Planning and Implementing High Quality Supplementary Immunization Activities for Injectable Vaccines using an example of Measles and Rubella Vaccines

Field Guide
Acknowledgments

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**Table of Contents**

Abbreviations and acronyms .................................................................................................................. 6

Glossary .................................................................................................................................................. 8

I. Introduction ........................................................................................................................................ 10

1. Background information .................................................................................................................. 10

   1.1 Purpose and operational objectives of this guide ....................................................................... 10

   1.2 What this Field Guide adds ....................................................................................................... 11

2. Measles, rubella and CRS and vaccination strategies for elimination ........................................ 12

   2.1 Measles disease ......................................................................................................................... 12

   2.2 Rubella and congenital rubella syndrome .................................................................................... 12

   2.3 Vaccination strategies for measles and rubella ......................................................................... 12

   2.4 Integrating measles and rubella elimination ............................................................................. 13

3. Systems approach to SIAs ............................................................................................................... 13

   3.1 SIAs as opportunities to strengthen routine immunization and other health programmes .. 14

4. High quality SIAs and SIA readiness assessment .......................................................................... 18

   4.1 Primary objective of M/MR SIA: Reaching the unreached ...................................................... 18

   4.2 Assessing SIA readiness ............................................................................................................ 18

II. 15 to 12 months prior to SIA: Planning ...................................................................................... 19

5. Key decisions and preliminary planning activities ........................................................................ 19

   5.1 Lessons learnt from previous SIA ............................................................................................ 20

   5.2 Country situation analysis and rationale ................................................................................... 20

6. Undertake National Level Macroplanning and Estimate Budget ............................................. 35

   6.1 Estimating resource requirements ............................................................................................. 35

   6.2 Advocacy for securing high level commitment and consensus .............................................. 38

   6.3 Establish organization structure and coordination of the SIA ............................................... 39

III. 12 to 9 months before SIA: Planning .......................................................................................... 40

IV. 9 to 6 months before SIA: Planning ............................................................................................ 43

7. Microplanning and Logistics ......................................................................................................... 44

   7.1 Information needed for microplanning .................................................................................... 45

   7.2 Estimating the target population ............................................................................................. 46

   7.3 Estimating requirements and cost for vaccine and supplies .................................................... 47
7.4 Estimating cold chain capacity, requirements and cost ........................................... 49
7.5 Estimating personnel requirements and costs ...................................................... 51
7.6 Estimating transport requirements and costs ....................................................... 53
7.7 Estimating costs for planning and training sessions .............................................. 54
7.8 Estimating costs for communication and social mobilization activities .................. 54
7.9 Estimating costs of mop-up activities and contingencies ..................................... 54

V. 6 to 2 months before SIA: Preparation ........................................................................ 55

8. Training .................................................................................................................. 55

9. Advocacy, social mobilization and communication .................................................. 58

9.1 Effective communication planning: the critical components ................................. 59
9.2 Advocacy .............................................................................................................. 63
9.3 Social mobilization .............................................................................................. 63
9.4 Community engagement ....................................................................................... 65
9.5 Communication for behaviour and social change ................................................ 65
9.6 Communication regarding serious AEFI .............................................................. 66

10. AEFI monitoring and preparing for crisis communication ..................................... 69

10.1 Planning for and organization of AEFI monitoring in SIA .................................. 71
10.2 Responding to serious AEFI ............................................................................... 72
10.3 Recognition and treatment of anaphylaxis .......................................................... 73
10.4 Reporting and investigating serious AEFI ........................................................... 73
10.5 Crisis management and communication ............................................................. 73

11. Pre-SIA Supervision and Monitoring ..................................................................... 75

11.1 Purpose of pre-SIA supervision and monitoring .................................................. 75
11.2 Management and coordination of pre-SIA supervision and monitoring .................. 75
11.3 Readiness assessment for national and district level planning .............................. 76

VI. 8 weeks to 1 day before SIA: Pre-implementation ................................................ 78

VII. Implementation of the SIA ..................................................................................... 79

12. Operation of Vaccination Posts .............................................................................. 80

12.1 Roles of personnel .............................................................................................. 80
12.2 Organization and management of vaccination posts ............................................ 81
12.3 Safe vaccine administration ............................................................................... 83
12.4 Waste disposal ........................................................................................................ 87

13. Supervision and monitoring during SIA ........................................................................ 89

13.1 Supervision and monitoring of vaccination teams .................................................. 89

13.2 Supervisory checklists .............................................................................................. 91

13.3 Rapid Convenience Monitoring (RCM) .................................................................. 92

13.4 Administrative data collection and analysis ............................................................. 94

13.5 Daily review meeting .............................................................................................. 100

13.6 Use of technology .................................................................................................. 102

VIII. 1 to 2 weeks after SIA: Post SIA activities and monitoring and evaluation .............. 102

14. Post-SIA activities ...................................................................................................... 103

14.1 Post-SIA Independent Monitoring (RCM) .............................................................. 103

14.2 Mop up activities ................................................................................................... 103

14.3 Coverage surveys .................................................................................................. 104

14.4 Monitoring the quality of the SIA .......................................................................... 105

14.5 Review meeting and technical report ...................................................................... 107

14.6 Disease surveillance .............................................................................................. 108

14.7 Post-SIA routine immunization strengthening activities ......................................... 108

14.8 Other follow-up activities ..................................................................................... 110

15. References and further reading .................................................................................. 111

Annexes .......................................................................................................................... 115

Annex 1. Recommended Measles and Rubella Vaccines .................................................. 115

1a Measles Live Attenuated Vaccine .............................................................................. 115

1b Rubella Live Attenuated Vaccine ............................................................................. 116

1c Measles-Rubella (MR) Vaccine ................................................................................ 117

1d Measles-Mumps-Rubella (MMR) Vaccine ................................................................ 117

1e Administration with other vaccines or antibody-containing products .................... 118

Annex 2. Systems approach to SIA – potential routine immunization (RI) strengthening activities .... 119

Annex 3. Securing access for immunization in security-compromised areas: lessons from the polio eradication ........................................................................................................... 120

Annex 4. SIA Strategies: Fixed or mobile posts with house-to-house canvassing and house-to-house vaccination ........................................................................................................ 122

4
4a Fixed or mobile posts with house-to-house canvassing .......................................................... 122
4b House-to-house vaccination ....................................................................................................... 126
4c Vaccination at schools, preschools and day-care centres .......................................................... 128

Annex 5. Examples of common challenges that contribute to low quality SIAs and suggestions to address them ................................................................................................................. 128

Annex 6. Critical activities and proposed timeline for planning high quality SIAs .............................. 131

Annex 7. Communication Tools ...................................................................................................... 135

  7a. Assessing Awareness of an Upcoming SIA ................................................................................. 135

  7b. Example of key communication messages for measles and rubella SIA .................................. 136

Annex 8. SIA Readiness Assessment Tool ......................................................................................... 138

  8a Measles Rubella SIA Readiness Assessment Tool – National Level ........................................ 138

  8b Measles and Rubella SIA Readiness Assessment Tool – District Level .................................... 140

  8c Verifying completion of critical activities at district level ......................................................... 144

Annex 9: Examples of checklists and forms used for SIA monitoring and supervision .................. 149

  9a Roles and responsibilities of various individuals assigned to support the SIA .......................... 149

  9b Example of a checklist for intra-SIA supervision at a vaccination post ................................. 152

  9c Example of a District or provincial supervisor checklist for supervision during SIA .............. 153

  9d Sample Tally Sheet to record administered doses for SIA with a target age range group: 9 months to 14 years .............................................................................................................. 155

  9e Proposed Tally Sheet Stratified by Prior RI dose of MCV per the RI card to identify number of zero dose children .......................................................................................................................... 157

  9f Sample first-level summary reporting form for vaccination doses given during the SIA targeting 9m-14 years without additional interventions .......................................................... 158

Annex 10. ........................................................................................................................................ 159

  10a: AEFI Reporting Form ............................................................................................................... 159

  10b: AEFI treatment kit .................................................................................................................. 160

  10c: Recognition and treatment of anaphylaxis .......................................................................... 161

Annex 11. RCM Tools for monitoring during SIA and post the SIA .................................................. 164

## Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AD</td>
<td>Auto Disable</td>
</tr>
<tr>
<td>AEFI</td>
<td>Adverse events following immunization</td>
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<tr>
<td>AFRO</td>
<td>WHO Regional Office for Africa</td>
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<tr>
<td>AIDS</td>
<td>Acquired immunodeficiency syndrome</td>
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<tr>
<td>CC</td>
<td>Cold chain</td>
</tr>
<tr>
<td>CES</td>
<td>Coverage Evaluation Survey</td>
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<tr>
<td>CPR</td>
<td>Cardiopulmonary resuscitation</td>
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<td>CRS</td>
<td>Congenital Rubella Syndrome</td>
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<tr>
<td>CSO</td>
<td>Civil society organisation</td>
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<tr>
<td>cMYP</td>
<td>Comprehensive multi-year plan</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
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<tr>
<td>EPI</td>
<td>Expanded Programme on Immunization</td>
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<tr>
<td>GACVS</td>
<td>Global Advisory Committee on Vaccine Safety</td>
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<tr>
<td>Gavi</td>
<td>Global Alliance on Vaccines and Immunisation</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
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<td>GVAP</td>
<td>Global Vaccine Action Plan</td>
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<tr>
<td>HAART</td>
<td>Highly-active antiretroviral therapy</td>
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<tr>
<td>HC</td>
<td>Health Centre</td>
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<tr>
<td>HCW</td>
<td>Health care worker</td>
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<tr>
<td>HH</td>
<td>Household</td>
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<tr>
<td>HW</td>
<td>Health worker</td>
</tr>
<tr>
<td>ICC</td>
<td>Interagency Coordinating Committee</td>
</tr>
<tr>
<td>ILR</td>
<td>Ice-lined refrigerator</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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</tr>
<tr>
<td>IPC</td>
<td>Interpersonal communication</td>
</tr>
<tr>
<td>ITN</td>
<td>Insecticide-treated bed net</td>
</tr>
<tr>
<td>KABP</td>
<td>Knowledge, attitudes, beliefs and practices</td>
</tr>
<tr>
<td>LLIN</td>
<td>Long-lasting insecticide-treated nets</td>
</tr>
<tr>
<td>M</td>
<td>Monovalent measles vaccine</td>
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<tr>
<td>MCV</td>
<td>Measles-containing vaccine</td>
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<tr>
<td>MICS</td>
<td>Multiple Indicator Cluster Survey</td>
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<tr>
<td>MMR</td>
<td>Measles-mumps-rubella</td>
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<tr>
<td>MMRV</td>
<td>Measles-mumps-rubella-varicella</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>MR</td>
<td>Measles-rubella</td>
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<tr>
<td>NCC</td>
<td>National coordinating committee</td>
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<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
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<tr>
<td>NID</td>
<td>National immunization day</td>
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<tr>
<td>OPV</td>
<td>Oral polio vaccine</td>
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<tr>
<td>PCM</td>
<td>Phase-change material</td>
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<tr>
<td>PDA</td>
<td>Personal digital assistant</td>
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<tr>
<td>PIE</td>
<td>Post-introduction evaluation</td>
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<tr>
<td>PQS</td>
<td>Performance, Quality and Safety</td>
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<tr>
<td>RCM</td>
<td>Rapid Convenience Monitoring</td>
</tr>
<tr>
<td>RCV</td>
<td>Rubella-containing vaccine</td>
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<tr>
<td>RED</td>
<td>Reaching Every District</td>
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<tr>
<td>RI</td>
<td>Routine Immunization</td>
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<tr>
<td>RUP</td>
<td>Reuse prevention</td>
</tr>
<tr>
<td>SAGE</td>
<td>Strategic Advisory Group of Experts</td>
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</tbody>
</table>
SIA Supplementary Immunization Activity
SMART Specific, measurable, achievable, relevant and time-bound
SMS Short message service
ToR Terms of Reference
UNICEF United Nations Children’s Fund
VVM Vaccine Vial Monitor
VPD Vaccine Preventable Disease
WMF Wastage Multiplication Factor

Glossary

**Catch-up SIA** - one time, usually nationwide SIA, to vaccinate the main target population responsible for disease transmission in order to rapidly reduce the number of susceptible individuals.

**Follow-up SIA** - periodic, usually nationwide SIAs, conducted every 2 to 5 years, targeting children born after the last SIA in order to reach unreached and those who did not gain immunity after the first vaccination.

**Speed-up SIA for rubella vaccine introduction** - one-time effort to vaccinate children, adolescents and adults in order to reduce the time required to stop the transmission of rubella virus and eliminate rubella and CRS.

**Fixed vaccination posts** - effective SIA strategy in settings where there is high demand for vaccination, social mobilization is strong and house-to-house visits are not needed; includes permanent and temporary vaccination posts.

**Fixed permanent vaccination posts** - posts located at permanent health facilities and community health posts as a part of fixed vaccination posts SIA strategy for the entire duration of the SIA.

**Fixed temporary vaccination posts** - posts that may be set up at schools, churches, mosques, local administrators’ offices, for the time estimated to complete the vaccination of the targeted population of that area (may be less than duration of SIA).

**Mobile vaccination posts** - posts required at distant villages and rural settlements with very small and/or disperse populations, set up for the time needed to complete the task (usually less than one day).
**Fixed post with house-to-house canvassing** - SIA strategy with added social mobilization element which involves a trained volunteer/community mobilizer ('canvasser') encouraging population to come to the vaccination post.

**House-to-house vaccination** - SIA strategy recommended mainly as a mop up strategy in areas where there is prior evidence of refusal of vaccination.

**Advocacy** – a set of activities targeted at different levels before the SIA, designed to foster political support, generate and sustain adequate resourcing, build partnerships with national and international agencies, NGOs and with local CSOs and influencers, and to ensure community acceptance and support for the SIA.

**Social Mobilization** – a group of broad-scale activities to engage with all segments of society aiming to disseminate information and ensure appropriate awareness.

**Communication for behavioural change** – a group of activities designed to influence behaviour and intended to promote vaccination as a norm and duty.

**Rapid Convenience Monitoring (RCM)** – SIA monitoring method specifically focused on finding unvaccinated children, identifying reasons for non-vaccination and taking corrective action.

**Adverse Events Following Immunization (AEFI)** – any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine.

**Coolant-pack** – a purposely designed leak-proof container, typically complying with performance, quality and safety specification (PQS/E005/IP01), filled with tap water or phase-change material (PCM).

**Water-pack** – a coolant-pack, typically complying with PQS specification (PQS/E005/IP01), filled with tap water.

**Ice-pack** – A water-pack that has been frozen to a temperature of between -5°C and -25°C before use.
I. Introduction

1. Background information

One of the strategic objectives of the Global Vaccine Action Plan (GVAP) is to ensure that the benefits of immunization are equitably extended to all people. Achieving this objective will mean that every eligible individual is immunized with all appropriate vaccines – irrespective of age, gender, disability, educational level, socioeconomic level, work condition, geographic location or ethnicity.

GVAP challenges countries not only to reach at least 90% national vaccination coverage and at least 80% vaccination coverage with all antigens in every district but also to sustain these gains over the long term. Some disease control goals require even higher levels of vaccination coverage. Under GVAP, measles and rubella are targeted for elimination in five WHO regions by 2020. Achieving interruption of endemic measles transmission requires at least 95% vaccine coverage with two doses of measles-containing vaccine in every district.

Strong routine immunization systems are critical foundations for achieving and sustaining high levels of population immunity to vaccine-preventable diseases. The “Reaching Every District” (RED) strategy with focus on planning and monitoring has been implemented to build capacity and expand the provision of immunization services. However, certain individuals or population groups continue to remain susceptible, either because they are missed by routine immunization programmes or because of primary vaccination failures.

Supplementary immunization activities (SIAs), also referred to as mass-immunization campaigns, are an effective strategy for delivering vaccination to children otherwise missed by routine services (e.g. the hard to reach and underserved groups and communities) or to older susceptible individuals who are not among the age groups targeted by the routine EPI services. As such, SIAs are a proven strategy for increasing vaccination equity. SIAs also have the effect of rapidly increasing population immunity by reducing the number of susceptible individuals in the population, which can result in protective “herd” immunity.

SIAs provide opportunities for strengthening vaccination services through building national capacity, reducing inequity of service delivery, advocating for routine immunization, improving immunization practices and providing further public health benefits through integration of other public health interventions. Strengthening routine immunization programmes is in turn critical for sustaining gains made through the SIA.

1.1 Purpose and operational objectives of this guide

The purpose of this field guide is to provide comprehensive information on planning and implementing high-quality SIAs for injectable vaccines and highlight the opportunities to strengthen routine immunization and surveillance. The guide uses measles-rubella SIAs as the main example throughout,

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1 For measles SIAs high-quality is defined as achieving at least 95% national coverage as determined by a coverage survey evaluation.
but the information provided aims to be applicable to SIAs for delivery of any injectable vaccine. It can serve as a reference for the preparation of regional/national SIA field guides and materials.

This field guide is intended to offer immunization programme managers and their partners a methodology and tools to ensure a successful SIA through:

- proper and timely planning and preparation including development of a budget for funding by government and/or donors, and use of the SIA Readiness Assessment Tool;
- implementation of SIAs following best available practices;
- monitoring of SIAs to allow for immediate corrective actions;
- evaluation of the effectiveness of SIA preparation and implementation.

1.2 What this Field Guide adds

- This field guide is organized in chronological order and uses the concept of project management to support the effective management of the whole process of planning, implementation, and monitoring of an SIA.
- It promotes the use of the SIA Readiness Assessment Tool at national and subnational level to allow for periodic assessment of the implementation of critical activities. This allows for timely implementation and follow up of corrective actions as well as provide the feedback necessary for decisions regarding postponing the SIA, either nationally or in specific areas, should the need arise.
- It emphasizes comprehensive macro- and micro- planning and budgeting, to ensure that critical activities which are often overlooked (e.g. pre-SIA readiness assessment, intra-SIA monitoring including RCM, post-SIA independent monitoring and mop up activities) are accounted for.
- It highlights the importance of addressing inequity and the identification of hard to reach and high risk groups through the microplanning process. It also highlights the need for tailoring vaccination strategies to the needs of each community.
- It stresses the importance of early planning and budgeting, including for mop up activities, to address gaps identified through intra- and post- SIA monitoring (in particular Rapid Convenience Monitoring).
- It stresses that SIAs should be conducted within the overall immunization programme and not as an isolated intervention.
- It includes suggestions of activities that can, either in synergy or with little added effort, strengthen routine immunization.
- It is complemented by an E-Learning course which will focus on the areas that present the most common problems that impact the quality of SIAs.
2. Measles, rubella and CRS and vaccination strategies for elimination

2.1 Measles disease
Despite the availability of safe, effective and inexpensive vaccines, measles remain an important cause of preventable deaths worldwide among children under 5 years of age. Measles virus is highly infectious and, in the pre-vaccination era, >90% of individuals were infected by the age of 15 years.

Measles is characterized mainly by fever, rash and cough. Complications of measles include diarrhoea, otitis media, laryngo-tracheobronchitis (croup), pneumonia and encephalitis. Pneumonia, diarrhoea and croup account for the majority of case-fatalities. The risk of developing severe or fatal measles is greater in children <5 years of age in overcrowded living conditions, particularly if they are malnourished or have vitamin A deficiency, and in those with immunological disorders, such as advanced HIV infection. Adults >20 years of age have a higher risk of severe or fatal measles. In developing countries, case-fatality rates among young children may reach 5-10%. In industrialized countries, deaths from measles, although rare, may occur in previously healthy individuals.

2.2 Rubella and congenital rubella syndrome
Rubella infections generally cause a relatively mild disease in children, but in adolescents and adults it can cause arthritis and encephalitis. Maternal rubella infection in early pregnancy can severely affect the foetus and can result in miscarriage, foetal death, or a combination of disabling conditions collectively called congenital rubella syndrome (CRS). CRS may include heart disease, blindness and deafness. With a global estimate of 100,000 cases of CRS annually, rubella remains a leading cause of preventable congenital defects.

2.3 Vaccination strategies for measles and rubella
The Global Measles and Rubella Strategic Plan for 2012-2020 outlines strategies for achieving the measles and rubella elimination goals under GVAP. The first of the five core components of the strategy is to achieve and maintain high levels of population immunity by providing high (≥95%) vaccination coverage with two doses of measles- and rubella-containing vaccines.

The primary purpose of rubella vaccination is to prevent the occurrence of CRS. Although rubella vaccine is available as a single-antigen rubella vaccine, WHO’s recommends the use of combination vaccines, either measles-rubella (MR), measles-mumps-rubella (MMR) or measles-mumps-rubella-varicella (MMRV) vaccine. See Annex 1 for details on recommended vaccines.

A challenge with rubella vaccination is that sustained low coverage of rubella immunization in infants and young children could result in an increase in susceptibility among women of childbearing age, theoretically increasing the risk of CRS above levels prior to vaccine introduction (the paradoxical effect). However, if vaccination coverage is sufficiently high, rubella transmission will be markedly reduced or interrupted, thereby removing the risk of rubella exposure for pregnant women. Prior to rubella vaccine introduction, it is critical that countries achieve and maintain immunization coverage of at least 80% or greater with at least 1 dose of a rubella-containing vaccine delivered through routine services and/or regular SIAs, in order to avoid the potential of this paradoxical effect.
For more information on introducing rubella vaccine, see WHO guide to introducing rubella vaccine and WHO Rubella vaccines position paper (http://apps.who.int/iris/bitstream/10665/184174/1/9789241549370_eng.pdf and http://www.who.int/immunization/policy/position_papers/rubella/en/).

Measles and rubella vaccination policy and delivery strategies vary among countries. Countries with well-established and high-performing immunization programmes rely on routine services for delivery of both doses of measles- and rubella- containing vaccine (MCV1 and MCV2). Countries with <95% coverage with both doses should use SIAs to achieve high (≥95%) two-dose coverage. This high level of coverage must be maintained uniformly across all districts and all age groups to prevent measles outbreaks. Countries unable to achieve high and homogenous vaccination coverage through routine immunization services should regularly conduct SIAs to rapidly reduce the pool of susceptible children, and must aim to vaccinate all eligible children. WHO recommends that SIAs should be continued until countries are able to reach and sustain ≥95% coverage with two doses through routine immunization systems.

2.4 Integrating measles and rubella elimination
Measles elimination activities (routine and supplementary immunization activities as well as surveillance) provide an excellent opportunity and platform for advancing rubella and CRS elimination. WHO recommends that, according to the eligibility criteria outlined in the WHO rubella vaccine position paper, countries switch from monovalent measles (M) to MR or MMR vaccine, and to use the contact provided by measles SIAs to target populations remaining susceptible to rubella as well.

When the routine national immunization schedule includes two MCV doses, for programmatic purposes, WHO recommends that the same combined MR or MMR vaccine product be used for both doses. This is better than including RCV only with the first measles dose as it will help simplify vaccine procurement, logistics, recording and reporting, and reduce wastage. In addition, this will help increase rubella vaccination coverage.

3. Systems approach to SIAs
SIA planning and implementation must be considered within the broader health system context and not operate as isolated interventions outside the immunization programme. Important inputs from the routine immunization programme (e.g., target population, health facility session plans, a map of vaccination posts in the catchment area, risk factors for non-vaccination, and cold chain capacity) are necessary for successful SIA planning. The planning and preparation for SIA may help address major issues within the routine immunization programme. Likewise, programmatic information generated during the preparation and implementation of the SIA will feed back to the routine immunization programme to be used for programmatic improvements. It will thus provide the continuity required to sustain high population immunity for each successive age cohort during the intervals between SIAs. This information should flow in a cycle, from the routine immunization programme to the SIA and back.
3.1 SIAs as opportunities to strengthen routine immunization and other health programmes

Ideally, an SIA is built upon a strong routine immunization programme. A ‘best practice’ SIA can and should build national capacity and strengthen existing immunization service delivery through renewed attention to core components of programme management. Specific activities to strengthen RI are carried out before, during and after the completion of the SIA. At the outset, based on countries RI assessment, 3-5 RI strengthening objectives should be identified and agreed upon to include in the SIA activities. A focal person should be identified at each of the national subcommittees to oversee and ensure the implementation of these activities. Resources for carrying out the RI strengthening activities should be identified and included in the macroplanning budgeting exercise. For many activities carried out prior and during the SIA, no additional resources will be needed. For some activities, resources from the RI programme and SIA can be pooled together (e.g. for conducting refresher training courses that can improve knowledge and skills of health workers in order to improve both SIA quality and RI). For RI strengthening activities after the SIA, resource requirements need to be identified and the budget updated along with the updated RI microplans.

The following provides examples of RI strengthening activities per programme component that can be carried out before, during and after SIA.

1. Planning

   Before SIA
   - Include SIAs in national comprehensive multi-year plans (cMYP) as a strategy to achieve disease control and elimination.
   - Use RI plans for districts and health facilities and the operational maps of health facility catchment areas as the starting point for the development of microplans and maps for the SIA.
   - Include and address RI strengthening objectives when developing SIA tools (e.g. include zero dose monitoring in tally sheets).
   - Review immunization policy as part of SIA planning and update policies as needed.
   - Use SIAs as a platform for integrated delivery of public health interventions (e.g., vitamin A supplementation) which can be linked with maternal and child health initiatives that target similar age ranges and use the same strategies as the SIA (e.g. fixed/mobile post).

   After SIA
   - Use SIA local head counts for RI microplanning when these are more accurate than official estimates.
   - Update and revise microplans and maps of catchment areas and RI strategies when previously unidentified target populations are detected during an SIA.
   - Use SIA RCM and monitoring data to identify specific RI obstacles and prepare plans to address them.
   - Use SIA data to revise sites of RI outreach locations and identify additional resources needed for the updated activities.
2. **Training**
   
   **Before SIA**
   - Conduct training needs assessment at least 6 months prior to SIA and organize competency-based training accordingly.
   - Develop SIA training material and job aids (e.g. videos) that include refresher training for RI based on identified needs and knowledge gaps.
   - Discuss status of RI and surveillance during SIA training and reinforce essential skills for proper microplanning, vaccine handling, injection safety, and waste management.
   
   **During SIA**
   - Use supervision checklists to review processes and address RI issues e.g. injection safety and waste management, etc.
   
   **After SIA**
   - Revise training content and supervision checklists for RI to include problem areas identified during SIA.

3. **Logistics, cold chain, vaccine handling and waste management**
   
   **Before SIA**
   - Review national cold chain capacity (e.g. refrigerators, freezers, cold boxes, vaccine carriers and coolant packs) and procure needed equipment.
   - Ensure effective maintenance of existing cold chain equipment.
   - Include the needs of RI programme when assessing waste disposal and construction/maintenance of incineration facilities for SIAs.
   - Expand the introduction of new technologies for SIAs to include the RI programme (e.g. auto-disable (AD) syringes and syringes with reuse prevention features).
   
   **During SIA**
   - Use intra SIA supervision visits to identify and correct injection techniques and safety and waste management.
   
   **After SIA**
   - Reinforce importance of adequate stock levels, accurate forecast of vaccine requirements and wastage reduction.
   - Include cold chain equipment purchased for the SIA in the RI programme equipment inventory and maintenance plan.

