Vaccines and immunizations for monkeypox - Where are we?

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Vaccines and Immunizations for monkeypox

History of vaccine development

- In the past, smallpox vaccine was ~85% effective in preventing monkeypox (DRC, 1986)
- Second generation smallpox vaccines (ACAM 200)
- Third generation MVA – BN & LC16 smallpox vaccines
- WHO working closely with manufacturers to expand production capacity and access
- New vaccines in development - mRNA

EVIDENCE

- Randomized control trials strongly recommended
- Other proposed Study Designs
  - Randomization during deployment (Brazil, Columbia, South Africa)
  - Ring vaccination (DRC, Nigeria)
Vaccines and Immunizations for monkeypox
Interim guidance V2 – 24 August 2022

• Primary (pre-exposure) preventive vaccination (PPV) is recommended for persons at high risk of exposure:
  • men who have sex with men, others with multiple sex partners
  • health workers, clinical laboratory personnel working on monkeypox
• Others who may be at high risk
• Post-exposure vaccination (PEPV) is recommended for close contacts of cases
Research priorities for monkeypox vaccines and immunization

- Clinical efficacy/effectiveness
- Schedule
- Other populations
- Behavioural insights
- Deployment strategies

WHO SAGE Working Group on Smallpox & Monkeypox Vaccines
WHO proposed research designs for vaccine studies to evaluate vaccine effectiveness

**Generating evidence during vaccine deployment**

- Randomise order in which people are invited for vaccination
- Offer vaccine as fast as vaccine supply and local infrastructure permit
- Compare outcomes in those vaccinated earlier vs those vaccinated later
- Assess efficacy from differences in disease onset rates during “informative” period in which there was a substantial difference between proportions vaccinated in early and late groups

**Ring vaccination community trial**

- Ring vaccination:
  - is an infectious disease control strategy in which contacts are vaccinated to protect them and prevent the spread of the disease
  - includes vaccination of all identified contacts of an index case
  - is not necessarily limited to a single geographic site
- Contacts must be identified according to defined criteria.