customers with timely vaccines during 2022 and 2024 PHEICs

6

Evaluation Framework

1. Disease risk and burden

Quality of Data Key: Weak Moderate Strong

Is the epidemic potential sufficient to prioritise a stockpile or stockpile-like investment?

Criteria	Indicators	Assessment	Quality of data
Epidemiology	Frequency and magnitude of outbreaks	• Mpox transmission is endemic in DRC and in other Gavi-supported countries: Benin, Cameroon, Central African Republic, Congo, Côte d'Ivoire, Kenya, Liberia, Nigeria, Rwanda, Sierra Leone, South Sudan, Uganda. • Mpox was declared a PHEIC by WHO in 2022 and 2024, as well as a Public Health Emergency of Continental Security by Africa CDC in mid August 2024 given escalation of cases in Africa (Clade I and II).	
	Geographic spread of outbreaks and environmental drivers	• While the vast majority of cases are concentrated in Africa, with DRC experienced highest burden and case rates, imported cases are being reported in at least 130 countries. • Cases are likely underreported due to low testing rates, inadequate diagnostic surveillance and the disease's similarity to other febrile illnesses. • Geographic expansion in affected countries has reached both urban and rural settings, as well as refugee and IDP camps, where countermeasures are either unavailable or challenging to implement.	
Disease burden	Transmission routes and natural reservoirs	• Mpox is transmitted to humans primarily through close contact with an infected person, animal, or contaminated material. The disease is linked to a rodent natural reservoir, which allows for re-emergence, although the animal-human interface is not well understood. • Clade Ib currently appears to be spreading mainly through sexual networks, but with close human contact a feasible transmission rate (impacting children in particular). • Incubation period ranges from 2-21 days. Symptoms, including a rash and flu-like illness, typically last 2 to 4 weeks and resemble those of smallpox.	
	Disease manifestation and health impact (CFR, DALYs, YLLs)	• Limited data available on gender information from the Africa CDC found 73% of mpox cases are amongst males. • In DRC, the CFR is 3.4% with children under 15 years of age account for 66% of the cases and 82% of the deaths. • In Burundi, 43% of the mpox cases are under 15 years of age. • Currently, no data is available on Disability-Adjusted Life Years (DALYs) or Years of Life Lost (YLL) for mpox.	
Economic and social burden	Direct and indirect costs of illness/ outbreaks	• No information available on direct and indirect costs of mpox outbreaks - assumed low given low number of severe cases	
	Disproportionate burden to women and vulnerable groups	• Severe symptoms are more likely in pregnant women, children, and immunocompromised individuals, potentially increasing the benefits of vaccination for these groups. • More than half of cases in the 2022 global outbreak occurred among persons living with HIV, raising concerns about stigma and challenges in reaching MSM communities, as well as sex workers, transgender people and other communities with limited safety nets.	

Quality of Data Key: Weak Moderate Strong

2. Vaccine impact and feasibility

Would the vaccine be feasible to use and impactful as part of epidemic preparedness and response?

Criteria	Indicators	Assessment	Quality of data
Epidemic risk reduction / mitigation	Vaccine efficacy and indirect effects (herd immunity, transmission)	• Vaccine effectiveness of two full doses (0.5mL per dose): 82% (95% CI: 78-88%), one full dose: 75% (95% CI: 66-85%) • Acquired immunity after mpox infection remains unknown • In African settings where mpox has historically been reported, the risk for the general population is moderate	
	Other available countermeasures	• Supportive care includes alleviation of fever and pruritus, hydration, prevention/treatment of secondary bacterial infections. • Antivirals tecovirimat, brincidofovir and cidofovir are potential options in severe cases • PPE for HCW and avoidance of intimate contact with cases through awareness and education • Prevention of spread: isolation of suspected /confirmed cases and community-based risk communication for public awareness	
Equity, social protection impact	Disproportionate benefit to women and vulnerable groups	• Only MVA-BN is recommended for use in pregnant and lactating women as well as immunocompromised people (such as people living with HIV) • LC16m8 trials included mainly children where acceptable profile was demonstrated	
Implementation feasibility	Storage requirements	• MVA-BN requires freezing but can be stored at +2°C to +8°C for 8 weeks once thawed. • LC16m8 can be stored at +2°C to +8°C for 2 years, is lyophilized and needs reconstitution with a packaged diluent before use.	
	Dosing schedule and feasibility of timely vaccine delivery	• MVA-BN requires 2 doses at 28 days apart; time required for increasing supply • LC16m8 is administered with the use of a bifurcated needle, signaling need for HCW education. • While Japanese national stockpile is large (~100m doses), size and interest in donations as yet unclear (coupled with administration and labelling challenges).	
	Disease surveillance to guide stockpile use	• Surveillance programme only mandatory in DRC for suspected/diagnosed cases - assumed underestimation of current disease burden but unknown to what extent • PCR tests developed for HICs, but suppliers leaving market. Market shaping needed to ensure stable availability of tests fit for purpose for countries in Africa (WHO Africa currently working to support African countries to strengthen surveillance) • Integrated disease surveillance must be scaled up in order to stop outbreaks as quickly as possible	
	Acceptability in target population	• The feasibility of implementing a vaccination strategy and the level of challenges will depend on the prioritized target population for immunisation (e.g., HCWs, children, MSM, sex workers). • Risk of stigma as recent outbreak has been associated with human-human transmission through intimate contact (perception as sexually transmitted disease)	