4. **Vaccine safety surveillance**
   
   **Before SIA**
   - Support health workers’ knowledge and skills on common AEFI and AEFI management through training for SIA.
   - Provide sufficient equipment, supplies and reporting forms for the SIA that can later be used in RI.
   - Include skill practice and job aids on how to communicate AEFI effectively with caregivers.
During SIA
- Strengthen AEFI reporting, management and proper use of AEFI kits through supervision during SIA.

After SIA
- Reinforce key message that usual mild adverse events after immunization are much less serious than possible consequences of disease.

5. Advocacy, social mobilization, communication

Before SIA
- Conduct KABP survey with community as basis for developing communication messages.
- Develop standard key messages to promote SIAs and RI and pre-test for comprehension to minimize confusion about differences between SIA and RI.
- If SIAs will occur in schools, work with education officials to develop short information sessions on immunization.
- Raise awareness and engage the private sector about the importance of RI (e.g. schedule, global and national goals, reporting, surveillance, etc.).
- Use SIAs to strengthen existing and build new partnerships with partners that play a role during the preparation, implementation and evaluation of SIAs (e.g. NGOs, community based programmes, media, schools, cultural institutions, religious leaders and organizations, humanitarian and aid agencies, and volunteer groups) and work with them to support the RI programme beyond the SIA.

During SIA
- Emphasize the importance of both the SIA and RI during media briefings and in press releases, and during community education sessions.
- Distribute RI “invitation cards” to caregivers when coming to SIA post.
- HCWs and volunteers to inform caregivers: all children of X years need at least 2 doses of MCV.
- Have HCW remind mothers to bring children back to routine services for second dose of measles-containing vaccine in second year of life (depending on vaccination schedule).
- Use mHealth applications to disseminate information about routine immunization during SIAs.

After SIA
- Build on relationship with media and obtain commitments for communication support for RI.
- Use advocacy and social mobilization activities with interested groups (e.g. women’ and youth groups) to promote RI and recognition / reporting of suspected cases of measles and rubella.
- Build on the collaboration with schools and education system to implement school immunization policies (e.g. school entry RI checks) and the introduction of routine school vaccination activities when feasible.
- Maintain NGO involvement to continue defaulter tracing for RI.
- Report to local politicians the results of SIAs and the current RI coverage.
- Use data from rapid assessment question on “source of information” to strengthen communication planning for RI, especially for hard to reach populations.

6. **Supervision, monitoring and evaluation**

   **Before SIA**
   - Use field supervisory visits prior to the SIA to assess the performance of the RI programme, identify training needs of health workers, and help plan for targeting high risk districts for additional supervisory support during the SIA and beyond.
   - Include the question on dissemination of RI messages in the supervisory checklists. Improve data management practices (e.g. record keeping, data analysis, coverage calculation) needed for RI through the inclusion of data management in the pre SIA training.
   - Use of monitoring checklists for SIA and routine immunization.

   **During SIA**
   - Review and address RI issues. Use RCM to identify children being missed by the SIA and RI and the reasons for non-vaccination.
   - In areas where routine card retention by parents is high, record zero dose children in SIA tally sheets to help identify low coverage areas for routine immunization.

   **After SIA**
   - Conduct coverage surveys that are used to assess both SIA and RI coverage levels and identify high-risk and underserved populations, low coverage districts, and reasons for non-vaccination within the RI programme.
   - Analyse RCM data and communicate results to stakeholders to address RI weaknesses.
   - Immediately use SIA data in the areas of low coverage to rapidly plan and execute vaccination sessions needed.
   - Share SIA results with local government officials and community leaders and the current status of RI.

7. **Surveillance**

   **Before SIA**
   - Train health workers on use of standard case definitions of VPDs and reporting standards.
   - Develop and pre-test materials with visuals of VPDs, to increase HCW recognition of suspected measles and rubella.
   - Ask the village leader to help inform the community on recognition and reporting of VPD.
   - Utilize social mobilization and family visits to inform the community on how to recognize and report VPDs.

   **During SIA**
   - Systematically include in social mobilization to communities information on how to recognize measles and rubella and what they should do if they see cases of fever plus rash.

   **After SIA**
- Use high visibility of SIA to obtain involvement of other departments and community leaders in reporting suspected VPDs.

Annex 2 contains a list of reference documents on strengthening routine immunization programmes available online.

4. High quality SIAs and SIA readiness assessment

4.1 Primary objective of M/MR SIA: Reaching the unenreached

The primary purpose of measles and/or measles-rubella SIAs is to attain high levels of population immunity by, reaching and protecting children unreached by routine immunization services and children who failed to develop immunity after their first dose of measles vaccine.

In order to achieve the primary objective of M/MR SIAs, SIAs need to be of very high quality and achieve at least 95% national coverage as determined by a coverage survey.

Experience has shown that late planning and preparation are most often the underlying cause of poor quality SIAs and that comprehensive and timely preparation for SIAs is a fundamental requirement for achieving high coverage.

4.2 Assessing SIA readiness

To assess and improve preparedness of SIAs, checklists for the district level have been used in many countries, and guidelines for their content and use have been prepared by WHO Headquarters, and several WHO Regional Offices. While these checklists are comprehensive, their usefulness has been limited for a number of reasons. First, such checklists are used primarily by supervisors at the district level and their use is limited to the specific district reviewed. Data are not always aggregated and quantified at higher levels to identify common problems that need to be addressed at higher levels.

Second, the checklists are snapshot of “preparedness” at specific point in time; do not monitor ongoing progress in preparation; and are not action oriented. Hence, in general, these checklists have not been effective in determining gaps in the preparation of the SIA in a timely manner so that action can be taken to ensure high quality SIA.

4.2.1 The SIA Readiness Assessment Tool

To improve the quality of SIA preparation and monitor readiness to conduct a high quality SIA, a SIA Readiness Assessment Tool was developed to periodically monitor SIA preparation at the national and at the district levels. This is essentially a management tool that addresses the limitations of the previously used checklists in the following ways:

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2 WHO HQ Aide Mémoire to ensure the delivery and safety of mass immunization campaigns with injectable vaccines 2007
3 AFRO. Measles SIA Planning and Implementation Field Guide, 2010
4 EURO. Field Guide for Planning and Implementing Supplemental immunization Activities for Measles & Rubella. 2004
• It provides a simple-to-use quantitative and periodic assessment of preparedness at both the national and subnational levels;

• It identifies specific strengths and weakness related to SIA preparations over time, identifies gaps and needed actions, and responsible persons at the local level to address gaps;

• It facilitates reporting of preparedness data to higher level authorities for timely interventions, including potential decisions to postpone or partially postpone (i.e. in some districts) the SIA until adequate readiness is achieved.

The SIA Readiness Assessment Tool stresses that at any given point in time prior to the SIA, certain critical activities should be completed in order not to compromise the quality of the SIA.

The SIA Readiness Assessment Tool is aligned with the timeline of this Field Guide which describes and provides guidance on the key activities that need to be completed at different time points prior to the SIA. Details of how to use the Tool are provided in Chapter 11.3 and Annex 8.

II. 15 to 12 months prior to SIA: Planning

15-12 months before SIA at the national level you should:

• Complete situational analysis
  - Determine the best time and type of SIA to conduct, as well as the target age group
  - Identify the hard to reach populations and decide the strategies for the SIA
  - Review lessons learnt from previous SIAs

• Undertake national level Macroplanning
  - Prepare plan of action and budget estimate
  - Secure high level commitment
  - Revise cMYP or other national health planning documents to include SIA
  - Plan organizational structure for coordination of SIA, establish National Coordinating Committee (NCC) and appoint a National Coordinator

5. Key decisions and preliminary planning activities
SIAs aim to immunize large populations over a short period of time, which is often beyond the capacity of existing infrastructure. Proper and specific planning and very careful supervision and monitoring are essential for the success of SIAs. To enable effective planning a number of preliminary activities must be undertaken. The decision to conduct a SIA should be incorporated into an approved national comprehensive multi-year plan (cMYP) (or Multi-year National Measles/Rubella Elimination Plan) and included in the annual immunization programme workplan.
5.1 Lessons learnt from previous SIA
Preliminary planning activities should include a critical review of lessons learnt from past SIAs. This review is usually conducted by the National Coordinating Committee (NCC) and should cover critical activities in a systematic way. For example, the areas evaluated could follow the main headings of the SIA Readiness Assessment Tool: a) planning, coordination and financing, b) monitoring and supervision, c) vaccine, cold chain and logistic and d) advocacy, social mobilization and communication. All identified issues/challenges that affected the final results should be specified in detail and matched by plans to resolve them. Annex 5 shows examples of common challenges that contribute to low quality SIAs and suggestions to address them.

5.2 Country situation analysis and rationale
SIA should be considered if a country has not reached and maintained ≥95% coverage with two doses of MCV.

In order to conduct a country situational analysis, the following information should be gathered and analysed in order to assess population immunity:

1. **Data on current and historical disease incidence.** This includes the collection and analysis of age-specific disease incidence, vaccination status of cases by age group and the number of cases by place and time. Patterns of disease at different times, in different places and among different populations should also be identified.

2. **Data on vaccination coverage.** Analysis of vaccination coverage data should include routine immunization coverage data (administrative and by survey, as available) by year and geographic region, and previous SIA coverage (administrative and by survey, as available) by areas and age groups covered. It can also include additional estimates of population protection (e.g. from recent serosurveys or outbreak investigations).

3. **Additional data sources.** This includes analysis of reports or documents such as surveillance reviews, EPI reviews, the cMYP, annual immunization plan, new vaccine post-introduction evaluations (PIE), WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) and coverage surveys such as Demographic Health Surveys (DHS) or Multiple Indicator Cluster Survey (MICS).

Information gathered should provide a comprehensive overview and should be organized in concise and easy to read format (for example of template see [http://www.wpro.who.int/immunization/documents/measles_regional_country_profile/en/](http://www.wpro.who.int/immunization/documents/measles_regional_country_profile/en/)). The analysis of this information provides the rationale for the SIA.

5.2.1 **Determining the interval between SIAs**
Since vaccines are not 100% effective, universal coverage is rarely achieved, and as new birth cohorts become eligible for vaccination, susceptible infants and children will accumulate over time. Accumulation of susceptible individuals should be estimated by evaluating both routine coverage data by birth cohort and age-specific coverage in previous SIAs, to inform decisions regarding the interval between SIAs.
When determining the interval between SIAs with measles containing vaccines, countries are recommended to monitor the accumulation of susceptible pre-school children and conduct an SIA when the number approaches the size of one birth cohort. This takes approximately 2 to 5 years to occur, with this interval being shorter in settings with low routine vaccination coverage.

Because coverage data are often unreliable, programme managers should use the best quality data available, such as the WHO-UNICEF Estimates of National Immunization Coverage (WUENIC), to determine the minimum interval between SIAs so as to prevent outbreaks.

The graph in Figure 5.1 demonstrates how the optimal interval between follow-up SIAs increases with increasing routine MCV1 coverage. The figure indicates the relationship between routine immunization coverage in the years following the last SIA and the year in which the number of susceptibles reaches the size of one annual birth cohort (500,000 children in this example). In the graph, if the routine vaccination coverage is 90% per year, assuming conservatively a vaccine efficacy of 85% (for children vaccinated at age 9 months), the number of susceptibles will reach the size of one birth cohort in 4.3 years. Therefore, in this example, an SIA will be needed every 4 years. In contrast, in the case where routine coverage is 60%, the accumulation of susceptibles is much faster and will reach the size of one birth cohort in just two years. In this case, follow up SIAs should be conducted every two years. In settings where the subnational coverage data is available, this analysis can be carried out at district/regional level and the interval of the SIA should be based on the worst performing districts/regions.

![Figure 5.1: Timing of follow-up SIAs based on accumulation of susceptible over time](image)
5.2.2 Determining the geographical scope of the SIA

National versus subnational SIAs

In general, implementing a high-quality nationwide SIA is the optimal approach to achieve the greatest impact on disease burden. However, in some settings, subnational SIAs targeting geographic areas may be more programmatically feasible and can be considered. These settings include:

- Settings where, due to limited programme capacity, achieving high quality SIA is a challenge: subnational SIAs, targeting geographical high risk areas that can achieve high coverage and interrupt disease transmission may be an option.
- Settings where there is substantial heterogeneity in the immunity profiles within a country: targeted subnational SIAs targeting high-risk or accumulating susceptible populations may be more economical option.
- Settings where small, localized outbreaks are occurring: implementing smaller, area-specific SIAs can be an effective option as these SIAs can be prepared and executed in a shorter time with fewer resources than nationwide SIAs (see WHO outbreak control guidelines http://apps.who.int/iris/bitstream/10665/70047/1/WHO_IVB_09.03_eng.pdf)

Rolling SIAs

Conducting a “rolling” or phased SIA may be needed in countries with very large territories, sizeable populations, and/or with decentralized governments, or limited health worker capacity. When phasing SIAs, the aim should be to have the smallest number of phases possible, to cover the whole country within the shortest possible time, and to ensure the shortest time between the phases. For example, a country may decide to do SIAs targeting all children in the eligible age group in half of the total districts in the country during the first SIA phase, and the other half one month later. For large countries all phases should be completed within <12 months. However, for very large countries this may not be possible, and the phases can only be completed over more than one year.

5.2.3 Determining type of measles and rubella SIAs

SIAs may be one-time or periodic efforts. They can include:

- **Catch-up SIAs**: one-time effort, usually nationwide, to vaccinate the main target population responsible for disease transmission in order to rapidly reduce the number of susceptible individuals (non-vaccinated and primary vaccination failures). M and MR catch-up SIAs should include at a minimum children aged 9 months to 14 years.

- **Follow-up SIAs**: periodic, usually nationwide, conducted every 2 to 5 years, targeting children born after the last SIA to reach the unreached and those who did not gain immunity after the first vaccination. Follow up SIAs should include at a minimum children 9 to 59 months.

- **Speed-up SIAs for rubella vaccine introduction**: one-time effort to vaccinate children, adolescents and adults in order to reduce the time required to stop the transmission of rubella virus and eliminate rubella and CRS.
5.2.4 Determining the target age group
Susceptible age groups targeted for measles and rubella SIA should be determined based on the assessment of data on national vaccination coverage together with historical use of MCV and RCV, surveillance, analysis of incidence by birth year, available seroprevalence surveys, population immunity profiles, and on WHO recommendations.

Targeted age group can be described using lower and upper age limits.

- **Lower age limits**: 9 months or older for measles SIAs. In countries with significant incidence among children <9 months of age, or in outbreak situations, the SIA should include infants as young as 6 months of age, despite the expected lower vaccine effectiveness. This decision should be made on a case-by-case basis and be based on epidemiological information (for more details see [http://www.who.int/wer/2015/wer9050.pdf?ua=1](http://www.who.int/wer/2015/wer9050.pdf?ua=1)).

- **Upper age limits**: should be determined for measles and rubella SIA based on disease epidemiology (e.g. age distribution of measles/rubella cases) and the estimated susceptibility by age, using whichever is the higher target age. For rubella vaccine introduction, the decision regarding upper age limits for a rubella catch up or speed-up SIA may sometimes require a serological analysis of rubella immunity in the population by age group, and/or an evaluation of the local epidemiology of rubella and CRS, age-specific fertility rates, and information about the age of mothers of CRS-infected infants. It is important to conduct a high-quality SIA to close the rubella immunity gap at the time of rubella vaccine introduction. SIAs targeting gaps in rubella (or measles) immunity in adults should include both males and females.

Size of the targeted group should be taken from the official sources (e.g. last census). In case of multiple sources, the larger figure should be used and the source clearly specified.

During SIAs, all eligible children in the target group should be vaccinated, regardless of their vaccination status, date of last vaccination, or history of measles and rubella disease. A recent prior vaccination does not increase the risk of adverse events related to measles or measles-rubella vaccine.

5.2.5 Duration, timing and place of SIAs
SIAs should take place within a brief time frame (4-7 days to one month) based on available human resources. It is recommended that weeklong SIAs include the weekend to allow working parents and caregivers to bring their children for vaccination. If school-based vaccination will be used during the SIA, the vaccination should first happen at schools and then move on into the community to allow those missed at school to be reached in the community.

When deciding on the best time to schedule an SIA, the following factors should be considered:
• Disease epidemiology: For disease with seasonal peaks in transmission, the best time to schedule SIAs is during seasons of low transmission. This will provide an opportunity to interrupt existing chains of transmission.
• School year: Implementing SIAs during school year will facilitate both social mobilization and school/preschool vaccination activities.
• Community activities and celebrations: Implementation of SIAs that overlaps with local events such as religious festivals, key agricultural activities or political activities should be avoided.
• Weather conditions/climate: Rainy seasons or winters with heavy snowfalls may affect accessibility of populations during SIAs.
• Availability of resources, including vaccine: Budget cycles and vaccine ordering timelines must be considered.
• Convenience for the local population: In collaboration with the local community groups, dates, times and locations when the target population and their caregivers are accessible need to be identified and taken into account (e.g. hold sessions either before or after the caregivers return from work and holding sessions at convenient sites for specific target populations and age groups such as schools, universities, military facilities, marketplaces, factories, transit and border crossings, trade routes, IDP camps, food distribution points, etc.)

Information from intra-SIA supervision and monitoring may require adjustments to the duration, timing, and/or SIA strategies used in order to reach the target population. See Chapter 13 for information on intra-SIA monitoring and Chapter 14 for post-SIA activities.

Efforts should be made to avoid disruptions to routine immunization activities during the SIA, especially if the campaign lasts more than a week. **Whenever possible, routine immunization services should continue during the SIA.**

### 5.2.6 Determining special populations and high-risk groups

Special populations are populations that are missed by routine vaccination services and include the hard-to-reach and underserved among others. The primary goal of SIAs is to find and immunize populations missed by routine vaccination services. Special populations include:

• Urban poor and migrant populations;
• Remote, difficult to reach (e.g. inhabiting difficult (e.g. mountainous) terrain) and nomadic populations;
• Persons living in areas of civil conflict or insecurity;
• Populations resisting vaccination and anti-vaccine groups (e.g. affluent communities and religious and fundamentalist groups);
- Undocumented urban settlers/squatters;
- Migrant workers;
- Populations in areas near international and internal borders;
- Refugees, internally displaced persons and other transient population;
- Politically and/or socially marginalized population or minority groups;
- Population known to have a disproportionate share of the disease burden.

These populations are likely to miss vaccinations even in presence of robust routine immunization programmes. Unfortunately, these populations are likely to be missed with SIAs as well, unless special considerations are made and effective strategies are developed to reach them.

In addition, high-risk groups such as persons with known HIV infection and health workers need to be identified and appropriate strategies for their vaccination agreed upon (see below).

**Main approaches to reaching the underserved and hard-to-reach population**

1. Identify the underserved and hard-to-reach populations

Identifying and reaching underserved and hard-to-reach populations require special planning and the use of informal channels and collaboration with community leaders (traditional healers, religious and opinion leaders, others), local volunteers, and NGOs active in the community. Equity Assessment is a helpful approach and should be used to identify the communities most affected by inequities. Equity Assessment expands the traditional analysis of immunization administrative coverage and draws on wider sources of information such as immunization coverage surveys, Demographic Health Survey (DHS), MICS, EPI reviews, RCM data including reasons for non-vaccination analysis from previous SIAs, KAP research where available, and poverty reports. For example, review of DHS, EPI coverage surveys and MICS data, where available, shows that children living in poorest households (including urban slums), rural remote areas as well as those with mothers with minimal education level have the lowest immunization coverage. The output of the Equity Assessment is a list of categories of community characteristics that are associated with inequities in immunization, and barriers that affect those communities’ ability to access and use immunization services in order to define the best strategies to reach them during the SIA.

Equity Assessment should be started by discussion and team work at the national level. However, equity assessments must be included at the district level during the microplanning process using more detailed local knowledge. At the health centre level underserved groups need to be identified, located and maps showing their location within each catchment area prepared. *Local ethnic and religious leaders should be involved to help understand and overcome barriers (cultural, educational, logistical, political, language, or religious) that prevent caregivers from bringing their children for immunization (e.g. adjustment of time for daily immunization activities) and to help in planning and in social*
mobilization. For an example of equity assessment see the experience in Cambodia in http://heapol.oxfordjournals.org/content/28/5/526.full.pdf+html

Linkage with other programmes such as malaria control, dengue control and similar other community initiatives can also help on identification of underserved populations.

2. Decide on the most appropriate vaccination strategy to reach the underserved and hard-to-reach populations. When looking at the most appropriate vaccination strategies, considerations must be made in cases where there is a need to vaccinate different age groups than the agreed upon in some of the identified target age groups for the SIA.

3. Include efforts/strategies to reach these groups in district microplans to ensure resources are available for social mobilization, cold chain and vaccine logistics, transportation (vehicles and fuel) and security for specific situations. For this, detailed maps need to be developed to plan the additional logistics and social mobilization needed. These maps should be subsequently used for the routine immunization programme. (See Chapter 7 for details on microplanning).

4. Enhance supervision: one to two weeks before SIAs, supervisors should visit the most underserved areas to verify that mothers are aware of the upcoming SIAs and understand the importance of routine immunizations. During the SIAs, the supervisors should actively and frequently oversee preparations and efforts aimed at reaching these underserved populations.

5. Include robust, intensive and individualized social mobilization activities that draw on local knowledge and community participation.

Although intensified and targeted efforts are needed to reach underserved or hard-to-reach populations during SIAs, care must be taken to avoid stigmatizing or antagonizing them.

Considerations for reaching some of the underserved and hard-to-reach population:

a) Vaccination of urban poor and migrant populations
Accelerated urban migration of the rural poor affects measles epidemiology in concentrated urban centres. Young migrant workers raised in small rural places have often been less exposed to both vaccination and wild measles infection than otherwise similar individuals born and raised in urban environments. In addition, the lack of developed community structures for these migrant populations and their frequent distrust of outsiders and government institutions increase the difficulty to mobilize these groups to come to the traditional SIA fixed vaccination posts.

To achieve high vaccination coverage in these populations/areas, an intensified house-to-house canvassing or in certain settings, house-to-house vaccination strategy may be necessary (see Chapter 5.2.7). Gaining the support of religious and other community leaders, and of schools and day care
centres for the social mobilization and education of the target population will be critical for the success of SIAs and will help spread the message about the importance of routine immunization in these areas.

b) Vaccination of remote, difficult to reach and nomadic populations

Reaching areas with difficult access (e.g. areas inaccessible during the rainy season) often requires earlier start/prolonged travel by teams trained and equipped to cope with difficult conditions. Reaching these areas can be costly, therefore should be timely and precisely planned and adequately budgeted.

When accessing such remote areas, it is efficient to deliver all routine preventive health services at the same time: rotating public health teams that deliver services (including vaccination) at least once every three months may be a useful routine vaccination strategy that complements the SIA.

To ensure reaching nomadic populations, nomadic community members should be included and trained as team members.

c) Vaccination in areas of civil conflict or insecurity

High measles vaccination coverage in countries with civil conflict or insecurity is difficult to achieve. In these situations negotiation of tranquillity agreements (for example, the Days of Tranquillity used in Latin America, and the Middle East for polio eradication efforts) has sometimes helped the implementation of a SIA. Otherwise, delaying the nationwide SIA, while implementing interim outbreak control strategies, may be the only approach available.

If the population and local leaders in limited areas under conflict or of localized insecurity are sufficiently concerned by the disease, SIA implementation can be negotiated with the local leaders and/or other authorities. In situations of high insecurity, the non-local teams and supervisors can become targets of aggression. Therefore, it is advisable that implementation of all or most local activities, including vaccination and supervision, be carried out by local personnel who are properly trained. For more information on securing support and operational strategies to reach population in security compromised areas, see Polio Eradication Programme experience and lessons learnt in Annex 3.

d) Populations resisting vaccination, anti-vaccine groups

There are two categories of resistance/opposition to vaccination: individual resisters, and block refusals. The strategies to overcome them are different.

Individual vaccine resisters may be difficult to identify prior to the SIA. When identified, they usually need “one-on-one” interaction with SIA supervisors, who should try to understand the reasons for refusal (fear of adverse event, distrust of the effectiveness of vaccination, etc.) and provide appropriate information.

For communities that resist vaccination, it is important to understand the underlying reason/s for their resistance. Vaccine hesitancy (delay in acceptance or refusal of vaccines despite availability of vaccination services) may be due to lack of confidence in vaccines, mistrust of the health services, or complacency. The appropriate way to address concerns will depend on the nature of the concern and the strength of beliefs. Longer term educational approaches to change misconceptions about
vaccination are often needed. These may include: community and school-based education, regular open
dialogue and exchanges of relevant information with religious or community leaders, patient/caregiver
reminders, incentives, promotion of home-based records and educational programmes for health care
providers. In addition, visits to schools to improve students’ knowledge about both the vaccination
schedule and the benefits of vaccination should be encouraged. These efforts should be undertaken well
in advance of the SIA, depending on the cause and setting.

For detailed information and advice on how to address vaccine hesitancy and its determinants, please
refer to a dedicated WHO web page:
http://www.who.int/immunization/programmes_systems/vaccine_hesitancy/en/. Core resources
include a report of the WHO SAGE Vaccine Hesitancy Working Group, a special issue in Vaccine on
Vaccine hesitancy, a systematic review on strategies to address vaccine hesitancy, and tools such as the
Guide to Tailoring Immunization Programmes (TIP) -
http://www.euro.who.int/__data/assets/pdf_file/0003/187347/The-Guide-to-Tailoring-Immunization-
Programmes-TIP.pdf.

Considerations for reaching high-risk groups:

a) Vaccination of persons with known HIV infection
Given the high risk of severe course of measles disease in persons with HIV infection and the limited side
effects to measles vaccine found in these persons, measles vaccination should be routinely given to
potentially susceptible, asymptomatic HIV-positive children and adults who do not have evidence of
severe immunosuppression. Testing asymptomatic persons for HIV infection is not necessary before
administering measles or other measles containing vaccine. Vaccination may be considered for those
with symptomatic HIV infection if they are not severely immunosuppressed. The available evidence
supports the use of MCV before 9 months of age, and WHO recommends that infants from 6 months of
age known to be HIV positive receive a dose of MCV (http://www.who.int/wer/2009/wer8435.pdf?ua=1). HIV-infected children receiving highly active
antiretroviral therapy (HAART) are at increased risk of measles because of poor antibody responses
following vaccination prior to initiation of HAART. While HAART does not restore measles immunity
from previously received vaccine doses, it enables higher and more prolonged antibody responses
following revaccination. It is recommended that an additional dose of MCV be administered to HIV-
infected children receiving HAART following immune reconstitution. More detail on WHO
recommendations for revaccination of HIV-infected children on HAART can be found at

b) Vaccination of health care workers (HCWs)
Susceptible HCWs who work in patient care are at risk of becoming infected and transmitting the
disease to patients. Numerous measles outbreaks occurring in health institutions, affecting both health
workers and patients highlights the importance of vaccinating HCWs. For the list of the vaccines
recommended for health workers, please refer to WHO Summary Table 4 available online: http://www.who.int/immunization/policy/Immunization_routine_table4.pdf?ua=1.

