

## Key Performance Indicators for response interventions to vaccine-preventable diseases: Measles

This is a set of suggested key performance indicators (KPIs) for responding to measles outbreaks. This document may be best used when drafting DREF requests or Emergency Plans of Action. KPIs are aimed at supporting a more structured approach to monitoring, quality assurance and evaluation. Indicators should be selected depending on: the pillar that is supported in a given outbreak response; specific-context needs; and available capacity to conduct the corresponding monitoring activities.

**Overall (these are not related to RCRC operations, but are the minimum epidemiological indicators to monitor throughout the operation)**

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
Understand the evolution of the epidemic	Attack Rate (age-specific where population data is available)	Age and Sex	<b>Numerator:</b> Number of cases in children aged 0 to 11 months <b>Denominator:</b> Total number of children aged 0 to 11 months	0	Epi info	WHO <sup>i</sup>
	Measles vaccination coverage rate	Age and Sex	<b>Numerator:</b> Total number of doses administered <b>Denominator:</b> Total number in the target population	95%	Epi info	
	Overall Case Fatality Rate	Age and Sex	<b>Numerator:</b> Number of cases who died of measles <b>Denominator:</b> Total number of cases of measles	Outpatient: < 5% – Hospital: < 15%	Epi info	MSF medical guidelines <sup>ii</sup>



## Social mobilization and demand creation for vaccination campaigns

Vaccination against measles is the single most effective method of preventing the transmission of the disease. In outbreak situations, National Societies should liaise with the Ministry of Health to determine where, when and how communities can access vaccines through a “catch up” supplementary immunization activity/campaign. “Catch-up” vaccination refers to vaccinating an individual with any vaccines missed per the national immunization schedule. It can be delivered through regular routine immunization service delivery (fixed, outreach, mobile, school), periodic intensification of routine immunization (PIRI) activities or any other strategy to ensure individuals receive routine immunizations for which they are eligible. This is distinct from the concept of “**catch-up SIAs**”, which are one-time campaigns to vaccinate the main target population responsible for disease transmission, to quickly reduce the number of susceptible individuals. NS elaborating DREF requests or EA/EPOAs should focus on supporting catch up SIAs to respond to an ongoing outbreak.

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
<u>IF there is a catch-up Supplementary Immunization Activity run by the MoH/another organization (but not the NS):</u>						
To measure the number of people reached by volunteers with information on why, where, when, and how to <b>access vaccination</b>	# of people reached by volunteers with information to access vaccination	Sex	<b>Numerator:</b> Number of individual persons in the target population reached with information to access vaccination  <b>Denominator:</b> Total number of persons in the target population		Volunteer activity reports	IFRC Social mobilization guide for vaccination campaign and routine immunization <sup>iii</sup>
To measure number of volunteers participating in the SIA	# of volunteers participating in the SIA	Sex	<b>Numerator:</b> Number of volunteers participating in the SIA		SIA reports	
<u>Additional indicator IF it is the NS clinical teams (as opposed to MoH/other organization) who administer vaccines through a catch-up SIA:</u>						
To measure the number of vaccinations administered during the SIA	# of vaccinations administered during the SIA among the target population	Sex and Age	<b>Numerator:</b> Number of people who were administered a vaccine during the SIA among the target population  <b>Denominator:</b> Total number of persons in the target population	90%	SIA reports	IFRC Social mobilization guide for vaccination campaign and

						routine immunization
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## Site management for vaccination campaigns

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
<u>Additional indicator IF it is the NS clinical teams (as opposed to MoH/other organization) who administer vaccines through a catch-up SIA:</u>						
To measure the responsiveness of the vaccination campaign	Number of people vaccinated per day and per team	Sex and age	<b>Numerator:</b> Number of doses administered by location and by team	Urban areas: 1000/day; rural areas: varies based on accessibility and geographical conditions	Tally sheets	MSF medical guidelines
There are a number of risks associated with injections such as bloodborne diseases which can be transmitted through unsafe injection practices. Safe syringe disposal refers to the safe placing of syringes and needles in puncture-proof containers immediately after use and to incineration or an alternative recommended by WHO such as autoclaving.	Injection safety	N/A	<b>Numerator:</b> Number of facilities/vaccination sites using safety boxes  <b>Denominator:</b> Total number of facilities/vaccination sites	100%	Observation during visits to the vaccination sites	MSF Medical guidelines
Common accidents during vaccination campaigns are needle stick injuries and therefore it is important to monitor their occurrence (Accidental Exposure to Blood (AEB))	Personnel suffering needlestick injury during the campaign	Sex and age	<b>Numerator:</b> Number of people suffering a needlestick injury during the campaign  <b>Denominator:</b> Total number of personnel during the campaign	N/A	- AEB reporting form - Staff questionnaire	MSF Medical guidelines

