

A literature review of guidelines for the use of vaccines in humanitarian emergencies, relevant experiences from recent emergencies and case studies

**For the SAGE Working Group on Vaccine use in Humanitarian Emergencies, Sub-Group I
(in alphabetical order)**

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Aims and Objectives

- Factor considered when decisions are made whether to vaccinate or not, in emergencies spanning the last decade

to complement the findings of the literature review

- During the first SAGE working group meeting of 20-21 September 2011, preliminary findings of the formal literature review showed that the multifaceted and complex contextual, political and epidemiological considerations would not be well captured by the literature review alone
literature review alone

Literature Review

Methods – literature review

organizational websites i.e. WHO, UNICEF, UNHCR, CDC, MSF, IFRC, ICRC and GAVI

- Google.com for two searches, “vaccination and humanitarian emergencies” and “public health and humanitarian emergencies”

the concepts of [vaccination] AND [humanitarian emergencies]

Methods –literature review

- Description of “guidelines” vs. “experiences”
 - Documents were reviewed and were divided into ‘guideline’ and ‘past experience’ categories
 - Documents were considered to be guidelines if they detailed health interventions in humanitarian emergencies and made recommendations with respect to vaccination

- Inclusion criteria:
 - Inclusion criteria:
 - Any document that reported on the implementation of or
- Exclusion criteria
 - Documents which simply reported vaccination took place, without any further details regarding context
 - Only English language publications since 2000

Part I: Results – Literature review

1477 unique records found in
electronic database search (Medline,
Embase, CAB Abstracts)

Approx. 2768 unique records
found through keyword search,
hand search of organizational
websites, reference lists of
shortlisted articles, WG
correspondence, google.com
search

Approx. 4120
excluded after
review of title and/
or abstract

121 records
retrieved for review

41 excluded after
review of full text
record

80 included in data
synthesis and report

42 Experience Documents
(36 peer reviewed, formal organizational publications, reports)
(6 grey literature)

38 Guideline Documents
(37 peer reviewed, formal organizational publications, position papers, reports)
(1 grey literature)

Results – documents analyzed

- Two independent search processes
- Two independent search processes
- 80 publications were included in the final analysis:
 - **38 guideline documents**
 - 38 guideline documents; formal organizational publications; position papers; and reports
 - 1 grey literature
 - **42 experience documents**
 - 36 peer reviewed publications; formal organizational publications; and reports
 - 6 grey literature

Results

Results

- Two decision making tools were identified among the guideline documents
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 - Conceptual decision matrix by MSF
 - Decision making tool for use of OCV by WHO
- Key decision making considerations included in the two tools;
 - Epidemiological
 - Contextual factors
 - Vaccine characteristics
 - Logistical concerns
 - Ethical considerations
- Recommendations and considerations in guidelines
 - Similar considerations as in the decision making tools highlighted above

Considerations in guidelines

Table 1. Summary of considerations discussed in the guidelines

CONSIDERATIONS	CONSIDERATION SPECIFICS
Context	<ul style="list-style-type: none">• Funding
Epidemiological/Risk Assessment	<ul style="list-style-type: none">• Immunity profile• Assessment of local epidemiology of the population
Vaccine Characteristics	<ul style="list-style-type: none">• Number of doses required, easy application (1 dose)• Availability of vaccine; Target age• Cost, cost effectiveness
Logistics	<ul style="list-style-type: none">• Implementation strategy• Cold chain• Logistics, supplies and equipment• Human resources (and staff training)• Monitoring equipment
Ethical Considerations	<ul style="list-style-type: none">• Monitoring coverage and evaluating campaign• Prioritization - limited vaccine and other resources• Vaccination of host communities

Results

Recent emergencies recommendations and considerations

availability, logistics (e.g. safe drinking water requirements), and context (e.g. access to pop₁, other competing needs)

Few documents provided details of the process in reaching a decision to vaccinate or otherwise (Table 2):

- Operational concerns came first (e.g. vaccine availability, logistics etc.)

to vaccinate or otherwise (Table 2):

- Operational concerns came first (e.g. vaccine availability, logistics etc.)
- Epidemiological factors come second
- Ethical issues were list considered

Results

Recent emergencies recommendations and considerations

Table 2. Summary of considerations whether to vaccinate or not from recent experiences in emergencies

Consideration	Specifics considered
Context	<p>Prioritization of interventions: vaccination as a priority, vaccination not to disrupt other high priority interventions</p> <p>Prioritization of response interventions: vaccination as a priority, vaccination not to disrupt other high priority interventions</p> <p>Sequenced response involving several public health interventions</p> <p>Flexibility of the population</p> <p>Mobility of the population</p>
Epidemiological / risk assessment	<p>Epidemiology of local situation: identification of an outbreak, perceived risk of outbreak reports of cases,</p> <p>Size of population at risk</p>
Vaccine characteristics	<p>Effectiveness of appropriate single (dose efficacy), time to confer protection, coverage required for protective effect, duration of protection and single dose efficacy</p>
Logistics	<p>Supplies: procurement, safe drinking water</p> <p>Time: required for planning and implementation</p> <p>Waste: required for storage and waste management</p> <p>Waste: vaccine wastage and waste management</p>
Ethics	<p>Informed consent: obtained for health survey</p> <p>Informed consent: obtained for health survey</p> <p>Equity: issue of provision of vaccine to all members of a population,, including host community</p>
Other	<p>Public participation: vaccination not in lieu of other public health measures</p> <p>Public perception: vaccination not in lieu of other public health measures</p>

Case Studies

Methods – case studies

- A sample questionnaire was designed and distributed through the network of members of the Working Group to technical staff/contacts in the field following the occurrence of the relevant humanitarian emergency to obtain their feedback on the questions
- The recent humanitarian emergencies considered included
 - Haiti 2010 Earthquake,
 - Fiji 2010 Cyclone Tomas,
 - Thailand 2011 Floods,
 - Horn of Africa 2010/2011 Drought/Famine
 - Pakistan 2010/2011 Floods.

Part II: Results – case studies

- The case studies provided a rich set of experiences and outcomes
- The 5 case studies further highlighted;
 - The role of contextual factors, identified in the literature review, in decision making on use of vaccines
 - The limited role of ethical considerations in decision making
 - How vaccine availability often play a bigger role in decisions to use vaccines, and epidemiological factors ignored
 - The limited role of existing guidelines in decision making
 - The need for appropriate decision making tools
- There were several instances where inappropriate decisions were undertaken on the basis of a process that did not benefit from an existing robust decision-making tool or guidelines (e.g. implementation of a multi-antigen vaccination strategy in the early phase of the 2010 Haiti earthquake, typhoid vaccine use in Fiji)

Summary (1)

- Formal decision making tools, guidelines or processes were not detailed
- Existing guidelines were rarely, if ever, consulted
- Epidemiological factors when highlighted in the decision making process, were not always reflected in the choice of antigens implemented
- Political and contextual/security issues came across as important considerations in actual decisions or decision-making process in implementation

Summary (2)

- Implementation during acute phase of the emergency was difficult to achieve and it appears in these cases that campaigns always ran into post-acute phases of the emergency
- These findings are expected to contribute to development of a robust decision making framework for use of vaccines in humanitarian emergencies