Where possible, vaccination of HCWs involved in patient care should be part of SIA planning and included in the budget. The best opportunity for vaccination of HCWs is during the weeks preceding the formal launch of the SIA and it is usually performed at their place of work. Ensuring that health care workers are already protected during the SIA will decrease disease transmission, as well as decrease the workload.

In addition to the above, when SIA is targeting wider age groups, special strategies for reaching older age groups along with key decisions need to be made as described below:

a) Vaccination of adolescents and adults
In countries with a history of low vaccination coverage, and in remote, isolated communities, adolescents and some adults may be susceptible to measles. For vaccines not previously part of the routine schedule, such as rubella vaccine, catch-up/speed-up immunization of older adolescents and young adults (besides vaccination of children) will be needed to close the immunity gap.

When including adolescents and adults in SIAs, vaccination strategies must be adapted accordingly. These should include vaccination at high schools/colleges/universities, markets, the workplace and other settings where these target age groups are likely to access the services. In all such cases, a line list should be prepared of all relevant institutions where the target groups study or work, so they can be visited prior to the SIA in order to make preparations for vaccination.

b) Vaccination of pregnant women
Decisions on whether to include pregnant women in SIAs will depend on the specific antigen and the goals of the particular SIA.
Based on available evidence, immunization with inactivated/conjugated bacterial or toxoid vaccines during pregnancy is not expected to be associated with any increased risk to the foetus.
On theoretic grounds, live viral vaccines, such as measles vaccine alone or in combination with other vaccines should not be administered to pregnant women. Inadvertent administration of M, MR, or MMR vaccines is not considered an indication for termination of the pregnancy, as there is no evidence of harm for the foetus.
For the Global Advisory Committee in Vaccine Safety (GACVS) review of evidence of safety of immunization during pregnancy, see the WHO website:

5.2.7 Determining the appropriate SIA strategy to achieve high vaccination coverage
The strategies used in an SIA need to reach every individual in the selected target age range. SIA planners should categorize the population to be vaccinated according to the appropriate SIA strategy:
• Fixed or mobile posts alone,
• Fixed or mobile posts with house-to-house canvassing, and
- House-to-house vaccination.

During the initial SIA planning an approximation of the distribution of strategies (e.g. % of target population to be reached by each strategy) should be made at the national level (see Chapter 6 on Macroplanning). Determining the type of vaccination strategy to be used in each area/community has a direct impact on the number of teams and volunteers to be deployed, on the duration and the cost of the SIA. This distribution can be modified during the microplanning stage (Chapter 7), in which geographic areas of responsibility for each team, for each day of the SIA will be clearly defined. Generally, the composition of vaccination teams varies among settings and depends on expected number of children to be vaccinated per day in a given geographic location.

Target population assessment should include identifying and defining the underserved and hard to reach populations as described in section 5.2.6. The choice of vaccination strategies for each population group is then based on available information on each group such as the location and the risk of resistance or indifference to vaccination (see Table 5.1). Strategies that focus on community engagement through the use of village health committees, village/neighbourhood chiefs and other local institutions and authorities, should always be considered. During the SIA, the strategies chosen for each community should be evaluated daily through supervision and monitoring to determine if they should be maintained or modified.

**Table 5.1 Considerations for determining SIA strategy**

<table>
<thead>
<tr>
<th>SIA Strategy</th>
<th>Communities for which the strategy will be most effective</th>
<th>Impact on SIA budget and personnel requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed post</strong></td>
<td>Communities that accept vaccination, can easily access the vaccination post, show concern about the disease, and have shown willingness to seek vaccination at a fixed post in the past.</td>
<td><strong>Team members needed:</strong> at least 1 vaccinator + at least 1 trained volunteer + at least 1 announcer&lt;br&gt;This strategy requires fewer personnel and is easiest to implement.</td>
</tr>
<tr>
<td>- permanent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- temporary</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobile post</strong></td>
<td>Communities that accept vaccination, located in villages and/or rural settlements which are too distant or too small in size to have a health facility/ community health post.</td>
<td><strong>Team members needed:</strong> at least 1 vaccinator + at least 1 trained volunteer + at least 1 announcer&lt;br&gt;The composition of the vaccination team depends on expected number of children to be vaccinated in one day in a given geographic location.&lt;br&gt;Transportation to rural and difficult to reach terrains and travel expenses may increase the cost.</td>
</tr>
</tbody>
</table>
| Fixed or mobile post with house-to-house canvassing | Communities that accept vaccination but for which the concern about the disease and the willingness to seek vaccination at the fixed post are unknown or may vary. | **Team members needed:** at least 1 vaccinator + at least 1 trained volunteer + at least 1 trained canvasser  
This strategy uses fixed posts but it requires the addition of at least one trained canvasser per team which may increase the cost of supervision and will increase the overall cost. |
|---|---|---|
| House-to-house vaccination | Communities that are not concerned about the disease, do not easily accept vaccination, show undue concern about the safety of vaccination, reject anything they consider “government interference” including vaccination, or have shown through intra- or post-SIA RCM that they are not willing to actively seek vaccination. In general, this strategy is used as a mop up strategy if SIA monitoring data show that high coverage in the above communities could not be achieved with other strategies during the SIA. | **Team members needed:** 1 vaccinator + 1 trained volunteer and one community leader  
This strategy provides the best SIA coverage, but requires considerably more time and resources: more teams may be needed to cover the designated area. Ensuring safe vaccination practices may increase the costs. |

a) Fixed and mobile vaccination posts

Fixed and mobile vaccination posts are effective SIA strategy in settings where community demand for measles vaccination is high, where community has no significant concerns about the safety or effectiveness of the vaccine, there is awareness about the disease, and when social mobilization and interpersonal communication are fully implemented.

Ideally, each vaccination team should include two health care workers (one for reconstitution, one for vaccination), and one or two additional community-based volunteers as announcers who engage the community to come to the vaccination posts. It is desirable that the announcers begin their activities a few days prior to the start of the SIA.

**Fixed vaccination posts** include:

- *Permanent vaccination posts*
These posts are located at permanent health facilities and community health posts. Immunization services are provided at the health facilities the whole day for the duration of the SIA. These sites also serve as depots for storage and distribution of vaccine to temporary vaccination sites and mobile teams. Permanent vaccination posts are particularly useful in urban areas and in rural areas with concentrated populations. During the initial days of a SIA when high demand for vaccination is expected, two separate vaccination teams are normally available at these posts. When demand decreases, one of the vaccination teams can be dispatched to a temporary post.

- **Temporary vaccination posts**

These posts are identified in advance and may be set up at schools, churches, mosques, local administrators' offices, bus depots, roadblocks, market areas, border crossing points, village squares, etc. Posts used as outreach clinics can also be used to establish temporary vaccination posts. Villages and settlements with small populations may also be served through such temporary sites. At these posts immunization is provided for the time estimated to complete the vaccination of the targeted population, which may be less than the full duration of the SIA. Usually, one vaccination team is assigned to each post. For SIA planning purposes, school vaccination teams, health care workers vaccination teams, and teams for vaccination of special populations are considered temporary posts.

**Mobile vaccination posts**

Mobile vaccination posts are required for distant villages with very small and/or disperse populations and rural settlements which are too far away or too small in size to have a health facility or community health post. Each mobile vaccination team is composed of two-persons who work at the post (one vaccinator, one trained volunteer) and one more volunteer acting as an announcer (ideally equipped with a loudspeaker) who announces the vaccination activities to the community. The mobile teams set up the mobile vaccination post for the time needed to complete the task (usually less than one day) before moving on to the next location. Mobile teams usually have their own independent transportation (motorcycle, 4-wheel vehicle, boat, etc.), the type of which depends on the access and distance of each location.

**b) Fixed or mobile posts with house-to-house canvassing**

House-to-house canvassing as a social mobilization element added to vaccination strategy is only recommended in areas where the communities may be hesitant about vaccination or need additional motivation in order to seek vaccination. It relies on vaccination teams operating at permanent, temporary or mobile vaccination posts. A trained volunteer/community mobilizer referred to as ‘canvasser’ is added to the vaccination team who goes house-to-house to identify all eligible children in each household in selected neighbourhoods and to encourage the population to come to the vaccination post. Canvassers are usually used to work in specific high risk neighbourhoods within the community. The aim of the canvassing strategy is to create an opportunity for interactive and interpersonal communication between an informed party (trained canvasser) and members of the household (parents, caregivers). The strategy also provides household members with factual information about vaccination and the opportunity to ask questions and resolve concerns that other
channels have not addressed. The canvassers can be members of the neighbourhood or village health committee, village/neighbourhood chiefs, health workers or other community volunteers. If well chosen, trained, and supervised, they can help improve not only SIA coverage but also the community’s overall demand for vaccination. See Annex 4a for a detailed description of the house-to-house canvassing strategy.

c) House-to-house vaccination
House-to-house vaccination strategy is an approach to consider in areas where demand for vaccination has decreased and in which there is prior evidence of refusal of vaccination. This strategy has been extensively used in countries of the American Region and it is usually used as a mop up strategy for areas with communities refusing or hesitant about vaccination (as determined through programmatic information, data from intra-SIA RCM or post-SIA independent RCM). In this strategy, the vaccination teams, and where available with a prominent member of the community or community leader, visit all individual households in a designated neighbourhood or area and vaccinate eligible children. House-to-house vaccination creates an opportunity for informative dialogue between the vaccination team and the head of the household. When house-to-house vaccination is not logistically possible, then house-to-house canvassing can be used instead. For such populations, a long-term strategy to increase community involvement in vaccination activities will also be needed, and should be included in plans for post-SIA activities.

House-to-house vaccination involves intensive work, and because teams must move from house-to-house, they can only visit a limited number of houses per day. The vaccination team must be especially well trained in order to avoid immunization-related errors (earlier called programmatic errors). See Annex 4b for a detailed description of the house-to-house vaccination strategy.

d) Vaccination at schools, pre-schools and day care centres
This strategy is advised in most communities. Depending on the age range of the SIA, pre-school and/or school vaccination should be implemented. Mapping of the pre-schools/schools and day care centres in the community should be complete and up to date, and should include approximate size of student population, and contacts with school managers to obtain their full collaboration. SIA coordinator should fully collaborate with educational authorities to:

- Develop and maintain complete list of all educational institutions (public, private, religious) in each area of responsibility (for the SIA itself, for facilitating the post-SIA push to strengthen routine vaccination, or for the introduction of new vaccines in the routine schedules that will be delivered to school aged children such as HPV or booster doses of Td).
- Prepare and implement school and pre-school vaccination of all age-appropriate students.
- Build strategies to involve school, pre-school children and their parents as active participants in social mobilization for the SIA and routine.
Role of school personnel: A person from the school who should provide space/table/chairs, and help control flow should be identified. Teachers should keep order, keep students calm, arrange children for vaccination to avoid fear of injection, and assist the team in emergency. See an example of a school based strategy in Annex 4c.

Given schools’ potential for population-based delivery of vaccinations, for vaccination status verification, and for social mobilization, all efforts should be made to improve the sustainability of this partnership. For this purpose, it is important to assess the readiness of the school and health systems to support vaccination efforts. Information about the school readiness assessment can be found at: http://www.who.int/immunization/hpv/plan/school_readiness_assessment_tool_who_2013.pdf

See Chapter 9 and Annex 4c for more information on the advocacy and social mobilization elements of this school-based strategy.

5.2.8 Vaccine options – recommended measles and rubella vaccines
Measles and rubella vaccines are available as monovalent measles and monovalent rubella, or in combination as measles-rubella (MR), measles-mumps-rubella (MMR), and measles-mumps-rubella-varicella (MMRV) vaccine. When choosing vaccines, countries should consider objectives and targets for disease control, national priorities, vaccine costs and other real or potential impacts to the long-term sustainability of the immunization programme. More information on recommended measles and rubella vaccines is provided in Annex 1.

5.2.9 Integration with other health interventions
SIAs provide an excellent platform to deliver additional public health and nutrition interventions, including vitamin A supplementation, deworming medicines, and additional vaccinations. Although integration of multiple interventions may raise additional logistical challenges, many studies have concluded that integrated health SIAs are cost-effective and save more lives.

Table 5.2 Examples of interventions that may be integrated in an SIA

<table>
<thead>
<tr>
<th>Oral and inactivated polio vaccines</th>
<th>Vitamin A supplementation</th>
<th>Anti-helmintic treatment</th>
<th>Other vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPV: easily administered at the fixed or mobile vaccination posts and during house-to-house visits by properly trained volunteers.</td>
<td>Vitamin A deficiency is a major contributor to delayed recovery and to the high rate of post-measles complications. Vit A supplementation is a useful, synergistic addition to SIAs. Vitamin A is easily administered by trained volunteers.</td>
<td>Worm infections can be treated with highly effective, safe (chewable) drugs at a very low cost per child. Anti-helmintic drugs are easily administered by trained volunteers.</td>
<td>Other injectable vaccines (e.g. HPV vaccination at schools) should be integrated only after careful consideration, as this requires an increase in logistical, training and financial, and often cold chain needs, both at the periphery and at the</td>
</tr>
</tbody>
</table>
The decision to integrate other health interventions in a measles/measles-rubella SIA should be made on a case by case basis and will mainly depend on whether the added activities contribute to the SIA’s main objective of reaching the unvaccinated, and do so at an affordable cost.

Information about interventions that have successfully been integrated during vaccination campaigns to enable countries to make informed decisions is available at: http://www.who.int/immunization/programmes_systems/interventions/en/.

6. Undertake National Level Macroplanning and Estimate Budget

Macroplanning is a process at a national level which outlines the activities and budget for the SIA. The specific objectives of macroplanning are to:
- Develop macroplan consisting of:
  - Objectives, targets and justification for the SIA based on the findings of the country situation analysis/key preliminary assessments and lessons learnt (Chapter 5.1);
  - Description of other interventions to be potentially integrated with the SIA (Chapter 5.2.9);
  - Description of routine immunization strengthening activities (Chapter 3.1)
  - Realistic plan of action with specified timeline of activities (Annex 6);
  - Realistic budget estimate with outlined available and needed funds as basis for resource mobilization (Chapter 6.1 and Annex 6).
- Obtain political commitment from the government and policy makers;
- Obtain commitment and support from key partners;
- Establish framework for the SIA (organization and coordination).

6.1 Estimating resource requirements

Financing for the SIA should take into account the budget cycles of the government, especially when the government funds need to be made available. When donor funds are needed, consideration must be given to the application deadlines and the processing time needed by donors to approve funding. Annual vaccine forecasting should include the required amounts of vaccine and injection equipment for both routine and SIAs that are planned for that year. If the SIA is not included in annual forecasting either modification of the annual forecast is needed or a separate forecast for the SIA must be completed.

After the target population (age group, size) are confirmed, the Ministry of Health/National Immunization Programme Manager should develop a preliminary budget estimate for discussions with partners and donors to secure financial and political support. Ideally, this planning should start 15 to 12 months before the SIA.
The preliminary budget is a mixture of concrete data, estimates and approximations, and represents initial calculations of logistics and financial requirements for SIA at the central level for the entire country ("top-down"). To avoid shortfalls the budget can be developed by programme components or critical activities using national budget and district data (‘crude microplan’) to closely estimate peripheral needs. For countries with no tax/duty fee exemptions cost of materials/equipment to be imported should include amounts for those tax/duty fees in the appropriate budget line.

Because of unpredictability of field conditions and the frequent need for rapid response to unpredicted circumstances, it is important to have a budget line for contingencies which would be allocated to districts according to the specific circumstances. Depending on the country and the uncertainties within the country, this could be between 5 to 10% of total operational costs (costs of personnel, transportation and supervision), or the cost of an additional day of campaign.

**Table 6.1** Suggested budget outline based on programme components

<table>
<thead>
<tr>
<th>Programme component</th>
<th>Items</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and preparations</td>
<td>ICC meetings, meetings with district leaders (before, during and after SIA): number of meeting days x number of participants + per diems (as necessary) Meeting materials (standard set) + Venue cost (if required) x number of meetings</td>
<td></td>
</tr>
<tr>
<td>Programme management and coordination</td>
<td>Meeting materials, venue cost (if required), standard office supplies: number of meeting days x number of participants + per diems (if travel is included)</td>
<td></td>
</tr>
<tr>
<td>Vaccine and injection equipment, immunization session supplies</td>
<td>Vaccines, diluents, AD syringes and needles, reconstitution syringes, safety boxes AEFI kits Indelible marker pens for finger marking, vaccination cards</td>
<td></td>
</tr>
<tr>
<td>Cold chain equipment</td>
<td>Cold rooms, generators Purchase/repair of freezers/refrigerators, thermometers, spares Vaccine carriers, coolant-packs, cold boxes</td>
<td></td>
</tr>
<tr>
<td>Waste management</td>
<td>Pit construction (to include incentives for digging) Construction of incinerators Cost of transport and burning per team x number of teams</td>
<td></td>
</tr>
<tr>
<td>Personnel/technical assistance</td>
<td>Incentives/per diems per team x number of teams (estimate, based on campaign duration), estimated value of hiring national and international consultants for technical assistance</td>
<td></td>
</tr>
<tr>
<td>Training (to include necessary materials production and)</td>
<td>Developing and printing SIA Guide, training guides Number of meeting days x number of participants</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Cost Components</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Document production Materials for the vaccination post</td>
<td>Printing of forms (tally sheets, summary sheets, logistic forms, SIA readiness, RCM, supervision checklists/forms, AEFI forms etc.) Pens, clipboards, folders, etc.</td>
<td></td>
</tr>
<tr>
<td>Transportation for implementation</td>
<td>Distribution cost for vaccine/supply and cold chain hardware</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average cost of transportation per team x number of teams (to include fuel and maintenance)</td>
<td></td>
</tr>
<tr>
<td>Transportation for monitoring and supervision</td>
<td>Average cost of supervisory and monitoring visits x number of visits (fuel and maintenance)</td>
<td></td>
</tr>
<tr>
<td>Supervision SIA Readiness Assessment Monitoring (including RCM)</td>
<td>Number of supervision/assessment days x number of supervisors +per diem (as necessary)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of monitoring days x number of monitors x incentives for monitors + per diem (as necessary)</td>
<td></td>
</tr>
<tr>
<td>Advocacy, social mobilization and communication</td>
<td>Meeting materials, venue cost (if required) x number of meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Developing/printing of leaflets/posters/street banners/media spots</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Developing Q&amp;A brochures for health professionals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public service announcements (newspapers, radio, TV)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opening ceremony costs</td>
<td></td>
</tr>
<tr>
<td>Mop up activities</td>
<td>Estimated number of vaccination teams needed x average cost of team x estimated number of repeated sessions</td>
<td></td>
</tr>
<tr>
<td>Contingency funds</td>
<td>5% - 10% of operating costs (personnel, transportation, supervision)</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Some of the SIA activities and equipment may be a part of the regular immunization programme and as such would not require additional budgetary funds. Tables A6.1 and A6.2 provided in Annex 6 include activities and items for budget planning at the national level.

Once support is secured, a more precise detailed budget should be prepared based on national, district and local level planning. District planning follows a schedule of activities similar and complementary to national level planning but with greater operational detail (see Chapter 7). To assist countries with detailed vaccine forecasting and cold chain requirements WHO has developed a number of vaccine management and logistics support tools which are available online at:
6.2 Advocacy for securing high level commitment and consensus

The Ministry of Health and/or national immunization programme manager should obtain a high level commitment from national authorities and major partner agencies to participate in and support the SIA. This is done through advocacy, a deliberate process of informing and motivating decision-makers usually during interagency coordinating committee (ICC) meetings, or, where no such structure exists, an established equivalent. Advocacy should be supported with demonstrated evidence: country situation analysis (to include age-specific incidence, prevalence of unvaccinated cases, anticipated outbreaks and estimated disease burden) and SIA impact data if available. Preliminary cost estimates, including opportunities to present strengthening of the routine programme through SIA (e.g. renewing cold chain equipment) can be discussed with the authorities and partner agencies along with access to technical assistance and expertise. The objectives of this high-profile meeting are to endorse the country plan for SIA by reaching consensus on vaccine requirement, SIA strategy and date, and identify available resources so that more detailed planning can commence.

Commitment from policy makers involves recognizing the importance of disease control or elimination which may allow the use of government resources (human resources, utilities, funds), authorize the leadership of the Ministry of Health, nominate the national coordinating committee (NCC) and its Chair and/or Secretary, and being open to partnerships.

Early intersectoral coordination is needed to secure commitment and support at all levels and ensure high-quality SIA (Table 6.2).

Table 6.2: Examples of areas/activities of SIA where intersectoral support and coordination are needed at both national and local levels

<table>
<thead>
<tr>
<th>Relevant agency or organization</th>
<th>Area for coordination</th>
</tr>
</thead>
</table>
| Ministry of Health              | • Coordination with other health activities/events (e.g. HIV screening, deworming, child health days, etc.) for alignment with other planned health events  
|                                 | • Integration with other health interventions where synergies exist  
|                                 | • Availability of health workers |
| Ministry of Finance             | • Timely financial resources made available to the MoH  
|                                 | • Streamline customs procedures along with tax/duty fee exemption for SIA materials including vaccines and equipment |
| Ministry of Education           | • Alignment with academic calendar (school breaks)  
|                                 | • Joint planning with school health personnel  
|                                 | • Awareness and understanding by teachers  
|                                 | • Engagement of students for social mobilization |
| Local government                | • Support of regional and local authorities in oversight and |
distribution of resources to the local level, and ensuring accountability / reporting

Ministries of Culture, Social Affairs and Development
- Support for identifying and reaching ethnic minorities and disadvantaged populations
- Appropriate language choices for printed materials and advertisements
- Assistance with logistics and distribution channels

Environmental protection agency
- Awareness of waste disposal regulations and adaptation for SIA needs

Ministry of Interior
- Security assurance for field teams and health ministry property
- Joint planning for reaching prisons

Ministry of Foreign Affairs
- Support with identifying immigrants, migrants and refugees

Ministry of Defence
- Joint planning with the military for the provision of personnel, logistical support

Ministry of Energy
- Arrangement of uninterrupted power supply for the entire SIA in all peripheral health centres

Ministry of Communications
- Use of broadcasting time for SIA messages: television, radio
- SMS advertising through mobile networks

Religious leaders, community leaders, local NGOs
- Advocate and facilitate access to the community especially the hard-to-reach and high-risk groups.
- Support with microplanning
- Consideration for prayer times, religious gatherings, ethnic holidays
- Provision of volunteers
- Support for social mobilization (use of community tailored messaging)

UN agencies, other international organizations
- Funding / Resource mobilization
- Provision of assessment and technical assistance
- Procurements of goods/services internationally
- SIA monitoring

6.3 Establish organization structure and coordination of the SIA

6.3.1 National Coordinating Committee (NCC)
It is suggested that at least 12 months before SIA the national coordinating committee (NCC) is established. The composition of the NCC varies among countries, however, it typically consists of National Coordinator, representatives from different ministries and/or partner agencies (see Table 6.2) and leaders/coordinators of National Subcommittees. The National SIA Coordinator (often EPI manager) should be an ex officio member of the National Coordinating Committee and should report to it.

As NCC makes most of the final decisions regarding essential SIA-related activities, it is important to have regular meetings throughout planning and implementation phases. The NCC Chair/Secretary is responsible for ensuring that meetings are scheduled and conducted. These meetings can initially be
organized monthly and become more frequent as the SIA preparation advances, with all discussions and decisions recorded.

National coordinating committee (NCC) should organize and manage various functions before, during and after SIA, as shown in Table 6.3.

**Table 6.3 Example of Terms of reference for National Coordinating Committee**

<table>
<thead>
<tr>
<th>NCC Terms of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Liaise with national and international partners for coordination and resource mobilization (human, technical, financial), obtain the necessary intersectoral support</td>
</tr>
<tr>
<td>• Establish and oversee the SIA subcommittees</td>
</tr>
<tr>
<td>• Validate and oversee detailed plan of action, budget, timelines, management of funds, personnel and communication</td>
</tr>
<tr>
<td>• Regularly monitor SIA preparedness at both national and subnational levels and ensure that preparedness gaps are adequately addressed</td>
</tr>
<tr>
<td>• Approve and oversee implementation (logistics, training plans, social mobilization, etc.)</td>
</tr>
<tr>
<td>• Address gaps in SIA implementation and ensure that needed mop up activities take place</td>
</tr>
<tr>
<td>• Inform stakeholders on progress of activities</td>
</tr>
<tr>
<td>• Validate SIA results, collate and analyse data</td>
</tr>
<tr>
<td>• Oversee coverage survey planning and implementation</td>
</tr>
<tr>
<td>• Approve and sign off on the final SIA report, including lessons learnt and next steps</td>
</tr>
<tr>
<td>• Ensure post-SIA routine immunization strengthening activities are completed</td>
</tr>
</tbody>
</table>

### III. 12 to 9 months before SIA: Planning

12 to 9 months before the SIA you should:

- **At the national level**
  - Establish SIA subcommittees with ToRs, appoint coordinators
  - Develop microplanning forms, initiate microplanning meetings with districts, update logistics spreadsheets
  - Place order for vaccines and injection devices
  - Initiate planning for programme components: advocacy, social mobilization, communication, logistics, training, monitoring (including AEFI, RCM, independent monitors) and supervision

- **At the district level**
  - Establish district coordination committee and relevant subcommittees
  - Prepare targeted group size, inventory, human resources information for the national level
6.3.2 National subcommittees

It is suggested that NCC determine the number, type and membership of subcommittees (technical working groups or taskforces) at the latest 9 months before SIA. The national subcommittees report to the NCC according to the pre-established schedule. A chair and/ or secretary of each sub-committee is responsible for calling meetings and ensuring that the discussions and decisions are properly recorded in meeting minutes or note for the record. Meetings may become more frequent as activities intensify and implementation begins.

There are at a minimum three core subcommittees:
1) Technical/implementation (includes monitoring and evaluation, training, AEFI),
2) Logistics (includes vaccine, cold chain management), and
3) Advocacy, social mobilization and communication.

Depending on the setting, waste management can be a part of technical or logistic subcommittee. In some countries the monitoring and evaluation subcommittee may be independent while in some cases a finance subcommittee may also be established. Unless it already exists, countries may consider establishing a separate subcommittee for AEFI risk management and media relations.

The terms of reference and deliverables for each subcommittee should be clearly defined. Table 6.4 provides example of what these terms of reference can include, but are not limited to.