To monitor that appropriate waste management is in place during and after the vaccination activity	Percentage of vaccination sites with an appropriate waste management system	N/A	<b>Numerator:</b> Total number of sites with an appropriate waste collection and disposal system  <b>Denominator:</b> Total number of sites	100%	- Observation	MSF Medical guidelines
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## Monitoring for adverse events (AEFI) during and after a campaign

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
To estimate serious AEFIs following a vaccination activity. The period of monitoring is the duration of the vaccination campaign and for 30 days after the campaign ends	Incidence of serious AEFIs	Age and sex	<b>Numerator:</b> Number of AEFIs by age group and location for the period  <b>Denominator:</b> Number of people vaccinated during the campaign	N/A	- Individual AEFI reporting form* - List and classification of the causes of AEFI**	MSF Medical guidelines
Serious AEFIs must be reported immediately to health authorities for investigation and confirmation of whether there is a link to the vaccine	Reported AEFIs to health authorities	Age and sex	<b>Numerator:</b> Number of AEFIs by age group and location for the period registered by the NS  <b>Denominator:</b> Total number of AEFIs reported to health authorities	100%		
This is important to understand whether AEFIs are a result of programme error, reaction to the vaccine, coincidence, or due to an unknown cause	Breakdown of serious AEFIs by cause	Age and sex	<b>Numerator:</b> Total number of serious AEFIs by cause	N/A		

\*Teams should verify with health authorities whether there is a specific form/format to report AEFIs.

\*\*Teams should verify with health authorities how AEFIs are classified in the country. The WHO recommends the following classification: (a) programme error: event caused by an error in vaccine preparation, handling, or administration; (b) vaccine reaction: event caused or precipitated by the vaccine when given correctly, caused by the inherent properties of the vaccine; (c) coincidental event: event that happens after immunisation but not caused by the vaccine; (d) unknown: the event's cause cannot be determined.

## Community Engagement and Accountability (CEA) and health promotion

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
To measure the operational efficacy of social mobilization for vaccination campaigns	Percentage of reasons for non-vaccination related to lack of information		<p><b>Numerator:</b> Total number of unvaccinated people who said they did not have information about the campaign</p> <p><b>Denominator:</b> Total number of unvaccinated people</p>	< 10%	Vaccination coverage survey with study of reasons for non-vaccination	MSF medical guidelines
To measure feedback and suggestions	% of community suggestions and feedback addressed or otherwise acted upon	NA	<p><b>Numerator:</b> Number of instances where suggestions or feedback were actioned (positively or negatively), with communication back to the community, including: adaptations to service delivery, referral of feedback to appropriate agency, explanation of IFRC action / lack of action, etc.</p> <p><b>Denominator:</b> Total number of community suggestions or feedback received through community engagement and feedback mechanisms.</p>	80%	Community engagement activity reports, feedback mechanism databases	IFRC

To measure retention of messages	% of target population who can recall 3 or more protective measures	Sex, age	<b>Numerator:</b> Number of persons in the target population who correctly identify 3 or more protective measures at the time of the survey.  <b>Denominator:</b> Total number of persons in the target population at the time the survey was conducted.	80%	KAP survey	IFRC
	% of caregivers who can recall 3 or more symptoms that would require access to a health provider	Sex, age	<b>Numerator:</b> Number of persons in the target population who correctly identify 3 or more symptoms that would require access to a health provider  <b>Denominator:</b> Total number of persons in the target population at the time the survey was conducted.	80%	KAP survey	IFRC

## Mental Health and Psychosocial Support (MHPSS)

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
This is to measure the coverage of MHPSS activities among communities affected by the outbreak	% of individuals of communities affected by the outbreak receiving basic mental health and psychosocial support (including awareness raising and psychological first aid)	Age, Sex and Disability	<b>Numerator:</b> Number of individuals engaged on basic mental health and psychosocial support activities.  <b>Denominator:</b> Number of individuals in affected communities.	TBD	MHPSS activity reports	