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Quality of Data Key: Weak Moderate Strong

3. Fit for Gavi and partners

What is Gavi's comparative advantage and how can Gavi's expertise contribute to the funding and delivery of this vaccine?

Criteria	Indicators	Assessment	Quality of data
Relevance	Proportion of disease burden in Gavi countries	• Nearly all historical disease burden within 10 Gavi-supported countries • In 2024-25, other suspected cases were in 23 Gavi-supported countries in the African region	
	Alignment with Gavi's mission and strategy	• Alignment with Gavi's increasing role in pandemic preparedness • Alignment with equity goal and increasing access to vaccine in LMIC (learning from response in HIC)	
	Alignment with activities of other donor organisations and Alliance partners	• Gavi is present across ACT-A, iMCM Net and Mpox response-specific partner and coordination groups. • Gavi has also convened a time-limited Mpox Vaccine Coordination Leaders Group to further coordinate its actions with key partners (namely Africa CDC, CEPI, WHO and UNICEF). • Gavi has been formally requested by both WHO and Africa CDC directly to take a significant role in supply / procurement, vaccine access and allocation.	
Comparative advantage	Role of Gavi financing and market shaping	• Historic supply: vaccines manufactured for national stockpiles as part of HIC biosecurity (smallpox) • Current supply is largely made-to-order, which means access during outbreaks may be limited due to intense global competition and HIC willingness to pay higher prices • The high price of the MVA-BN vaccine, which requires two doses and is recommend for on label use in adults only, could limit countries' access to it. • On the other hand, the LC16m8 vaccine is much cheaper but has programmatic and administration challenges. • Gavi could play a crucial role in addressing these issues and ensuring better access to vaccines in such situations.	
Risk	Major risks and potential mitigation strategies	• Limited data available on epidemic potential, cost-effectiveness of reducing outbreaks • Manufacturers willing to supply to LMICs provided signal by Gavi • Risk of mpox re-emergence as global epidemic, but demand highly unpredictable beyond some HICs turning over their smallpox stockpile	
	Cost and consequences of counterfactual	• A Gavi commissioned Learning Agenda	

Quality of Data Key: Weak Moderate Strong

4. Financial Implications

Criteria	Indicators	Assessment	Quality of data
Vaccine costs	Procurement costs	• US$ 65 per dose, based on current procurement price	
Stockpile / supply arrangement costs	Holding costs (storage and stockpile maintenance)	• Assumed to be similar to existing smallpox vaccine stockpiles	
	Deployment costs	• Per the WHO Mpox Global Strategic Preparedness and Response Plan (SPRP), the mpox response from September 2024 to February 2025 was expected to cost US$ 290 million of international support. • Africa CDC and WHO AFRO estimate that excluding the cost of vaccines, the estimated budget for the six months from September 2024 to February 2025 is US$ 599,153,498.00. • Of this, 55% (US$ 329,311,463.00) is allocated for mpox response in 13 affected member states and readiness in 15 others, while 45% (US$ 269,842,035.00) is earmarked for operational and technical support through partners.	
	Coordination and administration costs		
Operational cost	Incremental in-country operational costs	• Resource-intensive delivery requirements (e.g. ring vaccination; use of bifurcated needles if LC16m8 were to be procured; targeted vaccination strategies to reach high risk populations) • Immunisation costing studies estimate- US$ 3-22 per dose, depending on context.	