Table 6.4 Example of Terms of reference for national subcommittees

<table>
<thead>
<tr>
<th>Terms of reference</th>
<th>Technical/implementation subcommittee</th>
<th>Logistics subcommittee</th>
<th>Advocacy, social mobilization and communication subcommittee</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Follow up on task and recommendations of the NCC to ensure smooth implementation of SIA</td>
<td>*Undertake assessment of the cold chain system, ensure timely and appropriate maintenance</td>
<td>*Development of communication plan</td>
<td></td>
</tr>
<tr>
<td>*Develop the SIA field guide including data collection tools/forms and adapt tools to country situation (e.g. SIA readiness tool, tally sheets, AEFI monitoring forms, RCM forms, etc.)</td>
<td>*Order vaccines and devices and monitor their receipt at the national level</td>
<td>*Design channels and strategies in a timely manner to ensure highest level of advocacy, based on communication needs assessment</td>
<td></td>
</tr>
<tr>
<td>*Oversee SIA readiness progress and maintain the dashboard for the SIA readiness</td>
<td>*Plan for timely distribution of vaccines and other supplies to the different levels</td>
<td>*Coordinate social mobilization activities at all levels including social mapping and ensure designated in-country resources are mobilized</td>
<td></td>
</tr>
<tr>
<td>*Ensure all necessary preparations are ready, address issues, postpone activities if necessary</td>
<td>*Develop detailed distribution plans for vaccine carriers, cold boxes, vaccines, injection equipment and finger markers.</td>
<td>*Develop and release clear and brief messages using multi-channel communication, oversee translations if needed</td>
<td></td>
</tr>
<tr>
<td>*Ensure effective microplanning</td>
<td>*Plan for deployment of logistics officers to support lower levels as needed</td>
<td>*Prepare high quality information on vaccine safety and in case of serious AEFIs for</td>
<td></td>
</tr>
</tbody>
</table>

41
with involvement of all stakeholders (state/local government, local NGOs, etc.) from the early stages of planning
*Coordinate microplanning activities including identification of high risk areas/populations
*Identify specific training needs, oversee development of training guidelines and training of trainers
*Coordinate and ensure that supervisors are identified, trained and engaged (ToRs developed)
*Develop supervision plans
*Coordinate with AEFI committee if it has been established. If not, develop an AEFI protocol for monitoring, responding to and investigating AEFIs
*Identify activities that can be carried out before, during or post the SIA to strengthen RI

account the capacity for dealing with increased volume of waste in addition to the routine
*Print and distribute data tools, forms and field guides
*Oversee logistics critical activities
*Identify activities that can be carried out before, during or post the SIA to strengthen RI

public and health care professionals
*Develop and disseminate promotional materials
*Oversee social mobilization and communication critical activities, ensure process is intensified as needed
*Prepare opening ceremony (mobilize leaders, celebrities, donors etc. to promote SIA)
*Ensure that routine strengthening messages are included at all levels

Routine immunization strengthening as part of the SIA may not receive adequate attention unless responsibility is assigned to at least one member of each subcommittee. The assignment of responsibility and adequate authority should be made at the beginning of SIA planning since strengthening activities may be carried out during planning, implementation and after completion of the SIA.

Depending on the country, subcommittees established at the national level may be replicated at the district level either as specific subcommittees or as one integral committee with roles and tasks clearly designated to specific members. Their own terms of reference can be adapted from the national subcommittee ToR above.

**Figure 6.1** Operational management structure of SIA
IV. 9 to 6 months before SIA: Planning

9 to 6 months before SIA you should finalize planning

- **At the national level**
  - Finalize plans for programme components: advocacy, social mobilization, communication, logistics, training, monitoring (including AEFI, RCM, independent monitors) and supervision, and for SIA evaluation (including coverage survey)
  - Finalize SIA Field Guide
  - Meet with district health officials
  - Assess SIA readiness

- **At the district level**
  - Complete microplanning spreadsheets in coordination with health centre levels
7. Microplanning and Logistics

Microplanning is a “bottom up” process of detailed planning carried out to determine the local needs for the SIA and to identify what is available and what is missing in order to ensure smooth and satisfactory SIA implementation. Good microplanning practice entails making special efforts to identify underserved and hard to reach populations using findings from equity and other programmatic assessments. Furthermore, it entails the inclusion and engagement of the communities affected by inequities in the microplanning process (e.g. estimation of population size, mapping of communities, social mobilization, canvassing, etc.). The key to successful microplanning is to allow enough time for in-depth planning and consolidation of plans.

Preparation for microplanning at the national level should ideally start 9 months before the SIA with the specific objectives to:

- Develop final operational plan which should include budget
- Complete resource mobilization activities
- Order and ensure for delivery of all materials needed for SIA implementation.

The national logistics subcommittee with input of technical subcommittee regarding identification of underserved and high-risk groups should provide guidelines for microplanning at the district level. The same format of planning forms/sheets should be used in all districts to ensure easy and accurate consolidation of information. Information obtained from the local (health centre) level microplanning should be collated sequentially upward to the next level to adjust the planning data and on up to the national level. The SIA microplanning should be considered final once the local level planners have finalized preparation of their health centre plans, and these plans are incorporated up to the national level. This however may not represent the final microplan: it is important to clarify to the districts that the revisions of microplans may take place at the national level in order to keep consistency, address any unforeseen factors, and take into account available funding and resources. These revisions should always take place in consultation with the lower level. The final operational plan should be validated by the national logistics subcommittee. Plans for other specific programme components such as training (Chapter 8), advocacy, social mobilization and communication (Chapter 9.1), AEFI monitoring (Chapter 10.1) supervision and monitoring (Chapters 11 and 13), and SIA evaluation (Chapter 14), developed by respective subcommittees, can be fine-tuned for each district based on the information contained in the
operational plan. These plans should be validated by the respective national subcommittees and endorsed by the NCC.

The microplan should address and budget for all components important for SIA preparation and implementation including:

- ensure that underserved, hard-to reach and high-risk groups (see Chapter 5.2.6) are identified (accuracy of population numbers are based on latest census or local validation);
- decide on the appropriate vaccination strategies to reach your target population (see Chapter 5.2.7);
- ensure equal distribution of vaccination posts taking into account type of terrain, distances, special populations, etc.;
- ensure that the number of health facilities identified as vaccination post is correct;
- identify gaps in cold chain capacity;
- identify number of health workers, supervisors, volunteers and other personnel available and identify gaps;
- ensure availability of transportation for personnel and identify gaps;
- develop a plan of action to address the identified gaps;
- identify AEFI referral sites;
- ensure availability of elements for successful social mobilization;
- estimate weak performing areas which may need mop up, taking into account lessons learnt from past SIAs to avoid repeating the same mistakes.

It is important that the microplans get validated at each level as data is being collected. This calls for effective supervision of the development of the microplan. Once microplans from health centre level reach the district, they get aggregated and the district coordinators add district specific costs (supervision, meetings, transport) before forwarding the information up to the national (or province/region) level.

An overview of the current status of routine immunization and surveillance can be used to identify routine immunization strengthening objectives. These objectives may be addressed through the SIA preparation to be incorporated into the SIA planning. Some of the potential RI strengthening activities are highlighted in Annex 2.

7.1 Information needed for microplanning

Each district microplan should include an operational plan for the following SIA components: 1) vaccine, cold chain, transport, and logistics management, 2) waste management, 3) AEFI monitoring, 4) training, 5) social mobilization and communication, 6) implementation, 7) daily data aggregation, reporting and analysis. Responsibility for each component should be assigned to a specific person.

In preparation for microplanning workshop at the district level, the participants should collect the following background information for their catchment area:

- Target population estimates, broken down by sub-districts/health centres.
- Percentages of population in rural and urban zones.
- Lists and descriptions of underserved, hard-to-reach areas and special populations, and suggested strategies to reach them. This is critical as it is often these groups that are missed by the RI programme and in most need of vaccination.
- Names and locations of schools and child day-care centres, and if possible the approximate number of students enrolled in each school within the target age groups.
- List of hospitals, in-patient clinics and orphanages in the district.
- District maps, showing sub-district levels and major access routes. When possible, Google maps or other electronic mapping systems should be used to create precise operational maps of health facility catchment areas to clearly define the areas of responsibility for each health centre (for both routine and SIA activities).
- A detailed cold chain inventory showing functional and non-functional equipment with respect to numbers, locations, storage capacities, gaps and possibilities of support stocks from other sources e.g. the private sector.
- Needed and available waste disposal facilities in each sub-district/health facility.
- Needed and available transportation in each district including potential sources for filling the gaps (e.g. borrowing from other government institutions, NGOs, etc.).
- List of transit points, major markets and border crossing points.
- Number of staff needed, available and staffing gaps (health staff, volunteers, supervisors, monitors, drivers).
- Identification of potential venues for fixed site vaccination.
- List of community leaders to proactively engage in advocacy/social mobilization.
- List and description of resistant/hesitant groups, and suggested strategies to reach them.

### 7.2 Estimating the target population

The EPI managers should obtain population data from official sources. Both official statistics and local data can be used to establish realistic population figures (e.g. local community head count or community registers from local authorities, previous polio or measles SIA data).

For countries where accurate figures are not available, the target SIA population size may be estimated based on the percentage of total population by age range, or if available, by the number of children.
vaccinated with BCG and/or DTPCV1. In any case, if different population figures are available, the highest should be used to avoid possible shortages of resources.

Experience with polio eradication has shown that population estimates and official census data are not consistently reliable for vaccination purposes. For measles elimination, SIA national coverage must be at least 95%; therefore, efforts to improve estimates of the denominator are important for ensuring that all eligible children are identified. When feasible, local SIA managers and supervisors can work with communities, particularly women’s groups and leaders, and ask them to line-list the children in the target age range by household.

7.3 Estimating requirements and cost for vaccine and supplies
For SIAs, the following immunization session supplies are required:

- vaccine and diluents
- auto-disable (AD) syringes (0.5mL)
- disposable mixing syringes with reuse prevention (RUP) features (5mL)
- safety boxes for sharps disposal
- clean gauze swabs/cotton wool
- indelible marker pens for marking vaccinated children
- SIA vaccination cards
- AEFI treatment kits (see Annex 10a for contents)
- AEFI reporting forms (see Annex 10b)
- tally sheets, pens, chalk
- supervisor summary sheets and checklists, including SIA readiness forms
- reporting/summary forms for each appropriate reporting level.

Vaccine
Vaccine needs are estimated based on the target population and the vaccine wastage rate. SIA managers, based on wastage rates from previous SIA experience, should determine the wastage rate. If no previous vaccine wastage rates are available, a rate of 10% may be used as an estimate. The wastage rate is used to calculate the vaccine wastage multiplication factor (WMF), defined as \( \frac{100}{100 - \text{wastage rate}} \). For a wastage rate of 10%, the WMF is 1.11. This in turn is used to calculate the required number of vaccine doses.
Target population x WMF = required number of vaccine doses

As M/MR vaccine is usually supplied in ten-dose vials, the number of doses to be given should be divided by ten in order to obtain the required number of vials.

**AD syringes for injection**

WHO policy is that SIAs must exclusively use auto-disable (AD) syringes and apply “bundling”, i.e. ordering sufficient doses of vaccines with adequate quantities of relevant safe injection equipment (AD syringes, reconstitution syringes and safety boxes). The use of AD syringes increases safe vaccination practices by preventing the re-use of injection syringes. For injections, the same amount of AD syringes and doses of vaccine should be considered (one dose, one AD syringe). For AD syringes, same wastage rate as for vaccines (10%) is considered. This means that the wastage multiplication factor will be 1.11.

**Disposable syringes (with RUP) for vaccine reconstitution**

One 5-ml disposable syringe (with needle) is required for every multi-dose vial of vaccine for reconstitution (e.g. one reconstitution syringe for one 10 dose vial of MR vaccine). Health care workers should NOT use the same reconstitution syringe to reconstitute multiple vials, as this increases the risk of contamination leading to adverse events. Syringes with reuse-prevention (RUP) features (self-locking mechanisms that allow only one use) are the recommended choice for reconstituting vaccines.

**Safety boxes**

Each 5 L safety box (filled to approximately 80%) can hold at least 100 syringes and needles. Therefore, the required number of safety boxes is obtained by adding the number of AD vaccination syringes to the number of disposable reconstitution syringes and dividing it by 100. Note that additional boxes may be needed for vaccination teams assigned to remote, underpopulated rural areas in which one team cannot reach 100 vaccinated children per day.

Immunization session supplies can be estimated using the following calculation norms:

<table>
<thead>
<tr>
<th><strong>Immunization session supplies</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastage Multiplication Factor (WMF) for vaccines</td>
<td>1.11(^a)</td>
</tr>
<tr>
<td>Wastage Multiplication Factor (WMF) for AD syringes</td>
<td>1.11</td>
</tr>
<tr>
<td>Vaccine doses required</td>
<td>Target population x WMF</td>
</tr>
<tr>
<td>Vaccine vials required</td>
<td>vaccine doses / 10 (for 10 dose vials)</td>
</tr>
<tr>
<td>Diluent vials required</td>
<td>1 per vaccine vial</td>
</tr>
<tr>
<td>AD syringes required</td>
<td>Target population x WMF (1 per vaccine dose)</td>
</tr>
<tr>
<td>RUP reconstitution/mixing syringes required</td>
<td>1 per vaccine vial</td>
</tr>
<tr>
<td>Safety boxes (5 L)</td>
<td>(Total syringes) / 100</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Clean gauze swabs</td>
<td>0.5 roll per team per day</td>
</tr>
<tr>
<td>Soap</td>
<td>1 bar per vaccination team</td>
</tr>
<tr>
<td>Trays</td>
<td>1 per vaccination team</td>
</tr>
<tr>
<td>Indelible marker pens</td>
<td>1 marker pen per vaccination team per day</td>
</tr>
<tr>
<td>AEFI treatment kits</td>
<td>1 per health centre</td>
</tr>
</tbody>
</table>

*100 / (100-wastage rate), with wastage rate 10%

### 7.4 Estimating cold chain capacity, requirements and cost

The most serious challenges of inadequate cold chain space tend to occur at the provincial or district level when mass supplies of vaccines and syringes arrive at storage centres. Storage space can be adequate when there is a functional refrigerator at the peripheral level. One third of the space in a refrigerator should remain empty to allow for adequate air circulation, and space for routine vaccination programme needs should be taken into consideration during assessment and planning.

Functional cold chain capacity assessment and inventory should be completed at least 9 months prior to the SIA. Cold chain assessments at district level should include:

1. **Inventory of refrigerators and freezers** specifying model, manufacturer, number and energy source, the net vaccine and coolant-packs storage capacities.
2. **Checking of electrical systems** for reliability, accessibility, quality, and security. Check the power and voltage and note any fluctuations during the day. Compile a list of available generators and type of fuel used.
3. **Evaluation of the number of cold boxes, vaccine carriers, and coolant-packs**. Conduct an inventory of existing equipment at each health care facility. Verify the condition and indicate number and size/capacity. To determine the total requirement for coolant-packs, estimate the number of coolant-packs needed in a single day, and double it (more may be needed if there is insufficient freezing capacity).
4. **Number and condition of thermometers / temperature monitoring devices, temperature monitoring sheets, etc.**

The storage volume for vaccines will depend on the manufacturer and vial size. As a general rule, each litre of cold storage space can hold approximately 400 doses of measles or measles-rubella vaccine (at 2.5 cm³/dose) and 250 doses of the diluent (at 4 cm³/dose). For more detail, see WHO cold chain and logistics tools available online at: [www.who.int/immunization/programmes_systems/supply_chain/resources/tools/en/index5.html](www.who.int/immunization/programmes_systems/supply_chain/resources/tools/en/index5.html)

In order to meet the additional demand required during SIAs, cold chain space may be temporarily borrowed /rented from the private sector, and/or other ministries or non-governmental organizations. In cases when more cold chain space is still needed, temporary cold storage can be created using additional portable cold boxes in place of refrigerators. These can keep vaccines sufficiently cold for up to 6 days, provided they are not opened and are kept away from the sun. All available temporary space should be used before refrigerator rental is considered. While using passive containers (cold boxes and
vaccine carriers) for temporary storage of vaccines, the temperature should be monitored to ensure the maintenance of the cold chain.

Another way to free up the available cold chain space is to temporarily delay the delivery of vaccines for the routine immunization as long as it does not interrupt the programme.

**Cold boxes, vaccine carriers and coolant-packs**

If there is no vaccine storage facility nearby, each district and health centre supervisor should carry additional vaccine for the day, either in a cold box or in vaccine carriers, depending on availability.

In general, each team should have at least one vaccine carrier and four frozen water-packs per day of work. Use of ice blocks is strongly discouraged. Vaccine carriers must be able to store the required daily amount of vaccine and diluent. To determine the storage capacity of each vaccine carrier place 4 icepacks inside and count the number of 10-dose vials of M/MR vaccine and diluent that can be comfortably stored. Temporary, mobile and house-to-hose vaccination teams need to have two vaccine carriers: one for vaccine in use and the second to keep unopened vials and diluent.

The number of coolant-packs required will be 4 per vaccine carrier and 24 per cold box, multiplied by 2. Remember that it takes 24 hours to refreeze water-packs, and the used packs will need to be replaced by frozen ones the following day.

Cold chain equipment needs can be estimated using the following calculation norms:

<table>
<thead>
<tr>
<th><strong>Cold chain requirements</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold chain space required for vaccine (in litres)</td>
<td>vaccine doses required / 250&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cold chain space required for diluents (in litres)</td>
<td>diluent doses required / 400&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>1 per health centre</td>
</tr>
<tr>
<td>Vaccine carriers</td>
<td>1 per team (permanent posts)</td>
</tr>
<tr>
<td></td>
<td>2 per team (temporary posts)</td>
</tr>
<tr>
<td></td>
<td>2 per team (mobile posts)</td>
</tr>
<tr>
<td></td>
<td>2 per team (house-to-house vaccination)</td>
</tr>
<tr>
<td></td>
<td>1 per team supervisor</td>
</tr>
<tr>
<td>Portable cold boxes</td>
<td>1 per district and health centre supervisor</td>
</tr>
<tr>
<td>Daily coolant-pack requirement</td>
<td>4 frozen water-packs per vaccine carrier x 2</td>
</tr>
<tr>
<td></td>
<td>24 frozen water-packs per cold box x 2</td>
</tr>
</tbody>
</table>

<sup>b</sup> 1 litre of cold chain space for vaccine storage can hold approx. 400 doses of measles vaccine considering 2.5 cc /dose).

<sup>c</sup> 1 litre of cold chain space can hold approx. 250 doses of measles diluent (4cc/dose)

**Maintaining the cold chain system**

Provincial and district programme managers and logisticians must ensure that the cold chain is working both at the district and health centre level during SIAs. Back-up capacity should be organized for
national and provincial cold rooms, including generators and spares. Reliable power supply must be assured at all times.

Cold chain maintenance includes the following:

1. Ensure that cold chain technicians visit all the health centres at least four weeks before SIAs and ensure at least one refrigerator is working in each health centre.

2. Refrigerators must maintain temperatures between +2°C and +8°C. Twice daily temperature readings must be taken.

3. Refer to VVMs to ensure vaccine has not been exposed to excessive high temperature. A VVM is not of use after a vial is opened, therefore on lyophilized vaccines the VVM is put on the caps.

4. Ensure that batteries for solar refrigerators are in good condition and that solar panels are clean.

5. Ensure that there are enough cold boxes, vaccine carriers and coolant-packs in good working order. Freezing of water-packs should begin one week to 10 days before the first day of the SIA. The water-packs should be loaded in the freezer in progressive manner. In case the freezing capacity is limited, the frozen water-packs may be removed and stored in long range cold boxes.

6. Ensure that the vaccine store keeper / manager know how to properly condition water-packs prior to packing. In order to condition water-packs, they need to be fully frozen, then removed from the freezer and allowed to sit at the room temperature until ice begins melting and there is some liquid water in the container (check by shaking and listening for the sound of water moving inside the water-pack). Conditioning is important as it prevents the water-packs freezing the vaccines inside a cold box or vaccine carrier, and damaging freeze-sensitive vaccines.

7. If necessary, ensure that cold chain space has been borrowed / rented from other sectors (private, NGOs).

8. Ensure establishment of contingency plans at all levels with bulk or central stock of vaccine supplies: verify ability and capacity of personnel to use the plan, including providing contact information for the logistics experts in charge of the contingency plan.

7.5 Estimating personnel requirements and costs
Sufficient number of teams with dedicated personnel is essential for the SIA success. Only qualified and well-trained health workers should perform injectable vaccinations and vaccine reconstitution. Qualified health workers should be drawn carefully from hospitals and/or health facilities to cause the least possible disruption of essential services. See Chapter 12 for roles of personnel at vaccination posts.

The number and distribution of teams and vaccination posts depend on the population and setting. A permanent or temporary vaccination team can vaccinate between 100 and 400 children per day, depending on the size of the population expected at the vaccination post, composition of the
vaccination team and the location of the vaccination post (i.e. urban or rural setting). Mobile teams in rural settings often have to cover long distances. Where numbers are smaller and population is sparse, the number vaccinated per day may be smaller (around 100 per vaccinator per day). A house-to-house vaccination team with one vaccinator should be able to vaccinate an average of 75 children per day, although in sparsely populated areas the numbers could be even lower (50 per day). Variations may occur depending on the setting. In highly populated areas, two vaccination teams can be placed at the same post. Each vaccination team will include:

- one or ideally two vaccinators for vaccination and vaccine reconstitution;
- one or more trained volunteers (depending on the vaccination post strategy used and on the vaccination post needs) for:
  - screening, registration and dispensing any non-invasive interventions – e.g. OPV, Vit A, deworming tablets, etc.;
  - finger marking, tally sheet marking and filling vaccination card;
  - assisting in crowd control and social mobilization activities;
  - acting as announcer, continuously communicating the schedule of dates/times/locations of the vaccination posts to the respective communities;
  - acting as canvasser for the house-to-house canvassing strategy.

Personnel requirements, with added staff specific for each level (district, regional or provincial, national), can be estimated using the following calculation norms:

<table>
<thead>
<tr>
<th>Personnel requirements</th>
<th>Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccinator (permanent post)</td>
<td>=100-150 children per vaccinator per day in urban areas</td>
</tr>
<tr>
<td></td>
<td>=75-100 children per vaccinator in rural area</td>
</tr>
<tr>
<td>Vaccinator (temporary post)</td>
<td>= 100-150 children per vaccinator per day in urban areas</td>
</tr>
<tr>
<td></td>
<td>=75-100 children per vaccinator per day in rural areas</td>
</tr>
<tr>
<td>Vaccinator (mobile post)</td>
<td>= 100 children per vaccinator per day</td>
</tr>
<tr>
<td>Vaccinator (house-to-house vaccination)</td>
<td>=50-75 children per vaccinator per day</td>
</tr>
<tr>
<td>Volunteers</td>
<td>2 per each permanent and temporary post team</td>
</tr>
<tr>
<td></td>
<td>1 per each mobile and house-to-house vaccination team</td>
</tr>
<tr>
<td>Annunciators (volunteer)</td>
<td>1 per each vaccination team</td>
</tr>
<tr>
<td>Canvassers (volunteer)</td>
<td>For 5% of permanent, temporary and mobile teams</td>
</tr>
<tr>
<td>Number of vaccination team supervisors</td>
<td>1 supervisor per up to 4 vaccination teams (depending if rural areas - up to 4, or urban areas - four or more)</td>
</tr>
<tr>
<td>Health centre coordinator</td>
<td>1 per health centre</td>
</tr>
<tr>
<td>District supervisors</td>
<td>At least 3 per district (approx. 1 per 4 health centre coordinators)</td>
</tr>
<tr>
<td>District coordinator</td>
<td>1 per district</td>
</tr>
<tr>
<td>National/regional SIA coordinators</td>
<td>1 national coordinator + 1 coordinator per national subcommittee</td>
</tr>
<tr>
<td>National/regional supervisor</td>
<td>1 to be deployed to each district</td>
</tr>
<tr>
<td>Position</td>
<td>Quantity</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>National/regional AEFI supervisor</td>
<td>1</td>
</tr>
<tr>
<td>National/regional stockroom manager</td>
<td>1</td>
</tr>
<tr>
<td>Drivers</td>
<td>1 per car (see transport requirements below)</td>
</tr>
</tbody>
</table>

**Per diems and incentives**

Per diem amounts for supervisors, vaccinators and volunteers should be determined before the microplanning at the lowest level is carried out, according to the government or local practice standards. Per diem allowances may vary by location. As daily allowances, per diems cover expenses for meals, lodging and incidentals, and are the same for all personnel in a given area. The amounts to be paid as incentives should equally be standardized, decided and budgeted in advance. Incentives vary according to the level of responsibility (volunteers vs. health worker, other support personnel involved in the SIA such as drivers).

To save time and/or resources, the central level team may raise unreasonable expectations regarding the number of vaccinees that can be reached per team per day, the number of teams that can be supervised by a single supervisor, or may decrease the number of canvassing teams, eliminate/reduce social communication budgets, remove SIA monitoring or reduce training days. Such modifications to the microplan should not happen without consultations with the lower levels as they may decrease the likelihood for high-quality SIA and increase the risk of adverse events and programmatic errors.

### 7.6 Estimating transport requirements and costs

Although there is no simple formula for calculating transport requirements, as they vary widely between areas, the following are suggested steps.

1. Identify transportation needs:

   Depending on the nature of the terrain, use of motorcycles and alternative modes of transport such as aircraft, boats, rafts, and animals may be required. As a first step, identification of transportation requirements indicating the transportation mode before and during SIAs for is needed. Activities requiring transportation include:
   
   - transportation of vaccines and related supplies from the central to the peripheral levels;
   - distribution of social mobilization and communication materials, guidelines, tools;
   - deployment of vaccination teams;
   - transportation of personnel involved in the monitoring and supervision of SIA planning, training, implementation, conducting independent monitoring.

2. Conduct an inventory of all available transportation resources at the local level

3. Identify additional sources of transportation to fill the gaps (e.g. vehicles from other government departments, NGOs, and from private and religious sectors or rented vehicles).

4. Estimate fuel needs based on average consumption per vehicle and estimated mileage per day.

53
5. Estimate costs: calculation of costs should include costs of car rental if needed as well cost of fuel. Calculations of the latter should take into account possible variations in fuel prices within a country and of field conditions, e.g. road conditions, mountainous terrain and water barriers, which affect the distance covered per litre of fuel. One possibility is to calculate fuel costs on the basis of an average number of kilometres of travel allocated to each team in a district. Operational costs, whether for transport or personnel, should be estimated in local currency.

7.7 Estimating costs for planning and training sessions
Costs associated with planning and training sessions should be estimated at all levels. Cost estimates for these sessions should include:

- materials and refreshments for planning meetings and training sessions at the specific level
- materials for training, including printing costs, pens, paper and chalk
- per diem allowances for trainers and trainees (if travel from their local area is required)
- rental for training venue, if applicable.

7.8 Estimating costs for communication and social mobilization activities
The budget should cover costs for the following:

- briefing meetings for leaders and community groups;
- small incentives for local mobilizers and announcers;
- informational and promotional materials, banners, posters, pamphlets;
- megaphones, speakers, batteries, etc.;
- radio and television spots (both national and local);
- transport for social mobilization activities such as visits to schools, launching activities, opening ceremony, etc.;
- SIA launch events.

