

Joint WHO/UNICEF statement for typhoid vaccine use in tsunami-affected areas

Background

- Increased antimicrobial resistance of *Salmonella typhi* emphasizes the need to use safe and effective vaccines to prevent typhoid fever.
- The old parenteral heat-inactivated whole-cell (WC) typhoid vaccine is effective (above 51%) but associated to frequent and strong adverse reactions.
- Two different types of licensed typhoid vaccines confer good protective efficacy (above 55%) without significant side-effects; these vaccines induce protective immunity for several years.
- Vaccination of high risk populations is considered a most promising strategy for prevention and control of typhoid fever, while being considered as an additional tool to priority control measures such as provision of safe water and proper sanitation.

Currently commercially available typhoid vaccines (Annex 1)

- Single dose vaccine based on purified Vi polysaccharide of *S. typhi* (Typhim Vi®; Typherix®).
 - Administered intramuscularly as 1 dose to individuals aged >2 years.
 - Protective efficacy is reached 14-20 days after injection.
 - A booster is recommended every 3 years.
- Oral vaccine containing live-attenuated strain Ty21a (Vivotif®) is presented as coated capsules given in 3 doses every other day to individuals >5 years of age.
 - Protective efficacy is elicited 10 days after the third dose.
 - A booster dose is recommended every 3 years.

None of these vaccines confers protection against paratyphoid fever.

Issues to be considered for vaccine use

Population at risk

- Displaced population living in settlements/camps
- With limited access to safe water and proper sanitation
- Location endemic for typhoid fever
- With limited health infrastructure
- Community leaders ensuring involvement of community
- Access to the population at risk possible (individuals >2 years of age)

Surveillance

- Data on occurrence of typhoid fever

Vaccine

- Choice of vaccine will depend on the occurrence of typhoid fever
- Timing of vaccination either pre-emptive (environmental management in the population not satisfactory and outbreak expected in the near future) or reactive (at the early stages of an outbreak to limit its spread)
- Sufficient doses available for total population at risk in given area
- Case-by-case decision, as none of the vaccines are prequalified by WHO

Logistics

- Cold chain facility and storage capacity available

Human resources

- Health care staff (e.g. Ministry of Health, nongovernmental organization, ...)
- Expanded Program on Immunization (EPI)/Polio vaccination teams
- Community

Prevention

- Capacity to implement health education during campaign
- Environmental management activities should continue

Political commitment

- Agreement to import/licence vaccine from country considered
- Support and commitment from national/regional and local levels
- Support and commitment from community leaders and other groups

Decision-making process for use/deployment of typhoid vaccines

- Request for typhoid vaccine use should be initiated by the Ministry of Health of the country.
- The decision for deployment of typhoid vaccines should be taken by an Advisory Panel which will base its decision upon analysis of a set of prerequisites. Terms of reference of the Advisory Panel are similar to the ones of the ICG². The Advisory Panel consists in :
 - WHO Headquarters: Department of Immunization, Vaccines and Biologicals; Global Task Force on cholera control
 - WHO Regional Office for South-East Asia and the WHO Representative
 - UNICEF Headquarters and UNICEF Regional Office

- Advice and guidance for implementation of the mass vaccination campaign using typhoid vaccines will be provided through the WHO Global Task Force on Cholera Control.
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Systems to be put in place

- Disease surveillance/Early Warning and Response Network (EWARN) to be strengthened if already existent
 - Monitoring and evaluation system
 - Adverse events following immunization (AEFI) surveillance
 - Injection safety and safe waste disposal systems
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¹Typhoid vaccines. Weekly Epidemiological Record 2000; 75:257–64