<p>This is to measure the MHPSS intervention outputs. When selecting this indicator, it is important to specify which topics the training will cover, and ensure that they match the MHPSS intervention strategy for the response</p>	<p># of staff and volunteers trained in quality, targeted MHPSS skills and interventions</p>	<p>Age, Sex and Disability</p>	<p><b>Numerator:</b> Number of staff and volunteers trained in quality, targeted MHPSS skills and interventions</p>	<p>TBD</p>	<p>Volunteer and staff training attendance records</p>	<p>IFRC PS Centre Indicator Guide for MHPSS Programmes</p>
<p>This is to measure the MHPSS intervention outputs. When selecting this indicator, it is important to delineate what the MHPSS services will concretely entail</p>	<p># of men, women, girls and boys who receive focused psychosocial and psychological care</p>	<p>Age, Sex and Disability</p>	<p><b>Numerator:</b> Number of individuals affected by the outbreak, who receive focused psychological and psychosocial care, which includes: psychological first aid, linking people with psychological problems or resources and services, case management, psychological counselling, psychotherapy or other psychological interventions)</p>	<p>TBD</p>	<p>MHPSS activity reports</p>	<p>IASC RG Common M&amp;E Framework for MHPSS Programmes in Emergency Settings</p>
<p>This is to measure clear efforts to enhance staff and volunteer care (Help the Helpers)</p>	<p># of peer support initiatives</p>	<p>Age, Sex and Disability</p>	<p><b>Numerator:</b> Number of peer support initiatives, which include: self-care briefings, team well-being meetings, social media groups, shift rotations, team telephone support lines and buddy systems)</p>	<p>TBD</p>	<p>MHPSS Activity reports HR and Volunteer management department reports</p>	<p>Belgian Red Cross-Flanders; IFRC PS Centre M&amp;E for MHPSS in COVID-19.</p>
<p>This is to measure the level of support received, as perceived by staff and volunteers</p>	<p>% of staff and volunteers who feel supported to do their work.</p>	<p>Age, Sex and Disability</p>	<p><b>Numerator:</b> Number of staff and volunteers who answer “Yes” to the following 3 survey questions:  1. During the last two weeks, how often did you feel upset about the emergency that you tried to avoid places, people, conversations or activities that reminded you of it (response scale: all of the time, most of</p>	<p>100%</p>	<p>Survey</p>	<p>Belgian Red Cross-Flanders; IFRC PS Centre M&amp;E Toolbox for COVID-19 pandemic; WHO; UNHCR</p>

			<p>the time, some of the time, a little of the time, none of the time)</p> <p>2. During the last two weeks, how often were you unable to carry out essential activities for daily living because of these feelings? (response scale: all of the time, most of the time, some of the time, a little of the time, none of the time).</p> <p>3. During the past two weeks have you considered stopping being a Red Cross Red Crescent volunteer (response options: Yes/ No)</p> <p><b>Denominator:</b> Total number of staff and volunteers working in the outbreak response who answered to the survey</p>			
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## Community-based surveillance (CBS)

Rationale	Indicator	Disaggregated by	Indicator Calculation/Data Elements	Target	Source of information	Reference
This is to record that a CBS assessment was completed	CBS Assessment completed			1	Assessment report	IFRC
This is to record that a CBS Protocol/SOP was developed	CBS Protocol/SOP developed			1	CBS Protocol/SOP	
To measure number of volunteers trained	# of volunteers trained in CBS	Sex			Training reports	
To measure coverage of the CBS system	% of communities with coverage of active CBS		<b>Numerator:</b> Number of communities with a CBS volunteer		Volunteer register	



	Volunteers (1 Vol: <50HHs)		<b>Denominator:</b> Total number of communities cover by the intervention		
To monitor volunteer understanding of CCDs	% of CBS 'true' alerts (match CCD)	Alert type (disease)	<b>Numerator:</b> Number alerts submitted that are confirmed to match the CCD by supervisors <b>Denominator:</b> Total number of alerts submitted		CBS database
To measure effectiveness of the CBS system with regards to the overall outbreak	% of outbreak cases detected via CBS system (dependent on active outbreak event)		<b>Numerator:</b> Number confirmed cases identified via CBS system <b>Denominator:</b> Total number of confirmed cases		IDSR records; CBS database
To monitor the timeliness of the CBS alert system	% of CBS alerts acted upon by authorities within 48 hours		<b>Numerator:</b> Number alerts investigated by MoH within 48 hours of detection <b>Denominator:</b> Total number of alerts		IDSR records; CBS database
To monitor program reporting	% pf CBS volunteers who are active ('zero' reporting, monthly average)	Health area	<b>Numerator:</b> Number volunteers who submitted a weekly 'zero' report <b>Denominator:</b> Total number of CBS volunteers		CBS database; volunteer register

<sup>i</sup> World Health Organization. 2009. Response to measles outbreaks in measles mortality reduction settings. *Immunization, vaccines and biologicals*. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK143956/>

<sup>ii</sup> Médecins Sans Frontières. 2013. *Management of a measles epidemic*.

<sup>iii</sup> Corine, J. 2020. *Social mobilization guide for vaccination campaign and routine immunization*. IFRC