7.9 Estimating costs of mop-up activities and contingencies
Budget line for post SIA mop-up activities in areas not well vaccinated during the SIA should be estimated and included in the overall SIA budget at the national level (see Chapter 6.1), either as a separate budget line or as a part of the contingency. The national level estimate of mop up activity costs (estimated as the operational cost of an additional SIA day or 5 to 10% of operational costs in the high level budget) may be revised based on the local knowledge of weak performing areas that are likely to require mop up activities, as well as the operational costs determined in the microplanning.
V. 6 to 2 months before SIA: Preparation

6 to 2 months before SIA you should initiate preparations:

- **At the national level**
  - Revise budget based on validated microplans and feed back to the districts
  - Distribute SIA guide to the districts
  - Finalize training materials and training guides/tools/monitoring forms
  - Transfer of funds for preparation activities
  - Prepare SIA promotional materials and media announcements
  - Print developed supervisory checklists, tally sheets and other forms
  - Confirm participation at launching ceremony
  - Assess SIA readiness at 6, 4, 3 and 2 months prior to the SIA

- **At the district level**
  - Validation of microplans and feed back to eh Health Centre level
  - Advocacy meetings
  - Prepare posters and street banners
  - Invite supervisors, health workers and community volunteers to attend training
  - Assess SIA readiness at 2 months prior to the SIA

- **At the health facility level**
  - Attend meeting at the district level for validation of microplans

Concrete efforts in preparation for SIA should ideally take place from 6 to 2 months before SIA. Based on the finalized and aggregated microplans (Chapter 7), the overall SIA budget should be confirmed, and at the latest 4 months before the SIA initial funds should be ready and transferred in order to start preparation activities on time. These involve the activities for training (Chapter 8), social mobilization (Chapter 9), immunization safety and AEFI monitoring (Chapter 10), and verification of preparedness through the use of the SIA readiness assessment tool (Chapter 11 and Annex 8). The specific objective of the preparation phase is to complete all SIA preparation activities to ensure successful SIA implementation.

8. Training
Detailed planning for training should start by 6 months before the SIA with a training needs assessment looking at the knowledge and skills gaps of the health workers. The technical/implementation sub-committee should elaborate a plan for training which should include: general learning objectives, priority topics, a training workplan (dates, places, and trainers), participants, and a budget. The training materials should be developed 3 months before the SIA to allow time for printing and distribution to lower levels.
In most countries, cascade training approach is used, i.e. the central level trainers train the regional/provincial level staff, the regional/provincial level staff becomes trainers for the district level staff, and so on, down to local SIA vaccinators and volunteers. Experience has demonstrated that multiple cascade levels reduce training quality as it gets to lower levels.

In order to ensure high quality training of health workers and volunteers it is important to:

1. Limit the number of cascade levels to **two** (i.e. national level master trainers train the mid-trainers 4 weeks before the SIA, and mid trainers directly train the supervisors, health workers and volunteers 2 weeks before the SIA). Therefore, all target trainees should be trained at 2 weeks before the SIA.

2. Have a standard agenda and training materials (guidelines and specific training handouts, updated electronic training materials/videos) in order to ensure the consistency of information and training at all levels.

3. Closely monitor and evaluate the training quality as it moves down the levels in order to maintain the strength and consistency of key messages.

4. Carry out pre and post training tests to evaluate the effectiveness of the training.

Training methods must emphasize the practical aspects of the SIA field activities, and address specific needs at different levels. Practical hands on training should be included whenever possible. Training may be extended to include additional EPI topics not directly related to the SIA to take the opportunity for strengthening overall healthcare worker knowledge and skills.

Partners (UN agencies, local NGOs, academia etc.) can be involved in training especially when there is an inadequate number of trainers in the health care system. When supervisors are involved as trainers, training sessions can be used as an opportunity to additionally assess the level of readiness.

Every SIA is unique and there will always be new information to convey and lessons learned from previous SIAs to be discussed. In situations where there was a recent SIA, one day refresher training instead of a complete training may be practical. Given that measles and MR SIAs are usually years apart, it should be assumed that a complete training is needed. In countries with high staff turnover, additional attention may be required to ensure a solid understanding of basic immunization practices.

In most countries, there are four main groups requiring training. All four groups should have basic orientation to include: the objectives and justification for SIA; dates and target age-group for SIA; and facts about measles and rubella control and vaccinations. Each group should have very clear terms of reference outlining their roles and responsibilities. Training topics should be adapted to the main responsibilities of these groups during the SIA (see Table 8.1). **At the end of the training, everyone involved in SIAs must understand:**

- **WHAT**: The objectives and targets of the SIA
- **WHY**: The rationale for the SIA
- **WHERE**: The geographic coverage of the SIA
- **WHEN**: Dates and times of vaccination post operation
- **HOW**: Strategies and operational elements
- **WHOM**: Target groups for vaccination and other interventions
- **WHAT TO DO**: Individual roles and responsibilities

**Table 8.1**: Training topics according to the groups to be trained and their main responsibilities

<table>
<thead>
<tr>
<th>Group and main responsibilities</th>
<th>Main topics to cover</th>
</tr>
</thead>
</table>
| **Vaccinators**: Planning, administering of vaccines and reporting | 1. Microplans and maps of catchment areas  
2. Social mobilization activities and communication  
3. The preparations and management (organization) of an immunization post  
4. Safe vaccine administration and waste management practices, and reasons for safe practices  
5. AEFI reporting and management, including recognition and treatment of (or referral procedure for) anaphylaxis  
6. Maintaining cold chain, use of VVM and vaccine carriers, and reasons for safe practices  
7. Filling in tally sheets and vaccination cards  
8. Distribution of integrated interventions (e.g. vitamin A supplementation, deworming tablets, etc.)  
9. RCM and house-to-house canvassing  
10. Positive routine immunization messages to ensure appropriate awareness |
| **Supervisors** (provincial and district coordinators, team supervisors): Planning and supervising activities both before and during SIA | Supervisors at all levels must be familiar with what is expected (agreed policies, strategies and practices for the SIA), in addition to:  
1. Management of SIA operational funds  
2. The importance of the SIA readiness tool to assess and ensure preparedness  
3. Planning and conducting supervision during SIA (use of forms, trigger points for action, etc.), use of SIA supervision checklists  
4. Microplans and maps of catchment areas  
5. Detection, investigation of serious AEFI or AEFI clusters, response to AEFI  
6. Techniques for dealing with populations resisting vaccination and anti-vaccine groups, and of addressing their concerns appropriately  
7. Management and operations of the vaccination posts  
8. Responsibilities of the vaccination team members and of the volunteers  
9. Logistics arrangements at each level  
10. Appropriate supportive supervision techniques |
11. Conducting rapid convenience monitoring (RCM)
12. Interpreting and using administrative and RCM data
13. Daily management of the SIA (process of reporting administrative coverage results daily, results of monitoring during SIA - RCM, end of day meetings of supervisors, troubleshooting challenges, etc.)
14. Plans for training of lower levels
15. Use of all reporting forms at the local level and summary of daily tally sheets
16. Chain of command for reporting of data

Volunteers:
Support of health workers at the vaccination posts as well as act as announcers, canvassers, community mobilizers
1. Social mobilization techniques, key information to convey to household communities
2. Details on house-to-house canvassing method being used in the country (how to mark houses, when to return, etc.)
3. Techniques for dealing with populations resisting vaccination and anti-vaccine groups, and of addressing their concerns appropriately
4. Crowd control and order maintaining techniques
5. Organization of vaccination post to ensure an efficient flow of vaccinees
6. Tally sheet marking, vaccination card, finger marking
7. Distribution of integrated interventions (e.g. vitamin A supplementation, deworming tablets, etc.)

Independent monitors:
Verify communities are reached, with special attention to finding children that were potentially missed. They can also visit vaccination posts to help assess the quality of vaccination.
1. Rapid Convenience Monitoring (RCM)
2. High risk identification in the country
3. If independent monitors are visiting vaccination posts, they need to be trained about correct and safe vaccine administration and waste management practices, cold chain management and correct filling of various forms.

9. Advocacy, social mobilization and communication
Advocacy, social mobilization and communication along with community engagement and behaviour change activities can be conducted in relation to SIA within the overall “communications” function. Successful implementation of these activities will help generate the support and acceptance necessary to achieve high coverage.

The effective engagement of political and local leaders, communities, and individuals is critical to the success of a SIA and routine immunization in general, not only for building their support, but also for inviting their input to decisions about service delivery.

There are several often interlinked approaches to communication, based on the evidence that people go through a process to adopt new knowledge, make a decision, or change a behaviour. This process
mostly begins when a person is not aware of an intervention, becomes aware (through communication),
considers the intervention, then takes the action and repeats (demands or seeks) it. Normally this is an
iterative process that is influenced by a number of factors; not only the communication and engagement
activities, but also the provision of accessible and effective immunization services.

The different communication approaches have been well documented. Countries may adapt these
approaches to their national setting, or may use their own unique approaches. The various types of
communications strategies can be summarized according to the Table 9.1.

<table>
<thead>
<tr>
<th>Approaches to communication that help support the success of an SIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advocacy</strong></td>
</tr>
<tr>
<td>Activities targeted at different levels prior to the SIA, designed to foster political support, generate and sustain adequate resources, build partnerships with national and international agencies, NGOs and with local CSOs and influencers, and enable key programme staff to make an evidence-based case for immunization.</td>
</tr>
</tbody>
</table>

Table 9.1 Summary of communications strategies which support success of an SIA

While each approach proposes different methods and ways of thinking about communication, they all
should contain the same basic elements that are part of a communication plan.

9.1 Effective communication planning: the critical components
Planning for any communication or engagement activities starts at the national level after political
commitment and consensus on the core programmatic aspects of the SIA are agreed.

There are four critical components of communications planning:

- establishing national advocacy social mobilization and communications subcommittee and
district level equivalent subcommittee;
- developing a communications plan;
- preparing for issues management;
- monitoring and evaluation of communications activities.

a) National advocacy, social mobilization and communications subcommittee

At the beginning of the planning process, countries should convene a team to plan, implement, monitor and evaluate the communication programme or interventions, whether a subcommittee or standing group. This should be carried out approximately nine months before the SIA. It is the role of the national subcommittee to develop an overall plan for the design and implementation of the communication activities. (For draft terms of reference for the sub-committees, see Chapter 6.3.1).

This subcommittee should ideally include communication experts from government and relevant partner organizations, as well as representatives from the different sectors involved in the programme (e.g. community leaders, or CSOs). Where applicable, representation from the Ministry of Education may be important to coordinate communication activities at schools. Lastly, it should be noted that core members should be part of the larger planning team.

Similar to the advocacy, social mobilization and communications subcommittee at the national level, further subcommittees may be replicated at a regional and/or district levels and if appropriate at the health centre level. These committees may derive from any pre-existing structures, e.g. those established for previous SIAs or vaccine introductions.

The subcommittees at each level should be responsible for:

- providing overall direction to the communication activities;
- ensuring that the coordination of communication activities are implemented by different entities;
- reviewing, testing and approving information materials;
- monitoring the effectiveness of communications activities and making any adjustments where required.

b) A communication plan

The plan should be based on a needs assessment or situation analysis, and SMART criteria (specific, measurable, attainable, relevant, time-bound). It can draw on existing knowledge and observation (e.g. best practices, lessons from past SIAs including review of reasons of non-vaccination from previous RCM data, etc.) and on formative research (e.g. focus groups and/or surveys on knowledge, attitudes, beliefs and practices (KABP) in order to provide information about:

- the effectiveness of past and current communication and social mobilization strategies used in the area;
- the culture and prevailing beliefs about the disease, the vaccine, and immunization in general;
• the media environment and media used by the various target audiences, and available appropriate communication channels;
• the effectiveness of specific communication materials and messages;
• the resources required to implement communication activities.

The following basic elements should be included in a communication plan for the SIA:

• technical programme objective(s)
• communication objective(s)
• target audiences (primary and secondary\textsuperscript{5}), including the specific role of each
• messages for each audience
• the creation of any specific branded materials
• strategies, activities and channels to reach each audience
• framework of activities (timeline, actions, messages, budget, responsible individuals)
• crisis communication plan
• monitoring and evaluation.

Given that a key objective of an MCV SIA is to reach those that have been missed by routine services, it is critical to address the following questions within the planning process:

• Who and where are the hard-to-reach, hard-to-vaccinate populations and zero dose children? How can the communications messages be best adapted for these populations?

• Are there any resistant groups? How should they be reached?

• What specific messages should be designed to address any hesitant groups?

• What are common perceptions/rumours in the community about immunization?

\textsuperscript{5} Primary target audience are individuals who are targeted for vaccination and those who make the actual decisions on whether or not to vaccinate (these include caretakers and parents of minors, and health care workers as active promoters of vaccine uptake).

Secondary target audience are individuals or groups who influence target group’s perceptions and attitudes, and possibly their decision whether or not to proceed with vaccination (religious and/or ethnic minority leaders, childcare personnel, teachers, media professionals, general and/or pediatric practitioners, networks/organizations related to hard-to-reach and high-risk groups).
c) Preparations for issue management: negative publicity, rumours, AEFIs, etc.

The public is often exposed to inaccurate information about immunization. It is important to anticipate rumours that may occur during SIAs and to develop proactive strategies for addressing them so that they do not derail the SIA or routine immunization more broadly.

Early engagement and consultation with key immunization stakeholders and community leaders are essential steps that help to maintain a favourable environment, mitigate any potential issues, and ensure the accuracy of information disseminated through networks. Such collaboration will be a critical factor to the success of the programme.

In the case of any event that may have negative implications, a crisis communication plan should be ready and available to inform a rapid, coordinated, and effective response.

Activities within a crisis communication plan should include:

- advance training of credible and informed spokespeople, at appropriate levels, who will be available to speak to the media rapidly and regularly during crisis situations;
- briefing of key media reporters, sharing clear and concise information prior to the SIA to facilitate a rapid response to any negative or inaccurate claims;
- providing guidance to health personnel so that they can respond adequately to rumours or questions;
- regularly disseminating up-to-date information through channels most used by the target audiences.

See Chapter 10.5 for crisis management and section 9.6 for more information on communication regarding serious AEFI.

d) Monitoring and evaluation of communication activities

It is important to monitor the effectiveness of communication activities, particularly among populations at highest risk of not being vaccinated. As a part of assessing SIA readiness, once SIA communications activities have been launched, supervisors should carry out rapid assessment among high-risk communities (e.g. by visiting a selection of households, or by interviewing mothers at the local market, etc.) to find out if caregivers are already aware of the SIA and their main sources of information. The findings should be immediately reported to the communications supervisor, in order to inform the revision of any methods and materials, where applicable. A sample monitoring survey form that can be used to assess the effect of the social mobilization efforts is included in Annex 7.

During the SIA, reasons for non-vaccination obtained through RCM data analysis or other sources should be rapidly analyses and reported to the communications supervisor in order to allow rapid action to address any gaps in communications effort while the SIA is still ongoing. Other methods for monitoring communication efforts includes periodic reviews of programme action plans, regular audits of materials to ensure they are being distributed and used correctly, spot checks at public places where target audience members are found (to confirm their recall of key messages in the media), exit
interviews at routine immunization sessions, group discussions, etc. It is essential to prepare a monitoring schedule for the communication activities prior to the commencement of the SIA.

**9.2 Advocacy**

At the beginning of the SIA planning, target groups for advocacy activities may include heads of state and government, parliamentarians, religious leaders, donor agencies, decision-makers in various ministries (including health, education, finance, other), and community leaders, for their role in helping to secure high level commitment from national authorities and major partner agencies in support of the SIA (see Chapter 6.2). Further in the process advocacy activities may include relevant authorities and stakeholders at the district and health centre levels.

Advocacy activities to be carried out by the National advocacy, social mobilization and communications subcommittee include:

1. Development of key messages in support of the SIA. These messages should be simple, focused, clear and easy to understand for the entire population, and pretested before dissemination in local languages (see examples of key messages in Annex 7b). Key messages can include information on:
   - The scientific rationale for conducting an SIA and the added value it is expected to bring. Ideally this should be country driven where the scientific body in the country (e.g. NITAG) reviews the evidence and makes recommendations for the SIA.
   - The effectiveness of SIAs and strong routine immunization in reducing measles and rubella morbidity, with examples.
   - The importance and the need of supplementary doses of measles and rubella vaccines including an explanation what is supplementary vaccine dose compared to a routine doses.
   - The social and economic benefits of measles and rubella elimination.
   - The safety of vaccines and injection procedures.
   - The importance of following routine immunization schedule.

2. Engagement and briefing of goodwill ambassadors and local celebrities to influence opinion leaders about the need for action and to raise awareness of both SIA and routine immunization.

3. Use of appropriate influential media channels for influencing the commitment of decision-makers for the SIA and routine immunization (state and government officials)

4. Briefings with target audiences.

**9.3 Social mobilization**

Groups such as health committees, professional associations (e.g. nursing, public health, paediatric associations), religious and community groups, NGOs, private sector, women’s clubs, youth groups and school programmes may also be invited to participate in efforts to build support for the SIA.

For achieving local community acceptance and support, national, provincial and district social mobilization committees should organize meetings to which various important people/groups/agencies
will be invited. Specific tasks can be assigned to members of the community should they agree to participate in specific promotional activities, which can include:

- Announcement of SIAs at key meetings and cultural and sporting events
- Provision of human, financial and other resources
- Creation of promotional materials, e.g. banners, t-shirts and caps (by private industry)
- Sponsoring of radio and television announcements

Such meetings should always be planned and well prepared to ensure participation by the majority of key leaders, their active involvement, and the dissemination of pre-tested materials and messaging.

a) School involvement in social mobilization
When children are the target for vaccination in an SIA, the active participation of schools can be important in educating pupils about the SIA. This requires agreement between the Ministries of Health and Education. Schools should be approached in advance by the health and education authorities to discuss how the schools can help in providing information to pupils about the campaign. (See Annex 4c for examples on involving schools in social mobilization activities.)

b) The opening ceremony or launch event
The opening ceremony is an opportunity to increase visibility of the SIA and routine immunization. Key public figures should be contacted as early as possible in order to ensure their participation in the ceremony. These persons may participate by, for example, administering vitamin A drops, or receiving M/MR vaccine, however only trained health providers should administer injectable vaccines. Efforts should be made to ensure media coverage, and participating groups and individuals should be acknowledged in speeches. The opening ceremony should also be used as an opportunity to provide information on routine immunization. Consideration should be given to holding opening ceremonies or launch events in areas in which immunization coverage is low, to help increase awareness of the SIA in these areas.

c) Using media effectively
The national and regional communication committees should work closely with media outlets to plan dates, times, frequency and content of media messages and press releases. Ahead of and during SIAs, these committees should provide the press with regular updates following the strategy set at the national level in the early planning phase.

Holding workshops for the media prior to the SIA is a useful way to inform and sensitize the media about issues around immunization (including information about potential AEFIs), so that information is conveyed to the public accurately and objectively. See Chapter 9.6 for information on the communication with the media in vaccine safety communication.

Folk media should also be considered for its interface with specific (sometimes high risk) groups, and may include roadside shows, locally generated drama, community events, places of worship, etc.
In areas where social media channels are widely used by target populations, social media can be used to disseminate information and messages about the SIAs, and answer questions from the general public.

9.4 Community engagement
Close engagement with local communities will contribute to resolving any context-specific barriers to access and uptake. This may be particularly relevant but not limited to underserved or high-risk populations (e.g. minority groups or marginalized populations), religious communities that may resist public health interventions, nomadic or migratory groups, refugees, and elite urban groups. The aim of community engagement efforts is to establish a two-way dialogue that serves to empower the communities to identify and adapt solutions that are specific to their local situation.

Specific engagement and communication strategies should be tailored to each group. Such efforts might include:

- Communication committees holding preliminary meetings with community opinion leaders.
- Working with local NGOs and faith-based organizations that provide assistance to the groups.
- Working closely with leaders of minority communities and ensuring that volunteers who are members of the minority groups are appropriate age and gender, speak the same languages as these communities and are trained to support the SIA. Community volunteers can support the SIA by informing families about the SIA and immunization in general and responding to questions and concerns; ensuring understanding of side effects and need for follow up visits; helping with crowd control; completing registers; acting as announcers (sometimes called criers, or community mobilizers) who by using the megaphone and loudspeakers engage and mobilize the community to come to vaccination posts; carrying out house-to-house canvassing visits; and providing important feedback from community members which can help improve acceptance and uptake.

9.5 Communication for behaviour and social change
Communication for behavioural change is a strategic use of communication to promote positive health outcomes at the individual, community and society level, based on proven theories and models of behavioural change.

Communication efforts toward communities known or suspected to resist vaccination should be carefully researched, designed and adapted to specific populations. Multiple efforts using different communication methods targeting specific segments of the population may be needed. Well-planned and implemented communication activities for behaviour change are a strong interface between routine immunization and SIAs, as they offer important opportunities to reinforce critical information about the value of immunization and offer reminders on the timing of routine vaccinations.
Communication activities in the districts and communities where the SIA is to be held should begin 1 month before and be intensified in the 2 week period before SIAs. They should be tailored to each community and may include:

- production and dissemination of materials such as posters, banners, pamphlets and flyers;
- public broadcasts by megaphones and loudspeakers;
- engagement of media, e.g. radio and television outlets;
- information campaigns using SMS and social media channels announcements at community meetings and religious gatherings;
- door-to-door messaging by volunteer announcers/community mobilizers.

Informational and promotional materials such as posters, brochures, letters, T-shirts, caps, post banners, school letters to parents, and street banners should be designed based on needs assessment and consistent with key messages developed earlier on at the national level. They should be prepared, ordered and distributed no later than one month before SIA.

**Interpersonal communication**

Interpersonal communication (IPC) is the process of exchanging information, ideas, thoughts and feelings between two people (one-to-one communication) or among a group of people (group communication) using verbal and non-verbal messages. Such an exchange allows receiving immediate response or feedback that can lead to mutual understanding, agreement and action. In the context of an SIA, IPC involves face-to-face communication between the health worker(s) and potential vaccinee or caretaker, local leaders and other community workers (e.g. using house-to-house canvassing) and can aim to inform, educate or remind, provide support, facilitate decision-making, and enhance community ownership. Though labour intensive, IPC is important in hard-to-vaccinate areas (urban slums, communities opposed to immunization). Staff/volunteers need to be adequately trained to provide accurate information, motivate parents to vaccinate their children, respond to common questions, and address rumours. All effective communication principles (respect, politeness, encouragement, motivation, good listening skills, empathy, use of appropriate local language, checking for understanding, good body and facial language – eye contact and proper hand movements) apply in IPC. Additionally, conversation may be supplemented with visual and printed tools (posters, pamphlets, counselling cards and similar materials) for better understanding and recall. If well planned and implemented during SIA, IPC efforts can contribute to routine immunization strengthening.

**9.6 Communication regarding serious AEFI**

Given the devastating effects that misinterpretation and miscommunication of vaccine safety issues can have on vaccination programmes, it is crucial that in preparatory phase national technical and national social mobilization committees develop strong training and communication material. Although serious
AEFI due to measles or measles-rubella vaccination are extremely rare, coincidental occurrence of a serious event and sensational media coverage has the ability to seriously undermine immunization activities. Moreover, vaccine administration error-related reactions can also occur and can negatively affect the programme if not addressed immediately and effectively. It is therefore critical to prepare a strategy for communicating about serious AEFI. See Chapter 10 for more detail on AEFI.

As mentioned in section 9.1, communication committees at each level should be formed to oversee the planning, implementation and monitoring of the communication programme for the SIA, including communication for vaccine safety and AEFI. Depending on the resources and personnel available, this may be a subcommittee of the broader communication committee.

Be prepared

- Risk communication involves building trust. This involves including information on possible adverse events when communicating with parents and the community. Develop a fact sheet on AEFI.
- Awareness among health workers will facilitate early recognition and treatment of possible adverse events. This should include what AEFI are expected, their observed rates and what AEFI need to be reported immediately. Train health workers specifically on how to communicate with parents and the public about AEFI and safety concerns.
- Develop a crisis communication plan to allow for rapid and effective response to serious AEFI (see below). An insufficient response by the vaccination programme to a real or presumed serious AEFI can rapidly lead to a loss of public confidence and trust that can take years to rebuild.
- Develop links and maintain lines of communication with community leaders and local health workers so that information can be rapidly disseminated the event of an AEFI investigation.
- Designate well-trained, well-respected spokespersons at all levels.

Communicate with the media

The media (newspapers, radio, television, internet, etc.) play an important role in influencing public perceptions. In the event of a vaccine safety issue, sensational media coverage can quickly raise public concern, but media can also be helpful allies in communicating public health messages. A proactive approach with the media is important to ensure access to credible sources for the dissemination of accurate and evidence-based messaging.

- Maintain a database of journalists who cover health issues in the print and electronic media. Building personal relationships with key health reporters who understand the public health perspective can facilitate balanced media coverage.
- Develop information packages for the media that contain FAQs on immunization in general, specific vaccines, and for AEFI (e.g. background rates and expected rates for an SIA). Include contact information for designated spokespersons the media can reach for questions and statements.
• Regular workshops and technical briefings are a useful way to inform and sensitize the media to issues around immunization and AEFI so that information is conveyed to the public accurately and objectively.

• Press conferences and media releases – if prepared properly – are effective ways to provide uniform messages and avoid conflicting statements which can lead to rumours (see more on press releases in the event of a crisis in Chapter 10.5 below).

9.6.1 Communication action points for health workers during serious AEFI

At community level (health worker)
• Immediately meet the family/parents/caregivers and empathize with them.
• Listen to them patiently.
• Ask village elders or religious leaders to accompany you when you go to meet the family.
• Follow-up with the family again after one or two days and ensure about their well-being.
• Respect their space.
• Explain the extent to which the benefits of vaccination outweigh risks.
• Inform the health centre coordinator.

At Health Centre (Health centre coordinator, or equivalent)
• Listen to what the parents/public is saying.
• Take the health worker along when you go to meet the family.
• Take control of the situation and reassure the community without appearing judgmental.
• Keep people and media informed with facts and accurate information.
• If facts are not yet known, inform them that the matter is being looked into and the facts will be communicated in specified time.
• Understand risk perception of the family/community.
• Disseminate timely and accurate messages to the media.

At district level (District coordinator)
• Get to the source of information and check its accuracy.
• Conduct a meeting of supportive opinion leaders to discuss the situation and find possible solutions and way forward.
• Understand the community’s perception toward immunization and vaccination history of other children in the family.
• Identify support groups in the community who could be positive role models and help you in reaching out to the community with the message that vaccination at large is beneficial for children.
• Respond to negative media questions with positive answers (prepared key message on the benefits of immunization, risks of non-immunization, etc.).
9.6.2 Crisis communication plan
A crisis communication plan should be prepared in advance, and should identify responsible persons to manage communication during vaccine crisis, should it occur.

Countries can have in place the basic elements of a crisis communication plan, including:

- an AEFI committee of designated individuals responsible for managing AEFI at each level, who can meet immediately to discuss the plan of action;
- identified, well-trained spokespersons at all levels;
- clear channels of communication with the media;
- key messages to communicate.

Checklist of possible interventions:

- **Mass media:** Consider whether coverage will be balanced, and possible risks of further distortion. Be proactive by issuing timely press releases.
- **Advocacy:** Key opinion leaders, professional organizations and other stakeholders may have greater credibility than the government, particularly in a crisis situation.
- **Community mobilization:** Engage and support the health community: seek collaboration and maintain contact with them.


10. AEFI monitoring and preparing for crisis communication
An **adverse event following immunization (AEFI)** is defined as any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavourable or unintended sign, abnormal laboratory finding, symptom or disease. Adverse events can either be true adverse events (i.e. a vaccine reaction caused by the vaccine or vaccination process), or coincidental events that are not caused by the vaccine or vaccination process but are temporally associated with immunization.

In 2012, a revised classification relevant to cause-specific categorization of AEFI was introduced by CIOMS/WHO (Table 10.1).

**Table 10.1:** Types of AEFI according to cause
<table>
<thead>
<tr>
<th>Cause-specific type of AEFI</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine product-related reaction</td>
<td>An AEFI that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product.</td>
</tr>
<tr>
<td>Vaccine quality defect-related reaction</td>
<td>An AEFI that is caused or precipitated that is due to one or more quality defects of the vaccine product, including its administration device as provided by the manufacturer.</td>
</tr>
<tr>
<td>Immunization error-related reaction (formerly “programme error”)</td>
<td>An AEFI that is caused by inappropriate vaccine handling, prescribing or administration and thus by its nature is preventable.</td>
</tr>
<tr>
<td>Immunization anxiety-related reaction</td>
<td>An AEFI arising from anxiety about the immunization.</td>
</tr>
<tr>
<td>Coincidental event</td>
<td>An AEFI that is caused by something other than the vaccine product, immunization error or immunization anxiety, but a temporal association with immunization exists.</td>
</tr>
</tbody>
</table>

**Serious AEFIs** are events that result in death, are life threatening, require hospitalization or prolongation of hospitalization, result in persistent or significant disability/incapacity, are a congenital anomaly/birth defect, or require intervention to prevent permanent impairment or damage.

All vaccines used in countries have to be licensed by the national regulatory authorities and may be prequalified by WHO. Developing countries with weak regulatory authorities may source their WHO prequalified vaccines through UNICEF or other United Nations agencies. The aim of the WHO prequalification process is to ensure that vaccines provided through the United Nations for use in national immunization services of countries are safe, effective and suitable for the target populations at the recommended immunization schedules.

Although serious AEFIs with injectable vaccines are very rare, vaccines are biologic products and adverse events following immunization (AEFI) may occur. Due to the large number of vaccinations given within a short time and the public nature of SIAs, the increased number of observed AEFIs is likely to become more apparent. Although the rate may remain the same, AEFIs will assume greater significance during SIAs. Furthermore, when SIAs using measles-containing vaccines are integrated with multiple interventions (such as Vitamin A, deworming, OPV etc.) they pose additional problems with AEFI, as side effects of integrated interventions may be incorrectly attributed to the vaccine. This should be considered when planning integration. To prevent immunization error-related reactions, all the steps for safe vaccine administration and waste disposal, as described in Chapter 12, should be followed. Before

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6 WHO provides advice to UN agencies on the acceptability of vaccines considered for purchase by such agencies through the service called vaccine prequalification. The purpose of prequalification assessment is to ensure that these vaccines are of assured quality, safety and efficacy, that they comply with WHO recommended standards for good manufacturing practice (GMP) and good clinical practice (GCP), and that they meet operational packaging and presentations specifications.
vaccinating, health workers should check for vaccine contraindications (see Annex 1 for indications, precautions and contraindications, and observed rates of vaccine reactions after Measles and Rubella vaccines).

Some SIAs have been halted mid-way through the campaign, and have resulted in the loss of trust in the immunization programme following the occurrence of serious AEFI that has not been properly managed. These negative experiences could have been avoided or their impact reduced with an appropriate response to the AEFI. *It is, therefore, very important that immunization programmes monitor AEFI throughout the SIA and take immediate measures to address all serious AEFI.*

### 10.1 Planning for and organization of AEFI monitoring in SIA

AEFI monitoring during SIA must be an integral part of AEFI surveillance and immunization programme. As such it must have support from political and health authorities and must be included in early SIA planning and budgeting. Proper planning to reduce immunization error-related reactions, to monitor and respond to AEFI can minimize adverse events and their effects during an SIA. Additionally, careful planning will limit the potential for negative publicity from an AEFI.

Unless a separate national subcommittee on AEFI is established, planning and organization of AEFI monitoring is a responsibility of the national technical subcommittee and the national advocacy, social mobilization and communication subcommittee.

The national technical subcommittee is responsible for reviewing and revising the list of reportable AEFIs and for developing guidelines for monitoring and management of AEFIs during SIA as necessary. These guidelines should also provide the clear flow of AEFI reporting and feedback during SIA. Within the technical subcommittee, an AEFI coordinator should be appointed as a liaison with country’s existing AEFI surveillance system and if needed, with national AEFI expert review committee. If an AEFI review committee does not exist in the country, an ad-hoc committee consisting of experts from different fields (paediatricians, immunologists, general practitioners, neurologists, and other clinical specialists, epidemiologists, microbiologists etc.) should be appointed. Such a committee should not involve the staff responsible for vaccination and/or the regulatory authority because it requires independence.

National advocacy, social mobilization and communication subcommittee, along with preparing positive messages and evidence based information for the public, should also prepare and provide health professionals and media with high-quality information on vaccine safety.

At an operational level (health centre, district and national level operation rooms) staff should be appointed to record all case reports of observed AEFIs received from the field, prepare daily summaries and send reports to the next level, and as needed, support field teams in relation with AEFI monitoring and management. In settings where AEFIs are managed and treated by specifically designated health staff, the vaccinators should have available updated lists of names/contacts and nearest institutions to which to refer suspected cases.
AEFI observed by the health care worker and/or by parents or guardians should be reported to the immunization programme using the standard AEFI reporting form (Annex 10a). Additionally, every SIA should have a list of reportable events (serious AEFI and AEFI of special interest) and a system of tracking and responding to these events. Senior and team supervisors and coordinators, as well as health workers, should be on the alert for any “clustering” of adverse events of any type during or immediately following SIAs. This can be identified by reviewing AEFI data at the end of each day of the SIA and identify the occurrence by location. It is recommended to keep line listing which may help initial identification of clustering or any other unusual significant events. AEFI that occur in a cluster (within a localized area/facility, within a brief period of time), with unusual frequency, or by type of reaction may indicate very serious immunization errors and need to be managed as a programmatic emergency.

**Figure 10.1**: Flow of AEFI reporting in SIA

### 10.2 Responding to serious AEFI

All health facilities staffed with a medical officer (government-run as well as private sector) should be designated as AEFI management centres. The SIA microplan for each health centre should include the name, address and phone number of the medical officer of the nearest AEFI management centre. The mode of transport to the centre and the time taken to reach the centre should be determined during
microplanning. All medical officers of the designated AEFI management centres should be trained and provided with AEFI treatment kits and standard AEFI reporting forms (see Annex 10a and 10 b).

10.3 Recognition and treatment of anaphylaxis

Health workers should be trained to distinguish anaphylaxis from fainting (vasovagal syncope), anxiety and breath-holding spells, which are common benign reactions (see Annex 10c). This is particularly important in countries in which the vaccinators are not allowed to administer adrenaline, and where for this reason, special attention should be given to planning and awareness of designated AEFI management centre locations. Unconsciousness is rarely the sole manifestation of anaphylaxis - it occurs only as a late event in severe cases. Anaphylaxis usually involves multiple body systems (cardiovascular, dermatologic or mucosal, respiratory, gastrointestinal). The skin is usually involved (rash and/or swelling of face or body) but in some patients clinical presentation may be incomplete. Anaphylaxis may present without skin changes, and cause only airway obstruction and/or low blood pressure (hypotension). This may lead to a delay in the diagnosis. In general, the reaction is more serious with more sudden onset and more rapid progression of symptoms. For this reason, it is advised that vaccine recipients be kept under observation preferably seated near the immunization centre for at least 15 minutes after the injection. For details on the recognition and treatment of anaphylaxis see Annex 10c.

10.4 Reporting and investigating serious AEFI

All observed AEFI cases should be reported to the surveillance system using a standard AEFI reporting form used in the country (see Annex 10a). A line listing form may be used at lower levels to identify trends and clusters of AEFI and as a method of forwarding AEFI data to regional/national level. All serious AEFI should be reported immediately, investigated, and causality assessed whenever possible. Vaccine and/or diluent laboratory testing should not be requested as a routine, and never before the clear working hypothesis has been formulated. Detailed procedures for reporting, investigation and causality assessment of AEFI are described in the Global manual on surveillance of adverse events following immunization, WHO, 2014, available online: www.who.int/vaccine_safety/publications/aefi_surveillance/en/. Additional information on the WHO vaccine safety initiatives can be accessed online: www.who.int/vaccine_safety/en/

10.5 Crisis management and communication

Vaccine safety crises are situations in which a real or potential loss of confidence in a specific vaccine or in the immunization programme occurs, and are often triggered by identification of AEFI. A crisis may have a “real” basis arising from genuine vaccine reactions or immunization errors, new study results, temporary suspension or recall of vaccine, or vaccine replacement. Alternatively, it may have no legitimate foundation and be initiated and propagated entirely by mistaken rumours. Countries should have in place crisis communication plans at all levels which take into account the potential impact that various events may have on the immunization programme. A media communications plan is essential (see Chapter 9.6.2).
Dealing with a crisis presents an opportunity to improve understanding of vaccine safety and quality issues and of immunization programmes in general. Additionally, it is an opportunity to upgrade policies and procedures if needed, and to correct any operative errors.

**Responding to rumours during a crisis**

Whether a rumour triggers a series of events that build up to a vaccine safety crisis depends on the nature of the rumour, how fast it spreads and whether prompt and effective action is taken to address it. Situations that can encourage rumours include serious social conflict, economic and political uncertainty, social transition and clashes of culture and beliefs, a history of discrimination and manipulation, and lack of transparency.

A clear understanding of the crisis and the rumour is necessary before an effective response can be taken.

**Preventing press releases and media briefings**

In the event of an AEFI investigation or impending vaccine crisis, frequent and timely press releases and media briefings can ensure that journalists are kept informed of the facts as they become available. This can prevent the spread of adverse and ill-informed speculations. The content of press releases and statements during media briefings should be clear, simple and concise, and should include the following:

- a complete account of the event, framed in its context (e.g. an isolated event or a cluster of AEFI, or a coincidental event), include key message
- no technical jargon
- an outline of actions taken or planned (such as the AEFI investigation)
- a description of the possible cause of the event
- an assurance that corrective action will be taken, and what steps have already been taken
- references to any relevant publications or websites for further information
- repetition of the key message.
11. Pre-SIA Supervision and Monitoring

11.1 Purpose of pre-SIA supervision and monitoring
The purpose of pre-SIA supervision and monitoring is to ensure that critical planning and preparation activities are adequately covered and are of high quality, appropriateness, and completeness at ALL levels. It aims to rapidly identify gaps in preparedness and poorly performing areas, identify corrective actions, and follow up to ensure corrective actions have taken place in a timely manner.

Supervision is performed by direct supervisors working with supervisees through the SIA operational management structure. Supervisors have the authority to direct the work, check its implementation and enforce corrective actions. Supervision is conducted through the supervisory visits which should be planned and scheduled in advance to allow returning to areas with difficulties. The supervisor’s focus should ensure that preparedness is of high quality so that every child is reached during the SIA. Several levels of supervision are required which include vaccination team, health centre, and district/provincial level supervisors. All supervisors should be provided with checklists and tools to guide their field activities and data collection and reporting and should be adequately trained on effective supportive supervision, on the use of the supervisory checklists and tools including the SIA readiness tool.

Monitoring is performed by individuals who are outside of the management structure who provide independent critical assessment of the activities preceding SIA to the programme manager. As monitors do not usually have the supervisory authority to enforce their recommendations, they should have the qualifications and communication skills to be able to provide feedback and recommendations to the national and local staff. When government staff (national or sub-national) serves as monitors, they should not be assigned to the geographic areas where they usually live or work, to avoid biased observations and ensure fair reports.

Roles and responsibilities of supervisors and monitors at different levels are described in the Annex 9a.

11.2 Management and coordination of pre-SIA supervision and monitoring
Pre-SIA supervision of preparedness is planned 9 months before the SIA at the national level (Chapter 6.3.2). The technical implementation subcommittee is usually in charge of planning and coordination of pre-SIA supervision and monitoring and feeding the findings back to the other subnational subcommittees and the NCC. At each administrative level, a SIA coordination team should be established to oversee the management and coordination of SIA activities. Prior to the SIA, the coordination teams monitor progress and timelines of SIA preparation using the SIA Readiness Tool, described in Annex 8, identify problems, assign individuals to address them and follow up to ensure that corrective actions have taken place.

Table 11.1 Supervision and monitoring activities before SIA

| Pre-SIA supervision and monitoring activities | 75 |
### Activities

<table>
<thead>
<tr>
<th>Activities</th>
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<tbody>
<tr>
<td>- Periodic review/meetings and follow up</td>
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<tr>
<td>- Periodic pre-SIA readiness assessment of preparatory activities carried out at the national and subnational levels</td>
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### What is assessed

<table>
<thead>
<tr>
<th>What is assessed</th>
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<tbody>
<tr>
<td>- Planning, coordination and financing (includes training)</td>
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<tr>
<td>- Monitoring and supervision (includes training)</td>
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<tr>
<td>- Vaccine, cold chain, logistics and waste management</td>
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<tr>
<td>- Social mobilization and communication</td>
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### Action

<table>
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<th>Action</th>
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<tbody>
<tr>
<td>- Immediate corrective measures by identified responsible person</td>
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### 11.3 Readiness assessment for national and district level planning

To assess and ensure timely preparation for Measles and Measles and Rubella (M/MR) SIAs, the SIA Readiness Assessment Tool should be used at the national and at the district level. The Tool assesses SIA readiness at different points in time (see Annex 8). Results from the Tool are then aggregated to higher levels to provide mid-level and national managers important and timely data for decision making.

The objective of the *national* level tool is to assess whether the national level has put in place the fundamental elements necessary to support successful SIA preparation and implementation at the subnational level. It addresses a total of 21 critical activities divided into 4 categories: 1) Planning, coordination and financing (11 activities); 2) Monitoring and Supervision (2 activities); 3) Vaccine, cold chain and logistics (4 activities); and 4) Advocacy, social mobilization and communication (4 activities).

The major activities and timeline are the same as described below for SIA preparation. The national level tool could be administered by a representative of the interagency coordinating committee (ICC) or the NCC that would be charged with monitoring SIA preparation at the national level from 15 months to one week prior to the SIA.

Between **9 and 6 months** before the SIA, the sub-committees should have prepared national SIA guidelines. Microplanning workshops and advocacy and planning meetings at the provincial/district levels should be held and respective plans completed. Cold chain system and equipment should have been assessed at provincial and district levels to establish whether additional cold chain equipment needs to be ordered. Orders for vaccines, injection equipment, safety boxes and other logistics should also be placed before this time to ensure timely delivery and further distribution to the local level. If, despite the efforts, vaccines and devices will not arrive in time for implementation, the SIA will have to be delayed. In such a case, the earlier the decision to delay is made, the easier it is to reprogram SIA activities while maintaining trust from local partners and local level personnel.

By **six months before the SIA** all plans including national logistics plan, supervision plans, advocacy, social mobilization and communication plan, should be finalized and budgeted for.

By **four months before the SIA**, funds for training and advocacy and planning activities should be received at least to the district level. Microplans should be validated at the district level and strategies for special populations confirmed.
By three months before the SIA, training materials, supervisor and vaccination team guidelines or pocket guides, forms, tally sheets and checklists should be printed and distributed to the local level so that they can be used for the training of mid-level managers, supervisors, vaccinators and volunteers.

By two months before the SIA, supervision and monitoring plans and waste management should be in place at each level. Developed advocacy, social mobilization and communication materials should be distributed and plans implemented in the run-up to the campaign. SIA launch ceremonies should be confirmed. Supervisory visits to assess SIA readiness at district levels should begin and continue periodically (at 8, 4, 2 and 1 week prior to the SIA) until the start of the campaign.

During the month before the SIA training of mid-level health workers (4 weeks before the SIA) and vaccinators and volunteers (2 weeks before the SIA) should be conducted, social mobilization and communication activities implemented and bundled vaccines and other inputs (e.g. additional cold chain equipment or other health interventions) distributed.

The objective of the district level tool is to provide greater granularity in assessing readiness to conduct an high quality M/MR SIA at the implementation level and whose results can be quantified and aggregated to assess overall readiness at higher administrative levels (see Annexes 9b and 9c). The tool addresses 17 critical activities and 28 components divided into four categories similar to those in the national level tool: Planning, coordination and funding (7 activities, 12 components), Monitoring and supervision (3 activities), Vaccine, cold chain and logistics (5 activities, 11 components), and Social mobilization and communication (2 activities).

The district level tool is designed to be administered by a coordinator, supervisor or monitor four times prior to the SIA during the 8th, 4th, 2nd and final week(s) before the SIA. Suggested sources of information are provided (in *italics*) under each critical activity. When the coordinator, supervisor or monitor considers the critical activity is not on track, he/she should record the reasons for the delay, needed actions, deadlines and responsible persons on the tool. Finally, based on the findings of the assessment visit, the assessor should provide a summary assessment of whether the district is ready or on track to implement the SIA on the planned start date. The district and national SIAs coordination subcommittees should use each phase of readiness monitoring in order to ensure timely preparedness for the SIA, by addressing the documented lags in preparation at the relevant administrative level.

Findings from each district visit may be entered on a computerized EXCEL spreadsheet (dashboard) that automatically calculates and graphically displays summary statistics. Data entry is simple and includes Yes or No responses indicating whether each of the critical activities or their components has been accomplished. Summary statistics may be reviewed at each time point prior to the planned SIA start date. Program managers and supervisors or other responsible persons may then take necessary actions to get preparation back on track or possibly delay SIA implementation until the critical preparation activities are accomplished, as determined by the authorities.

The SIA Readiness Assessment Tool and the dashboard may be customized for national and subnational use. For example, the dashboard requires customization regarding the number of districts in a province.
to determine the denominator in calculating percentage of administrative units that have completed a particular activity, and to represent that graphically. Map files will be needed to create pattern maps indicating readiness by district or province catchment area.

VI. 8 weeks to 1 day before SIA: Pre-implementation

8 to 4 weeks before the launch of the SIA you should
  • At the national level
    - Assess SIA readiness at national and at district levels
    - Increase the frequency of meetings of the national subcommittees to review readiness and address gaps
    - Prepare for transferring vaccine and supplies from the central store
    - Start preparations for the opening ceremony
    - Verify that all media ads are prepared
  • At the district level
    - Verify modes of transport availability
    - Receive/collect vaccine from the central store
    - Begin social mobilization and communication activities
  • At the health facility level
    - Final team planning: identify means of transport, finalize maps of catchment areas, start recruitment of local volunteers

4 weeks to 1 day before the SIA launch you should:
  • At the national level
    - Assess SIA readiness, undertake supervisory visits to selected districts (at 4, 2 and 1 week prior to the SIA)
    - Begin newspaper, TV and radio announcements
    - Confirm preparations of opening ceremony
    - Prepare supervisory teams for SIA
    - Prepare site for opening ceremony (1 to 2 days before SIA)
  • At the district level
    - Intensify social mobilization and communication activities
    - Conduct training
  • At the health facility level
    - Attend training
    - Train volunteers
    - Intensify social mobilization and communication activities
    - Confirm means of transport
    - About 1 week before SIA: start freezing water-packs
    - 1 to 2 days before SIA: transfer vaccine to posts, prepare posts
The specific objective of the pre-implementation phase (8 weeks to 1 day before SIA) is to ensure that all SIA planning and preparation activities are completed, and that an effective start of SIA is ensured. Specific key activities that were planned, developed and prepared from at least 9 months prior should now be finalized. The preparations of these activities have been covered in previous chapters as described below:

1. Training for all key players (see Chapter 8) organized in no more than 2 levels (mid-trainers 4 weeks and health workers 2 week before SIA)
2. Social mobilization (see Chapter 9) – intensified activities along with communication activities at both district and health facility level
3. Logistics at district and health facility level, based on careful microplanning (see Chapter 7) with vaccination team deployment layout (itinerary for the teams and SIA strategies, composition of teams, maps of catchment area showing movement of teams ), finalized transport arrangements, adequate vaccine, diluent and other equipment, supplies and forms distribution to lower levels, reliable cold chain ensured, waste management arrangements finalized and supervisory and monitoring visits planned and ongoing.

Assessing the level of preparation in this phase is critical as it allows time for corrections or (when it is apparent that critical activities needed for quality SIA cannot take place prior to the SIA) decisions to postpone the start of the SIA. If SIA implementation cannot be delayed, central level can prepare a draft microplan and send it to each local level, allow for making changes based on local needs and have the microplan returned in the shortest possible time. For verifying completion of critical activities at district level using SIA Readiness Assessment Tool see Chapter 11.3 and Annex 8c.

VII. Implementation of the SIA

<table>
<thead>
<tr>
<th>During SIA you should:</th>
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<tbody>
<tr>
<td><strong>At the national level</strong></td>
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<tr>
<td>- At the first day: conduct opening ceremony, have press briefing</td>
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<tr>
<td>- During SIA: Supervise posts/teams, address emerging problems, calculate national daily and cumulative vaccine coverage and AEFI rate, prepare daily report to inform Ministry of Health or as appropriate</td>
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<tr>
<td><strong>At the district level</strong></td>
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<tr>
<td>- Supervise posts/teams</td>
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<tr>
<td>- Compile, calculate and report daily coverage and AEFI to the national level</td>
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<tr>
<td>- Coordinate back-up teams</td>
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<tr>
<td>- Data analysis and supervision</td>
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<tr>
<td>- Review intra-SIA RCM results and take actions as appropriate (for areas with low coverage)</td>
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<tr>
<td><strong>At the health facility level</strong></td>
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- Start vaccinations (each day with a new set of tally sheets)
- Assist/relocate teams
- Report daily tallies after verifying accuracy
- Report observed AEFIs
- Identify areas/populations (through intra-SIA RCM or other means) not achieving coverage and report to supervisor
- Return unused supplies to the district

12. Operation of Vaccination Posts

12.1 Roles of personnel

The composition and organization of an effective vaccination team depend on the SIA strategy applied. The typical vaccination team at a permanent or temporary fixed post consists of four members: two health workers and two trained volunteers, organized to perform complementary tasks. If house-to-house canvassing is used, and additional volunteer is needed (‘canvasser’), while mobile teams may have only two members (one health worker, one volunteer).

The post coordinator is a health worker responsible for designation of specific responsibilities to other health workers and volunteers and for the overall coordination of the activities implemented at the vaccination post. When there is only one health worker in the vaccination post, the health worker also acts as the post coordinator. Responsibilities of the post coordinator/health worker include:

- supervising volunteers and other health workers (if more than one);
- liaising with team supervisors, re-supplying the post;
- checking tally sheets and AEFI forms are correctly filled and summarized at the end of each day and submitting to the team supervisor;
- responding to possible AEFIs and ensure proper, management and reporting of any event;
- liaising with community leaders in the catchment area;
- ensuring correct storage conditions for vaccines (vaccine and diluents supply, cold chain);
- reconstituting and administering vaccines (recording the time when reconstituted);
- ensuring safe disposal of injection devices and handling of safety boxes;
- providing information/clarification and responding to questions;
- participate at the end of the day meetings.

Volunteers are responsible for:
• maintaining order in the waiting area, crowd control;
• ensuring efficient flow through the post;
• screening clients, checking and recording the age (if unknown, estimate based on local events or holidays);
• providing additional non-injectable interventions (e.g. Vitamin A, deworming etc.) if integrated with SIA;
• tallying each vaccine recipient and record in the tally sheet;
• marking the finger of each vaccine recipient with indelible marker pen;
• marking zero dose children (if in community with good card retention);
• going into the community and seeking eligible children during SIA;
• acting as announcers or house-to-house canvassers.

The vaccination team must know exactly when and where they will vaccinate, the size of the target population, hard to reach populations, and how they will move from post to post, and this information has to be made available to the team supervisors as well. Maps and itineraries should be shared with supervisors, local health officials, and local social mobilizers and community leaders, and any changes communicated promptly.

12.2 Organization and management of vaccination posts
Each vaccination post should be clearly marked (e.g. poster, banner, flag) and volunteers and health workers should be easily identifiable (armband, T-shirt with a SIA sign or similar). A well-functioning post should ensure an efficient one-way traffic flow to prevent ‘bottlenecks’, long waiting periods and confusion (Figure 12.1). As bottleneck occur most often during screening and recording, it is advisable to have additional trained volunteers at very busy posts. A busy fixed post may have two vaccination teams, operating in parallel.

Figure 12.1 Example of organization of the SIA vaccination site
Each vaccination post (permanent, temporary or mobile) should have these equipment and materials:

- appropriate supply of vaccines and diluents for the daily target population (extra supplies should be available the first 2-3 days of an SIA when demand is high and 40-50% of the target is reached, especially in urban / peri-urban posts);

- matching quantities of AD syringes, disposable syringes and needles for reconstitution and safety boxes;

- a vaccine carrier (with 4 frozen water-packs or 1 kg of ice for the day);

- appropriate number of tally sheets for the day;

- indelible marker pen for finger-marking;

- AEFI kit, AEFI reporting forms;

- a bin for non-biological, non-sharps waste;

- two tables, chairs, benches;

- metal trays and plastic sheeting, if possible;
• a banner/poster to identify service delivery post during SIA.

The area where vaccines, especially measles-containing vaccines, are stored should be out of direct sunlight, either under a roof or otherwise shaded. Efforts should be made to create a friendly atmosphere at vaccination posts to ensure that this experience for parents and children is as comfortable and as convenient as possible. The waiting area, for example, should be in a shaded area in hot climates.

12.3 Safe vaccine administration
Measles and measles-rubella vaccines are safe and have been used for decades. However, during SIAs the large number of vaccinations is performed in a short period of time, and many outside of healthcare facilities, therefore it is imperative to maintain high immunization safety standards. After reconstitution, measles and MR vaccines quickly lose their potency if exposed to room temperature or light, requiring careful handling. Supervisors should pay particular attention to safe immunization practices during their supervisory visits before, during and after the SIA.

Practices described below should be equally incorporated into the routine and SIA administration of measles and measles-rubella vaccines.

The proper use of auto-disable (AD) syringes in SIAs greatly reduces person-to-person transmission of blood borne pathogens. Key points to emphasize:

• Use a new, sterile packed AD syringe for each injection for each child.
• DO NOT PRE-FILL SYRINGES.
• Use the same syringe to draw and to administer the vaccine.
• Immediately after injecting the child, the AD syringe must be placed in injection safety box, or a puncture proof container. DO NOT LEAVE the syringes on the table, or a tray after the injection.
• DO NOT ATTEMPT TO RECAP the needle. This practice can lead to needle stick injuries.
• Do not use AD syringes that have damaged packaging, or have passed the manufacturers expiry date.
• Wash your hands with soap and water before and after the session.

Photographs of vaccine and diluent vials may be made available to vaccination teams to avoid possible confusion and use of similarly packaged medical products.
Vaccine reconstitution

Measles and measles-rubella vaccines are freeze-dried and need to be reconstituted before administration. A health worker should perform vaccine reconstitution using the diluents from the same vaccine manufacturer. The diluents must be at the same temperature as the vaccine vial, so it is important to keep the diluents in the refrigerator for at least 24 hours before use.

- Check that correct vaccine and diluents (from the same manufacturer) are included.
- Check for expiry date on the label of vaccine vial and diluent and VVM on the cap of vaccine vial.
- Use a new reconstitution syringe for each vial of vaccine and diluent.
- Reconstitute only one vaccine vial at a time.
- After reconstitution, shake the vial gently upside down few times, holding the neck for mixing appropriately. Do not hold the vial with the finger on the vial’s septum.
- After reconstitution, immediately dispose of the reconstitution syringe in a safety box WITHOUT RECAPPING.
- Record time of reconstitution on measles vaccine vial label.
- After reconstitution, always keep the vaccine cool and protected from light (i.e. sunlight or fluorescent light). Best practice is to keep the vaccine vial in the slit in the foam of the vaccine carrier, placed in the carrier (Figure 12.3). Do not leave the vial in the holes of the water-pack as that exposes the vaccine to light and heat.

Figure 12.3 Vaccine vial in the foam of the vaccine carrier (photo credit Dr R. Perry)

- Reconstituted vaccine vials should never be submerged in water (from melted ice, for example) and the vial’s septum should remain clean and dry. Well-sealed water-packs should be used and water should not be allowed to accumulate when the vials are stored.
- Use the reconstituted vaccine within 6 hours of reconstitution. Any unused reconstituted vaccine must be discarded after 6 hours or at the end of the session, whichever is earlier. DO NOT put reconstituted vaccine back in the refrigerator for use the following day. Using vaccine more than 6
hours after reconstitution, even if stored in a fridge, carries the **risk of contamination** as well as **loss of potency**. Children have become severely ill and have died when injected with vaccine that was reconstituted, left overnight, then used again the day after reconstitution.

- **NEVER carry** and use reconstituted vaccine from one session site to another.
- **Discard reconstituted vaccine immediately** if there is visible evidence of contamination, any suspicion that an opened vial has been contaminated or if the cold chain has not been maintained at any point.

**Vaccine administration**

The dose of 0.5 ml of measles/measles-rubella vaccine is given subcutaneously in the outer part of the upper arm (Figure 12.4).

During M/MR/MMR SIAs, all individuals in the target population should be vaccinated regardless of their previous vaccination status. This includes individuals who have received a dose of M/MR/MMR vaccine less than four weeks prior to the SIA. SIA eligible individuals who are admitted to the hospital while the SIA is in progress should receive vaccination, unless vaccination is contraindicated.

**Figure 12.4: Subcutaneous injection technique**

Vaccinators should anticipate and take measures to prevent sudden movements by the child during and after injection. Parents/caregivers should be asked to hold babies and small children on their laps to keep them still. It can help to tuck the child’s legs between the parent/caregiver’s thighs.

The following steps should be followed when administering measles or measles-rubella vaccine:

- **Using an AD syringe, fill the dose (0.5 ml) accurately. If an incorrect volume is drawn, discard the AD syringe and its contents.**
- **If not enough vaccine for one complete dose is left in the vial, discard that vial and take the complete dose from another one.**
• DO NOT pre-fill syringes in advance – fill them only prior to each vaccine administration.

• Hold the child’s upper arm from underneath; reach around the arm with your fingers to pinch up the skin.

• Clean the injection site (if visibly dirty) with a cotton swab wet with clean water.

• Push the needle into the pinched-up skin to a depth of not more than 1 cm. The needle should go in at a sloping angle (45 degree).

• Press the plunger with your thumb to inject the vaccine.

• Withdraw the needle and press the injection site with dry swab, do not rub.

Reducing pain at the time of vaccination

WHO recommends addressing the pain at the time of the vaccination with effective, feasible, non-costly, culturally acceptable, age-specific and evidence based strategies for pain mitigation. These can include:

• General measures (calm and collaborative health care personnel, proper positioning of the vaccinee, no aspiration during intramuscular injections, and for multiple vaccine administration - sequencing injections in order of increasing painfulness, e.g., injections after oral vaccination), and

• Specific additional measures (the presence of the caregiver throughout the procedure for children, breastfeeding during or shortly before the procedure if culturally acceptable, distractions to divert attention).

The following interventions are not recommended by WHO due to the lack of evidence of pain mitigation effectiveness and/or potential for altering vaccine effectiveness:

• warming of the vaccine (by rubbing it between the hands);
• manual stimulation of the injection site by rubbing or pinching;
• administration of oral analgesics (e.g. acetaminophen, ibuprofen) before or at the time of vaccination.

Pain occurring during the days after vaccination, as well as possible fever, can be mitigated with oral analgesics.

For more information on reducing pain at the time of vaccination see WHO position paper at http://www.who.int/wer/2015/wer9039.pdf?ua=1

After vaccine administration

• Immediately discard the used syringe in a safety box, do not recap.

• Mark left ring finger of the child with indelible marker pen. To prevent the marker pens from drying, recap them after every use and keep them horizontal when not using (the left little finger is the standard for marking OPV, avoid using the same finger for MR).
• Mark tally sheet.

• Record vaccination in the SIA vaccination card or as a separate line of the home-based record (routine vaccination card, child health card or other) and return to child/caregiver. Note that SIA doses are additional doses and should not be recorded or counted as routine doses.

• For children <2 years of age and when the child has younger siblings, remind the caregiver about routine immunization doses and provide information of the time and place of the next routine session.

• Ask the vaccinee to remain at the session site for 15 minutes after injection, preferably seated (to observe in case of AEFI with rapid onset).

At the end of the immunization day or when the team leaves to go to another vaccination site

The vaccination post coordinator/health worker should:

• crosscheck and sum up entries on the tally sheets and submit to the supervisor;

• ensure that all safety boxes and other hazardous waste are collected for safe disposal;

• discard reconstituted vaccine vials;

• ensure that all other waste, including used vials, is safely disposed of and that all equipment is properly cleaned and prepared for the next day;

• return all equipment, including unopened, vaccines and other supplies to the nearest health centre – the location of the health centre for the return of vaccine should be precisely indicated ahead of time to all vaccination post coordinators/health workers and team supervisors;

• inspect and clean the vaccination post and its immediate vicinity.

12.4 Waste disposal

Safe waste disposal options should be reviewed at the national level during the planning phase (9 months before SIA). National logistics subcommittee (Chapter 6) should consider an assessment of existing local practices for medical waste disposal and decide on the safe strategy. No single, universally accepted method exists, but a viable, locally adapted solution must be identified and agreed upon by all partners. Operational plans are further developed at the district level and included in the national logistics plan and should be finalized 6 months before the SIA.

Safe disposal of safety boxes

All used disposable syringes and needles (including reconstitution syringes and needles) must be disposed of immediately after use – without recapping – into designated puncture-resistant safety boxes provided in all vaccination posts. Each 5 L safety box can hold up to 100 syringes and needles and should
only be filled approximately ¾ full, or up to the ‘fill’ line. If, for any reason, the safety boxes run out at a post, other puncture resistant containers such as metal cans or thick plastic containers may be used for injection equipment disposal. An ordinary cardboard box is NOT puncture-resistant, therefore should not be used. Safety boxes must be kept in a secure area and taken for disposal as soon after the immunization session as practical. No other waste should be put into the safety boxes.

Commonly used methods for destroying filled safety boxes include burying and incineration. The recommended method of disposal is incineration. In areas where incinerators are not available and cannot be constructed, alternative disposal measures, such as burying, must be put in place.

- **Incineration:** Auto-combustion type incinerators, which achieve temperatures in excess of 800 degrees centigrade, are preferred for the destruction of all contaminated sharps. Well-functioning incinerators ensure the most complete destruction of needles and syringes and reduce the volume of waste to a minimum. High temperature, dual-combustion incinerators with air filters produce less toxic pollutants than furnaces burning at lower temperatures. Some health facilities have on-site incinerators, which may be used for SIA purposes. Otherwise, incineration facilities from other industries (e.g. cement factories) should be borrowed for the SIA, if possible.

- **Burying/encapsulation:** Full safety boxes can be placed in fenced off waste burial pits, at least 2 meters deep. The pit bottom should be more than 1.5 meters above the groundwater during rainy season. When the pit is full, it must be covered with at least 30 cm of soil and sealed with concrete. Encapsulation is a similar method, whereby waste is placed in containers which, when ¾ full, are filled with a medium such as sand, cement, or clay. Once solidified, the containers are then buried or taken to landfills. Burying/encapsulation is simple and inexpensive, however, pits will fill very quickly in SIAs so this method may only be suitable in small, rural areas. The choice of sites for pits should be agreed upon in advance with local authorities, including any local environmental, water, and agricultural officials present in the area.

- **Hub cutters:** The introduction of needle removers (hub cutters) for SIAs can become an opportunity to substantially improve safe handling and disposal of injection waste, not only for SIAs, but also for routine immunization and for all other programmes using syringes and needles. For large-scale SIAs, the number of safety boxes required and therefore the volume of waste to be incinerated can quickly add up and pose logistical challenges. In contrast to one safety box for every 100 syringes, a single hub cutter can, in some cases, hold up to 4000 cut needles. Studies evaluating hub-cutters have found the devices to be as safe as current sharps disposal practices. Hub cutters are particularly useful in countries that have the capacity to recycle plastic materials. Recycling of disinfected plastic syringes (with needles removed) will dramatically reduce the volume of waste generated in SIAs and the incineration needs.

Regardless of method selected, the area which the incineration or burial takes place must be secured. Everyone at the vaccination post, the drivers of vehicles, the people transferring the boxes from the
vehicle to the store prior to incineration and into the incinerator, etc. must be made aware of the risks of contamination from the used injection equipment. Care must be taken to avoid spillage from filled containers. The vehicles used to transport the filled containers must be disinfected if spillage occurs.

Burning of waste in a metal drum or in an open pit is NOT in line with WHO policy for the treatment of waste and it is NOT recommended by WHO since it produces toxic emissions and presents a public health and environmental hazard.

13. Supervision and monitoring during SIA

Supervision and monitoring during SIA aim to ensure that all SIA activities and teams are performing according to the SIA guidelines and local microplans while the SIA is still ongoing. During the microplanning process, supervisors have to formulate the work plan of supervisory and monitoring visits for which they should ensure that resources are available. Their planning should focus on teams and areas that may need more help (weaker teams, hard-to-reach populations). During the SIA, the coordination team at each level oversees the management and coordination of daily SIA activities and troubleshoots challenges that arise. Most of the coordination teams will be deployed during the SIA to supervise and monitor SIA activities. A senior government health official, often the EPI manager or health director at the respective level, is designated as the responsible for leading the team. Key supervisory and monitoring activities during the SIA are the supervisions and monitoring of the vaccination teams and undergoing intra-SIA RCM to find unvaccinated children.

13.1 Supervision and monitoring of vaccination teams

Supervision of vaccination teams is essential to ensure that planned day-to-day operations are correctly executed. The team’s first-level supervisor is responsible for giving directions to the staff and is responsible for ensuring the work gets done. Team supervisors should initially focus their activities on ensuring all teams can organize sessions and safely deliver vaccines. In addition, team supervisors should carry out the following activities:

1. Observation of performance of critical activities with immediate support, discussion and guidance to the vaccination teams;

2. Ensuring that tally sheets and other forms are correctly completed and turned in, in order to calculate daily coverage and track quantitative progress against the plan;

3. Ensuring that teams do not run out of supplies during the day;

4. At the end of the day: summarizing the tally sheets for the day and reviewing progress achieved during the day; participating in daily meetings and debriefing with teams and social mobilizers; based on daily findings, planning where the teams will be the next day; and ensuring the populations in the target areas, especially local leaders, are well-informed. Figure 13.1 shows an example of SIA supervision framework. Monitors can also be deployed to monitor the performance of the vaccination teams during
the SIA. Such monitors should be trained and provided with the relevant tools and check lists. As mentioned above, monitors do not have the authority to enforce action but should provide verbal and written (the filled supervisory checklists) feedback and recommendations to the national and local SIA management teams based on their observations of the vaccination posts so that corrective actions can be immediately taken. For more information on roles and responsibilities of various supervisors see Annex 9a.

At the district level, the coordination team communicates frequently with supervisors and monitors during the day, as well as in the evening at the daily review meeting. The coordination team also communicates daily with the coordination team at the next highest level to report progress and any issues that need to be addressed at the higher level (usually done through the coordinator).

**Figure 13.1** Framework for intra-SIA supportive supervision, adapted from the Department of Health and Family Welfare, Government of India, “Immunization Handbook for Medical Officers”.

<table>
<thead>
<tr>
<th>Planning / Preparations / Training: Establish Supportive Supervision System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microplanning</strong>: identify supervisors with SIA experience and excellent interpersonal skills</td>
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</table>

<table>
<thead>
<tr>
<th>Planning / Training: Plan Supervisory Visits</th>
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</thead>
<tbody>
<tr>
<td><strong>Training, final planning</strong>: Ensure supervisors and monitors have location and time of vaccination teams</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SIA Implementation: Conduct Supportive Supervision Visits</th>
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</thead>
<tbody>
<tr>
<td><strong>Collect information using supervisory checklist and observations</strong></td>
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</table>

<table>
<thead>
<tr>
<th>SIA Implementation: Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review the written feedback and verify issues have been addressed</strong></td>
</tr>
</tbody>
</table>
13.2 Supervisory checklists
Supervisory checklist is a useful tool to ensure systematic approach to supervision by guiding the supervisors to observe and focus on specific activities, skills and performance of the staff. The national technical subcommittee should develop the checklist taking into account country-specific or SIA-specific issues that need close supervision. The checklist should be finalized together with the other forms and tools, reproduced and distributed in quantities according to the microplans, and reach the peripheral levels in time for final planning and training. Supervisory checklists should be short, specific, simple and should have two main sections: 1) list of activities and skills to be supervised, and 2) space for assessment, observations and issues identified and space for recommended corrective actions and persons responsible. Data from supervisory checklists should be compiled and analysed to identify common specific issues for the SIA, such as poor safety practices or HCW knowledge of AEFI management. Issues identified through the supervisory visits are critical for the RI and for future SIAs and should be addressed. See Chapter 14 for proposed indicators for SIA quality with data derived from the supervisory checklists.

Supervisory checklists are particularly useful at the beginning of the SIA when the errors are most likely to occur and when early detection still allows time for necessary corrections. All critical aspects of the vaccination activities should be supervised; therefore, checklists may include the following assessments:

- **Social mobilization:** Assess what social mobilization activities are ongoing at the vaccination post and if they are intensive enough to ensure that entire target population will come to the post. Questions may be asked to parents/caregivers and others at the post.

- **Cold chain and vaccine handling:** Assess if proper techniques are being used to ensure that a safe and effective vaccine is delivered.

- **Availability of vaccine and supplies:** Assess if the team has the proper equipment and adequate quantities of supplies to vaccinate the target population. This assessment often requires opening vaccine carriers and counting vaccines and injection materials.

- **Post organization:** Assess if the flow of the post is adequate to handle the demand both at the time of the visit, or at times with a large number of clients. Supervisors should identify and try to correct any reasons for bottlenecks and help to redeploy teams as needed. Redeployment could be either away from sites where rapid monitoring and door-to-door canvassing suggest the area is well covered or towards sites where the number of children is larger than the current team can vaccinate that day.

- **Immunization safety and waste management:** Assess if proper injection techniques are being used, if AEFI forms are available at each post, and if an AEFI management kit/adrenaline (epinephrine) is available at the planned level (either with the team or at a nearby health centre. Verify if accurate information is provided to caregivers about common adverse events (fever, redness at site, etc.), and if the vaccination team has proper instructions on how to reach the health professional at the nearest health centre in case of emergency.
• **Recording and using data:** Assess if data are being accurately recorded on vaccination card and tally sheets for all interventions, including supplies, and cross check number of vials used against number of vaccinations tallied, and numbers of children getting each intervention for integrated SIAs.

• **RI Strengthening activities:** Assess if RI messages are being given to caregivers.

Supervisory checklist templates which can be modified and used in different SIAs at different supervisory levels are provided in the Annexes 9b and 9c. These checklists should be short enough that easy-to-use electronic versions could be developed and installed on smart phones or tablets. Transmission and aggregation of these data at district and higher levels can help to show the quality / gaps in supervision and how the checklist results are changing over time. If only paper forms are used, then these forms should be summarized at the end of the SIA and the forms and summary sent to higher, eventually national, level.

### 13.3 Rapid Convenience Monitoring (RCM)

The most important objective of RCM is to find unvaccinated children in order to vaccinate them.

Additional goals are to identify reasons for non-vaccination and plan and execute rapid corrective action. RCM data provide information on the general performance of the SIA and suggest how to refine strategies for reaching the hardest-to-reach children. RCM is a pass / fail assessment of the areas surveyed, not a coverage assessment. RCM data are collected using methods that are not designed to be representative of the population targeted for the SIA and, therefore, do not produce valid coverage estimates. RCM should be used while the SIA is still ongoing (referred to as intra-SIA RCM see below) and at the end of the SIA (referred to as post SIA independent monitoring- see section 14.1).

#### 13.3.1 Intra-SIA RCM

Intra-SIA RCM is usually carried out by supervisors to rapidly identify poorly performing areas under their supervision **before the vaccination teams move out of the locality so that corrective actions can be taken immediately.** Planning and budgeting for intra-SIA RCM needs to be done during the early SIA planning phases and all supervisors should be trained to perform RCM. These assessments generally begin on the second day of the SIA. Intra-SIA RCM should be done only in areas where vaccination teams feel that they have completed the vaccination of the target population or in areas where the effectiveness of social mobilization early on the SIA needs to be determined. In addition, supervisors should choose areas most likely to have children missed by the SIA. These include:

- areas near borders, whether between SIA team areas, health facility catchment areas, district borders, regional borders, or international borders;

- areas with migrant populations, ethnic or religious minorities, marginalized populations;

- areas with groups known to resist or be reluctant of vaccination of their children, including more affluent areas;
- areas with difficult geographic access (islands, river or lake-side communities, far from health centres, etc.).

RCM should occur at times when caregivers are available to inform supervisors/monitors of the vaccination status of children living in the household. Annex 11 provides details on the RCM tools.

The district or health centre coordination team should review the results of the RCM daily. Corrective action should be taken if any of the indicators (listed in Table 13.1) are not met.

**Table 13.1 Summary of monitoring TRIGGERS**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Trigger for corrective action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of houses (out of 15) with all SIA-eligible children vaccinated during SIA</td>
<td>&lt;14 houses completely vaccinated</td>
</tr>
<tr>
<td>Percentage of SIA-eligible children identified in IN-HOUSE monitoring that were vaccinated during this SIA</td>
<td>&lt;90% vaccinated children</td>
</tr>
<tr>
<td>Percentage of SIA-eligible children identified in OUT-OF-HOUSE monitoring that were vaccinated during this SIA</td>
<td>&lt;90% vaccinated children</td>
</tr>
</tbody>
</table>

The coordination team should determine what appropriate corrective action should be taken when the triggers for corrective action are met.

Below are some suggested corrective actions:

1) If non-participation is due to lack of awareness of the SIA or locations of vaccination posts and the SIA is still ongoing, then social mobilizers or house-to-house canvassers should be sent out to the area to inform caregivers where the posts are located and to encourage caregivers to take all un-immunized children to the vaccination posts.

2) If non-participation in the SIA is due to resistance or specific rumours, experienced supervisors should work with key informants and local leaders to overcome these difficulties.

3) If populations are reluctant to travel to the nearest vaccination post, either because of distance or socio-cultural barriers (for example, ethnic or religious differences, etc., between those missed and those around the nearest post) then the post should be moved or split so that a post is set up in the area with low coverage. Social mobilizers should ensure the leaders and people know of the new site and are encouraged to send their children there.

4) If there are unvaccinated children in a mobile post in an area with clearly defined target population (e.g. rural village) and the vaccination teams are nearby in another village, the vaccination teams can go back before leaving the locality to vaccinate any missed children.
**IN-SCHOOL monitoring**: In school monitoring is recommended when a high proportion of the SIA target age range are attending school, or when teams are using schools as temporary vaccination posts. This allows the monitoring of the completeness of this strategy, both in terms of ensuring all schools (public, private, religious) are visited and in terms of ensuring that children absent from school on the vaccination day were reached later.

13.4 **Administrative data collection and analysis**

During the SIA, administrative data provide an important source of information to monitor the number of children vaccinated, vaccine utilization and other key data elements. Combined with the supervisory and monitoring data, these data should be reviewed to identify when corrective actions should be taken during the SIA. Therefore, a plan for rapid reporting and analysis of data on doses delivered during the SIA should be established.

**Vaccination cards /Home-Based Records for recording**

Recording vaccinations administered during SIAs on a vaccination card/home-based record is essential for the valid verification of immunization coverage during post-SIA surveys, and for establishing the total number of vaccine doses received by a child at school entry (where school enrolment screening policies exist). Although the use of immunization cards can increase the SIA cost and workload, appropriate recording of every vaccination (including those given during SIAs) is recommended by WHO. For more information and guidance on the content and design of home-based records see

http://www.who.int/immunization/monitoring_surveillance/routine/homebasedrecords/en/

**Tally Sheets**

Vaccination teams record each vaccine dose administered on tally sheets. The tally sheets should be simple to understand and use, and should not require significant training. To facilitate counting doses given during the day, boxes should ideally be in groups of 5, tallies should be broken down by age groups (see example in Annex 9d).

- **Tally Sheets for SIAs with multiple Interventions:**

During integrated SIAs with multiple interventions, separate tally sheets are often used for each intervention, so that all interventions provided may be recorded immediately after being delivered. Tallies should be made only once per intervention and only in the section for the appropriate age range. To facilitate comparisons between counts and consistency between forms, it is important that the breakdown of age groups used on tally sheets are consistent for all integrated interventions provided. For example, for a SIA with age group cut-offs at 12 months and 5 years of age:

<table>
<thead>
<tr>
<th>M/MR (target age group: 9 months to 14 years)</th>
<th>Polio (target age group: 0 to 59 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 0 to 11 months</td>
</tr>
</tbody>
</table>
• 9 to 11 months
• 12 to 59 months (or 1 – 4 years)
• 5 years to 14 years

• 12 to 59 months

• Using tally sheets to identify zero dose children:

Identifying zero dose (previously unvaccinated) children during the SIA can provide useful information for RI as it helps identify communities at risk for low routine immunization coverage. This approach should only be used in areas with high vaccination card retention. In this, the tally sheets include the number of age-appropriate children vaccinated during the SIA who had not received any prior measles or MR vaccine dose (zero dose children) (see example in Annex 9e). These tally sheets are optional and should be used without jeopardizing the quality of the SIA. To avoid confusion, during MR introductory campaigns the assessment should clearly be of prior measles, not MR, vaccination.

For information on the routine programme, the data on zero dose children needs to be interpreted with care. The absence of zero dose children identified on the tally sheet does NOT provide information on the strength of the RI programme in the community (as the same children missed by routine could be missed by the SIA). However, if there is a high number of zero dose children, it is clear that many children in the area are missed by RI and further investigation post the SIA needs to take place.

For all the above options, a new tally sheet should be started at each vaccination site each day. Tally sheets should not be carried over and used for more than one day. If a team is vaccinating at a large facility, such as a school that has an accurate list of all registered children, or it is the start of an SIA and large numbers of children have come to a vaccination site, then multiple tally sheets should be utilized. The school’s registration list could be used to crosscheck that all registered children are vaccinated.

At the end of each day of vaccination activities, the tally sheets should be reviewed for completeness by both the post coordinator/health worker and the supervisor:

• date, location, team number, and team members should be clearly indicated
• vials of vaccine received, used, damaged, and returned should be consistent
• tallies are correctly done, with no skipping of rows.

The tally sheets should then be summarized and shared with the team supervisor, including:

• the number of children vaccinated and progress to reach the target
• the number of children given other interventions
• information on vaccine vial counts (vials received, opened, discarded, and returned by team)
• number of supervision and monitoring visits
• number of zero dose children (for areas with good card retention by mothers)
Submission and review of the completed tally sheet (paper or electronic if available) with the supervisor is preferred; however, when necessary, communication of tentative data by other means (e.g. phone, SMS) may be used for frequent or real-time reporting. If vaccination teams are unable to submit tally sheets daily, then all tally sheets should be submitted to the supervisor as often as possible until the end of the SIA.

The tally sheets are then compiled at the first organizational level (usually a health centre or district). The coordination team at that level calculates administrative vaccination coverage using the administrative coverage formula below. During SIA implementation, this formula should be used to track progress in SIA administrative coverage, both daily and cumulative coverage.

\[
\text{Administrative Coverage} = \frac{\text{Number of children in target age group vaccinated during SIA}}{\text{Total number of children in target age group in microplan}} \times 100 = \ldots.. \%
\]

Reporting completeness should also be calculated and monitored daily using the formula below. When using this formula, the numerator should include teams that submitted a complete report for that day.

\[
\text{Reporting Completeness} = \frac{\text{Number of vaccination teams that submitted their complete tally sheets on given day}}{\text{Number of vaccination teams that worked on given day}} \times 100 = \ldots.. \%
\]

If teams submit partially completed tally sheets (e.g. reporting the number of doses given in the morning, but not those given later in the day) the data can be included in the calculation of administrative coverage. The coordination team should assess how many teams provided partial data for each day.

\textbf{Reporting Forms}

The supervisors and coordination team members should analyse the aggregated data and report these data daily to the next highest level for all interventions delivered during the SIA, including persons reached and reporting completeness. It should be recognized that some teams will not be able to provide their tally sheets daily due to teams not vaccinating that day (e.g. delays in travel) or lack of means to communicate. While preliminary reports are collected and sent to the next highest level by the supervisor, the supervisor is responsible for obtaining all missing data and submitting it as soon as
possible. At the end of the SIA all tally sheets should be reviewed again in order to include these results in the final report.

Maintaining accurate administrative data is a challenge, especially when data comes from multiple modalities (e.g. phone, paper, SMS) for rapid reporting. To avoid double counting when compiling final tally sheets, data communicated “informally” (e.g. phone, SMS) should be kept separate from data shared “formally” (e.g. paper, faxed, scanned or photographed form). The number of tally sheets and other forms submitted through formal and informal channels should be reported separately (see example in Annex 9f).

As a minimum, reporting forms should contain following key information and data:

- **Key information**
  - date of vaccination
  - site location
  - team identifier (name)
  - team supervisor (name)
  - target population for the catchment area of that site (from microplan used for vaccine distribution)
  - place for date and signature of team leader submitting the form
  - place for date and signature/stamp of supervisor or health officer receiving and entering the form.

- **Key data**
  - number of vaccinated children by age group;
  - number of children provided with vitamin A supplementation, deworming medicine or other intervention;
  - for areas with good card retention by mothers, previous vaccination for measles (i.e. zero dose);
  - information on vials:
    - vials given to the team
    - vials opened by the team
    - vials discarded by the team (reasons for discarding should be noted).

**Data Flow**

A well-defined data flow ensures that data are rapidly and efficiently communicated to the correct person at the correct time. Ideally at each level someone will be assigned as the SIA data manager, with a requirement for computer skills at district level and above. A proposed data flow is illustrated in Figure 13.2. The aggregated data at each level is compiled, checked for errors and then analysed. Areas that need additional support can then be identified and critical challenges urgently addressed.
At the end of the SIA, the daily reporting forms, including all tally sheets, are compiled for final tabulation (and verification) of the doses administered during the SIA, compared to the tally sheets to check for discrepancies, then shared following the same data flow as the daily reports.

**Figure 13.2 Data flow of daily administrative coverage data.**
Submission may involve passing data to additional data managers where additional levels exist. Note that while the data is passed to the data manager, the data manager is sharing the data with the coordination teams for review, analysis and action.

| Vaccination Teams | • Collect data  
|                   | • Review and submit to supervisor daily |
| Supervisors       | • Analyze team data (summary tally sheets, or reporting forms)  
|                   | • Cross check data for accuracy  
|                   | • Compile and submit data to next higher level data manager daily |
| Data Manager      | • Aggregate team data  
|                   | • Provide data and analysis to management coordination team  
|                   | • Submit data to next higher level daily (district/provincial/national) |
| National Data Manager | • Aggregate data and report analysis back to provincial EPI Staff  
|                       | • Submit aggregate data reports to national level daily |

**Data Interpretation**

Data interpretation requires triangulation of all available information to reach conclusions and make informed decisions for taking appropriate action to improve SIA implementation. The effectiveness of this decision-making process is dependent on having accurate and reliable quantitative data (administrative coverage, RCM data) and qualitative data (supervisor observation and local knowledge). Supervisors at each level must ensure completeness and accuracy of data. Data should be analysed and interpreted through the following steps:

1. Compile and clean data, removing duplications and errors in data entry
2. Review data for accuracy and completeness
3. Perform preliminary analysis
   a. calculate administrative coverage
   b. identify areas of poor performance
4. Perform detailed analysis
   a. evaluate if SIA is on track to reach every child
   b. evaluate if supervision is on track (each team visited each day)
   c. Determine the proportion of zero dose children (as appropriate).

To crosscheck reported administrative data for accuracy, several techniques can be used:

- Compare measles or MR doses delivered (vaccinated children) to the vials opened. The reported number of vials opened, should be consistent with the reported number of doses delivered. For example, if in a given country a 10% waste is considered acceptable, and twenty 10-dose measles or MR vials were opened, then between 180 and 200 doses should have been administered. Supervisors should use this information to cross check the tally sheets daily.

- Compare the reported number of doses of measles or MR vaccine administered to other interventions for the same target age group. For example, the same number of doses of measles or MR should be given to children 12 to 59 months of age, as the number of doses of OPV for the same age range.

- Compare RCM pass / fail results to administrative coverage data. If areas have high administrative coverage but failed during one or more RCM, the teams should identify the reasons why. Reasons why may come from the RCM forms themselves, or may require a separate consultation with local officials / populations. If RCM identified areas with unvaccinated children then the actions taken should be clearly described.

Reasons for inaccuracy of administrative data include:

- incomplete reporting by vaccination teams;
- inaccurate microplanning estimates of target population size (i.e. denominator problem);
- misunderstanding of vaccination teams about target age range (e.g. vaccinating children who are already 5 years of age in a SIA targeting 9-59 months);
- vaccinating children outside of target age range (children older or younger than target) at the request of the guardian or when children have travelled long distances to visit the site;
- discarding empty vials before the end of the session;
- manipulated data reporting.

In addition to reviewing the daily administrative coverage in certain areas, supervisors may plot the daily cumulative administrative coverage on a graph for their area (Figure 13.3), similarly to what is done for tracking routine immunization. Daily cumulative charting is helpful to see if the SIA is on track to reach every child by the end of the SIA. Visual presentation of the data can facilitate rapid identification of areas with lower than expected SIA attendance that need special focus, resource reallocation, strengthening of social mobilization or a modification of the vaccination strategy. Similar strategies can be used for each vaccination team, though plotting is usually not necessary.
Daily doses administered are often higher early in the SIA when attendance is highest, resulting in the majority of individuals being reached on the first few days. When interpreting the cumulative daily doses delivered, consider the strategy being used to reach children in that area. For example, in urban settings with good social mobilization, administrative coverage would be expected to increase rapidly during the first few days, and then increase slowly until every child is vaccinated. Alternatively, in rural settings, if the strategy being used is to reach the sparsely-populated areas first, then the initial daily administrative coverage levels would be expected to be low. For SIAs where school strategies are used, the proportion of children reached will be related to the number and size of schools planned for that day. Usually, because schools are covered first, the number of children vaccinated initially is higher. Reviewing the coverage relative to the total population is less useful, analysing instead the proportion reached by strategy or age group may be more helpful for decision making, so that resources can be directed to poorly performing sites/strategies.

**Figure 13.3** Daily cumulative charting of administrative coverage.  
*Note the dotted line indicates estimated total number of children to be vaccinated (target population).*

### 13.5 Daily review meeting

The coordination teams at each level should convene a daily review meeting at the end of each day throughout the SIA. Such meetings are essential to assess SIA implementation. The meetings are an opportunity for the team (such as the district or the health centre) to share observations for the day, address issues, and consult to develop points for immediate action, while documenting best practices for future SIAs. Moreover, redeployment of supervisors and/or monitors to strengthen certain areas or resolve specific challenges can be decided at the meeting.
Meeting participants should include the local coordination team, local government authorities, local supervisors and all monitors and SIA stakeholders. The local government administrator, EPI manager, or their designee chairs these meetings. The meeting should address questions relevant to the success of the SIA, such as whether vaccination activities are on track, performance is good, which are the challenges threatening success and what solutions should be implemented.

Daily review meetings require flexibility, for example all data are not available during the meeting, and many participants may arrive late due to transportation delays from the field. Data that are available should be compiled prior to the meeting and shared with the participants (e.g. printed summaries or wall charts) to keep the meeting focused. The agenda of the meeting should be followed systematically (a sample agenda in the Box below). For efficiency, the meeting minutes are usually limited to a brief summary of the action points for the next day. Clear action points should be developed, including mop-up activities. When the team itinerary includes designated mop-up days, the schedule should be modified to include poor-performing areas identified each day. A good output from each daily review meeting at the provincial or national level is an SIA bulletin, which includes progress thus far in the SIA, and significant action points, and encouraging stories of vaccination teams. These bulletins should be shared broadly with meeting participants, international partners, and regional / district / health centre staff.

### Proposed agenda for daily review meetings, particularly those at the health centre or district level.

- Chair reviews of action points from the previous day’s meeting
- Coordination team members report any significant updates from higher levels
- Supervisors review if adequate supplies of SIA materials are available for the following days
- For each supervisory area, summaries of the achievements and challenges should be discussed
- Supervisors/monitors should share their findings, including RCM performed
- Supervisors should review if the target population is being reached. This should include review of administrative coverage, RCM and observations
- Reasons for low coverage should be discussed, including potential challenges with vaccine supply/transport, team performance, or social mobilization.
- Solutions to improve activities or address gaps should be agreed upon
- Identify if completed areas need mop-up activities before the team moves on

On the final scheduled day of vaccination activities, the daily review meeting should include a plan for post-SIA independent RCM and plans for mop up activities in all poorly performing areas based on RCM or coverage and programmatic information. For details on post-SIA independent RCM and mop-up activities, see Chapter 14. Clear plans for these activities, including assignment of the teams, duration and logistical preparations should be made during the meeting.
13.6 Use of technology
Available and reliable technology may be utilized during SIAs to facilitate supervision, data collection, data compilation and data analysis. There are many documented cases of using mobile technologies in immunization programmes, such as for routine reporting of doses administered, logistics management information systems, surveillance of vaccine-preventable diseases and AEFI, as well as monitoring of SIAs. Specifically for SIAs, some of the key benefits from this technology include the use of Global Positioning System (GPS) to allow supervisors to check vaccination team movements and which geographic areas have been covered by the vaccinators, as well as the availability of data in real-time for timely decision-making during the campaign. The utility of having the data available in real-time is maximized when the incoming data is linked directly to a visualization software or dashboard that automatically updates with new data points.

These same benefits are applicable in the context of RCMs as well, as having the data available at all levels during the SIA allows for timely allocation of resources for mop-up activities in poor performing areas before or immediately after the SIA is finished. Other features such as GPS coordinates help managers to better supervise vaccination teams. Indeed, pilots in several countries have successfully shown the feasibility and utility of using this technology in RCMs at a reasonable cost, with many of the potential benefits fully realized during implementation. National programmes are encouraged to test the utility of this technology in RCMs by ensuring that there is adequate budget allocation for robust IT support from the central level and planning for sustainability. Planning for such initiatives should include considerations about device selection, data collection software choice, data security, server administration, network carries, and visualization software. It is also crucial that experiences using this technology is properly evaluated and documented.

VIII. 1 to 2 weeks after SIA: Post SIA activities and monitoring and evaluation

1 to 2 weeks after SIA you should:

- **At the health facility level**
  - Conduct mop up vaccination activities in areas with unvaccinated children
- **At the district level**
  - Conduct post-SIA independent monitoring (RCM)
  - Estimate coverage and wastage
  - Calculate proxy SIA quality and process indicators
  - Meet with health centre coordinators and organize mop ups if necessary
  - Submit results (coverage, wastage) to national level
  - Attend the meeting at the national level
- **At the national level**
  - Calculate coverage and wastage
14. Post-SIA activities
At the end of the SIA, trained independent monitors should conduct RCM to identify areas with missed children. In addition, committee members, supervisors, monitors, and coordinators at each level should conduct post-SIA review meetings and prepare a summary report. Along with detailed quantitative information, the report should document impressions and experiences from the field. The outcomes should be used to assess the effectiveness of planning and implementation activities and their impact on immediate outcomes and on routine immunization programme. The lessons learned should be used to improve upon subsequent SIAs.

14.1 Post-SIA Independent Monitoring (RCM)
Immediately after all SIA vaccination activities have been completed, it is critical to conduct independent monitoring using RCM methodology in all poor performing areas where initial data (coverage, intra-SIA RCM) or local knowledge is suggestive of poor coverage. The main objective of post-SIA independent monitoring is to find unvaccinated children so that they can be targeted during mop up activities 1-2 weeks after the SIA. In addition, post-SIA independent RCM provides independent and critical information on SIA performance that would be very useful for future SIAs as well as for the RI programme.

Independent monitoring should be planned and budgeted for during the macro- and micro-planning and budgeting activities. Independent monitors need to be recruited and adequately trained on the use RCM and should undertake an independent assessment of SIA performance in predefined areas (at least one area per district). Areas selected for independent monitoring are the ones most likely to have children missed by the SIA (see list in Chapter 13.3). The RCM methodology and triggers for corrective action are the same as those for intra-SIA RCM (see Chapter 13.3 and Annex 11).

Once the triggers for corrective actions have been met, countries need to schedule mop up activities in the areas with missed children. For this, social mobilizers or house-to-house canvassers should be sent out to inform community of the location of the vaccination post and the time the post will be open. The most appropriate strategy for mop up vaccination should be decided based on the information obtained from the RCM and reasons for non-vaccination, as well as the location and nature of the populations missed. House-to-house vaccination is used in some countries as the strategy for mop up activities to ensure high coverage is achieved.

14.2 Mop up activities
Despite the best planning, errors, weather, or unforeseen events may lead to areas or populations with lower than the target coverage. Therefore, the planning for vaccination team itineraries should include one or more days after the official end date of the SIA when teams can return to areas with
unvaccinated children. Mop-up activities should be included as part of the initial budget planning for the SIA. Approximately, the cost of additional SIA day of the operations budget should be reserved for mop-up (5 to 10% of operations budget, depending on the country). Once post SIA independent RCM has been completed, the district coordination committee should meet and decide which areas or neighbourhoods should be revaccinated based on the following sources of information:

- Post-SIA independent RCM data on areas with missed children and reasons for non-vaccination;
- Administrative coverage data (where the number of vaccinated children is below the estimated target population for the area) with or without intra-SIA RCM data;
- Supervisor observations and knowledge;
- Significant challenges of implementation (e.g. team never visited site, vaccine stock-out, area not included in microplan, and/or inadequate social mobilization).

Mop-up activities should be implemented as soon as possible after the SIA (e.g. during the first two days post the SIA). The mop-up vaccination strategy should be decided based on inputs from the local SIA coordination committee, and be based on an analysis of the available information regarding low coverage areas and reasons for non-vaccination from RCM and other sources.

A report of the mop-up activity must be presented to the district health office, including the reason for the mop-up, the number of children vaccinated during the SIA in the given area and during the mop-up activity, and the lessons learned from the SIA and mop-up. RCM reports should also note the actions taken in response to areas failing to pass.

14.3 Coverage surveys
Coverage surveys should be conducted as soon as possible after the SIAs to assess the coverage reached during the SIA, the coverage reached in children previously not vaccinated against measles (or rubella), the reasons for non-vaccination, and what communications channels informed people about the SIA. When a survey covering routine immunization, such as a DHS, MICS or stand-alone EPI survey has not been done for a few years, and none is planned in the next couple of years, the post-SIA survey can be designed to also provide estimates of routine coverage. However, adding the estimation of routine coverage can greatly increase the sample size, costs, and complexity of a post-SIA coverage survey. Surveys should be done quickly as indelible ink finger markings fade quickly with time and if children/adolescents may try to remove them and SIA vaccination cards may be lost. Ideally, coverage surveys should provide coverage data valid not only for the national, but also for the regional/province and district level, to provide information regarding areas insufficiently vaccinated. The capacity of surveys to provide district level coverage data depends mainly on time and on resource availability. Revised recommendations for coverage survey methods address several weaknesses in the current recommended methods for coverage surveys, and can be found on the WHO web site at:
http://www.who.int/immunization/monitoring_surveillance/en/ . The reports and datasets from these surveys should be shared with both WHO and UNICEF as part of final SIA reporting (see next section).

14.4 Monitoring the quality of the SIA
The quality of the SIA is determined by its impact on disease incidence assessed through disease surveillance. As a proxy for quality, M or MR SIAs should aim to achieve at least 95% coverage nationally and in every district in order to interrupt virus transmission. In addition to measuring administrative coverage and validating it through a coverage survey, it is critical to monitor the quality of the SIA throughout the process of preparation and implementation in order to better understand any challenges and bottlenecks undermining its quality and use the information for improving future SIAs and routine immunization.

To assess quality a number of indicators and targets have been developed for use by countries for activities carried out before, during and post the SIA. Countries, depending on their particular issues may wish to focus on a few of the indicators or add more indicators that are more relevant to the country. Indicators provide information on the quality of different aspects of the SIA (e.g. training, monitoring, supervision, logistics, etc.) as well as shine the spotlight on specific issues and thereby increasing accountability. Below is the suggested list of indicators (and the target) for the different phases of the SIA that should be monitored at country level. A subset of these indicators will be monitored at the global level and included in the SIA technical report (see Annex 12).

14.4.1 Pre-SIA monitoring indicators
Data for monitoring the following indicators can be obtained from programme information and from SIA readiness assessment data. These indicators can be monitored at the national level.

1. Timing of availability of donor funding (GAVI/MRI) at national level (target: available at national level at least 9 months prior to the planned SIA date).
2. Timing of availability of local/government funding at the national level (target: available at national level at least 9 months prior to the planned SIA date).
3. Timing of orders of bundled vaccines and supplies (target: orders made at least 12 to 9 months prior to the SIA).
4. Timing of availability of operational funds at district level (target: available at the district level at least 4 months prior to the planned SIA date in 100% districts).
5. Timing of completion of national SIA logistics plan (target: national SIAs logistics plan completed and approved at the latest 6 months before the SIA).
6. Timing of completion of district level micro-planning workshops (target: 100% of districts complete micro-planning workshops at least 6 months prior to planned SIA date).
7. Levels of SIA readiness assessed at national level using the standard tool to assess readiness at 12, 9, 6, 3 and 2 months prior to the start date of the SIA (target: National level SIAs readiness information documented for 12, 9, 6, 3 and 2 months pre SIAs).
8. Percentage of districts conducting readiness assessment at least twice within the last 8 weeks prior to the SIAs (target=30% of all districts).
9. Percentage of districts with planned quantities of vaccine and devices at least 2 weeks before the start of SIAs (target=100% of all districts).
10. Number and percentage of care takers surveyed within the last 2 weeks prior to the start of the SIA who can identify the target disease, campaign dates, venues and target age groups (target: 95% of caretakers).

14.4.2 Monitoring indicators during SIAs
Data for monitoring the following indicators can be obtained from SIA RCM data and monitored at the district level with data sent to the national level.

1. Percentage of vaccination posts assessed by supervisors or monitors during the SIA (target 100%);
2. Percentage of vaccination sites assessed with no shortfalls of vaccines and devices (target: 95%);  
3. Percentage of permanent fixed vaccination sites assessed with proper cold chain - refrigerators monitored daily and temperatures between 2 – 8 °C (target: 100%);
4. Percentage of M/ MR vaccine vials seen with VVM stage 3 or 4 (target: 0%);
5. Percentage of vaccination sites assessed where used syringes are immediately placed in safety boxes (target 100%);
6. Percentage of vaccination sites assessed where tally sheets are filled correctly (target: 100%);
7. Percentage of vaccination sites where vaccinators know and apply AEFI reporting procedures (target: 100%);
8. Percentage of districts sending daily information of number of administered vaccine doses to the upper level (target 100%);
9. Percentage of unvaccinated children detected during intra-campaign RCM by district (target: less than of 10%);
10. Percentage of parents/care takers monitored through in-house RCM who were not aware of the SIA or timing and location of vaccination posts (target: less than of 5%).

14.4.3 Post-SIA monitoring indicators
Data for monitoring the following indicators can be obtained from intra- and post-SIA RCM data and monitored at the district level with data sent to the national level.

1. Number and percentage of targeted districts that have at least one area monitored through RCM during or post the SIA (target 100%);
2. Number and percentage of unvaccinated children detected during post-campaign independent RCM by district (target: less than 10%);
3. Number and percentage of monitored areas not meeting the minimal level of households/children vaccinated that had remedial action taken within one week of end of the SIA (target=100%);
4. Administrative vaccination coverage by district by antigen and type of intervention;
5. Percentage of districts with M/MR vaccination coverage of at least 95%;
6. Survey vaccination coverage by unit surveyed.
14.5 Review meeting and technical report

Following the completion of the SIA, including mop-up activities, review meetings should be held at all levels. These meetings should accomplish several tasks, identification of accomplishments, agreement on final coverage levels, identification of strengths, recognition of weaknesses and consensus on how routine immunization should be strengthened. Prior to the meetings, key indicators (see above) to provide a qualitative assessment of the various stages of the SIA should be calculated to identify key challenges and lessons learnt. These include indicators on the level of readiness prior to the SIA, on the quality of vaccination efforts during the SIA, and on outcomes of post SIA activities such as post SIA independent monitoring and mop up activities. The report from each level is shared with the higher level, until a national review meeting is held, and the collective experience of the nation is reviewed.

The national SIA coordination committee uses the findings from these review meetings to compile a final technical report, at the end of the SIA (see Annex 12). This report should be submitted to the national authorities summarizing the results of the SIA, including:

- final administrative coverage by district and age group for measles or MR vaccine, with the proportion of districts reaching 95% or higher coverage;
- final administrative coverage by district and age group for other interventions given during the SIA;
- results of the post-SIA mop up activities;
- summary of the routine immunization strengthening activities included in the SIA;
- results of discussion on the positive and negative impacts of the SIA on the routine immunization programme;
- results of any evaluations of the routine program performed during the SIA:
  - analysis of reasons of non-vaccination obtained through RCM
  - verification of zero dose children in the SIA tally sheet
  - verification of prior routine vaccination performed during RCM (if this was assessed)
  - verification of routine immunization performed during post SIA surveys
- summary of lessons learned from the SIA, including recommendations to avoid repetition of errors:
  - Recommendations for future SIAs: the recommendations should include all aspects of the SIA (i.e. planning, coordination and financing; monitoring and supervision; vaccine, cold chain and logistic; and advocacy, social mobilization and communication).
  - Recommendations for improving the routine vaccination.

A copy of the report should be shared with the WHO and UNICEF Offices within 2 months of the SIA, together with spreadsheets with the administrative data results by district.
14.6 Disease surveillance
A sensitive measles and rubella surveillance system supported by an accredited measles and rubella laboratory is vital in order to be able to measure the impact of the SIA on the disease burden in the community and identify chains of ongoing measles and rubella transmission. Disease surveillance activities should be an on-going activity routinely providing information to identify disease trends, risk factors, and the need for interventions. In order to evaluate the impact of the SIA, disease surveillance both during and after the SIA should be case-based, identified by location, time, age and vaccination status.

During SIA training, all health workers should be made aware of the established measles and rubella case definition, surveillance procedures and the case Investigation forms in use in the country. For further information on surveillance, refer to Regional or Country guidelines plus the WHO Module on best practices for measles surveillance, (http://www.who.int/immunization/documents/WHO_VB_01.43/en/) and the WHO Surveillance Standards for vaccine-preventable diseases (http://www.who.int/immunization/documents/WHO_VB_03.01/en/).

14.7 Post-SIA routine immunization strengthening activities
The impact of an SIA on measles and rubella incidence is stronger and longer lasting, the higher programmes can increase routine immunization coverage with the first and (if introduced) second dose of measles or MR vaccine. A strong routine immunization programme is vital for preventing the accumulation of susceptible individuals in the population. The needs identified and lessons learned during the SIA regarding routine and surveillance should be discussed at the post-SIA review meetings (or during stand-alone meetings) and included in routine immunization improvement plans or annual workplans.

The discussion at the post-SIA review meetings should:
• identify immediate positive and negative impact of SIA on RI and surveillance;
• agree on follow-up actions and changes to future SIA planning needed to capture the potential benefits and reduce the negative impacts of SIA to strengthen RI and surveillance;
• clarify roles and responsibilities for follow-up actions.

Typically the key activities for exploiting the SIA to improve routine immunization are updating routine immunization microplans and / or outreach plans, identifying how to reach through routine the previously unreached who were vaccinated during the SIA, and incorporating these lessons into the routine immunization workplan, strengthening plan, and /or cMYP.

**Post-SIA RI Microplan Improvement Activity:** Incorporate newly identified hard-to-reach areas and communities into routine immunization microplans.

a. Discuss budget implications and future resource requirements needed to ensure these areas are assigned outreach vaccination sessions.
b. In the routine immunization microplan, update the schedule for planned vaccination sessions to include any new outreach vaccination sessions.

c. Highlight and identify areas (i.e., identified as hard-to-reach either due to geography, vaccine resistance, other reasons such as ethnic minority, urban poor, or mobile population) where there was low SIA coverage in the schedule for planned vaccination sessions.

**Post-SIA Local Review and Strengthening Sessions:** Identify positive and negative impact of SIA on routine immunization service. If measles SIA coverage is higher than routine measles immunization coverage, then

a. Health workers involved in the SIA outline at post-SIA review meetings the reasons why the SIA was successful and provide potential mechanisms for how to implement these strategies during routine service delivery.

b. These identified strategies should be matched up to the RI system components to help allow for easier selection of one or more strategies that could be incorporated into routine delivery mechanisms. Budget implications and future resources requirements should be discussed. Useful questions to ask include:

- How did you mobilize communities to ensure high participation in the SIA? The answers to this question could help guide discussions regarding future interventions to strengthen routine vaccination.

- Were planned routine immunization services disrupted? If so, the reasons for disruption and the solutions proposed to eliminate such problems in subsequent SIAs should be included in the SIA technical report.

- How did the SIA catalyze renewed attention to immunization practices and, specifically, to injection safety? The training and supervision during an SIA can help to re-train health workers and reduce programmatic errors which can cause unnecessary deaths and have negative long lasting effects on the programme’s credibility. Educational efforts in this regard, including educational supervision, should continue to be promoted after the SIA.

**Include lessons learned in routine planning:** Identify follow-up activities needed to realize the SIA’s potential benefits to strengthen RI and surveillance. To ensure that these activities actually happen, they may need to be built into other RI or surveillance documents, such as the annual plan of action, cMYP, routine immunization improvement plan, training, or supervision instruments. Ensure these plans include all of the activities. Review them to decide:

- priority, based on importance and feasibility;

- fit with other activities already planned for routine immunization and surveillance;

- timing and sequence of activities: which activities need to come before others;
• human resources needed;
• financial resources needed and potential sources of funding;
• clarify tasks, roles and responsibilities, timeframe, budget and potential sources of funding, and indicators for measuring progress on these activities;
• identify immediate next steps for implementing the plan, including sharing it with members of the Interagency Coordinating Committee;
• agree on the key points for the final SIA technical report. These should highlight the achievements and outcomes of the planned SIA activities for RI and surveillance strengthening and provide a clear indication on the priority follow up actions and responsibilities.

14.8 Other follow-up activities

Meetings and press briefings: Briefings should be held and press releases developed and distributed to communicate the SIA outcome to the participating authorities, organizations and the population.

Other post-SIA EPI associated activities may be included in accordance to country specific priorities (e.g. vitamin A deficiency assessments, improving disease surveillance for other vaccine preventable diseases, etc.).
15. References and further reading


112


Goodson JL, Kulkarni MA, Vanden Eng JL, et al. Improved equity in measles vaccination from integrating insecticide-treated bednets in a vaccination campaign, Madagascar


Annexes

Annex 1. Recommended Measles and Rubella Vaccines
Measles and rubella vaccines are available as monovalent measles and monovalent rubella, or in combination, as measles–rubella (MR), measles–mumps–rubella (MMR), and measles-mumps-rubella-varicella (MMRV) vaccine. All of the measles, rubella and mumps vaccine products currently prequalified by WHO are effective, safe and of assured quality. The list of WHO prequalified vaccines is available at: http://www.who.int/immunization_standards/vaccine_quality/PQ_vaccine_list_en/en/
WHO position papers on measles and rubella vaccines are available at: http://www.who.int/immunization/documents/positionpapers/en/

1 a Measles Live Attenuated Vaccine

Vaccine characteristics and administration
Measles vaccine is made from live, attenuated virus. It has been in use since the 1960s and is safe, effective, provides long-lasting protection and are inexpensive. Vaccinating infants before or at the age of 6 months often fails to induce seroconversion due to the immaturity of the immune system as well as the presence of neutralizing maternal antibodies. Based on the results of a large number of studies from all over the world, the median proportion of infants vaccinated aged 8–9 months who seroconverted after receiving 1 dose of measles vaccine was 89.6% (interquartile range, 82–95%); the median proportion of infants vaccinated aged 11–12 months who seroconverted was 99% (interquartile range, 93–100%).

Delivering the first dose of MCV as soon as possible after the loss of protection by maternal antibody remains the highest priority for programmes. In countries with ongoing transmission in which the risk of measles mortality among infants remains high, the first dose of MCV should be administered at age of 9 months. In countries with low rates of measles transmission and with low risk of measles infection among infants, the first dose of MCV can be administered at the age of 12 months, as the achieved rates of seroconversion are higher at this age. In countries with significant incidence among children <9 months of age, measles vaccine can be given to babies as young as 6 months, despite the expected lower vaccine effectiveness in these infants. If this is the case, it is important to communicate that this is considered a zero-dose and these children should receive two additional doses once they are >9 months, to ensure protection.

Delivery of the second dose of MCV may occur either through routine services at the scheduled age, or periodically through SIAs targeted at defined age groups (depending on which strategy achieves higher coverage). The minimum interval between MCV1 and MCV2 is 1 month. Providing routine MCV2 to children in their second year of life reduces the rate of accumulation of susceptible children and the risk of an outbreak. As doses provided through SIAs are considered additional doses, all individuals in the target age group should be vaccinated regardless of when the last MCV dose was given.

Adverse reactions
Measles vaccine is very safe. Adverse reactions following measles vaccination are generally mild and transient. Serious allergic reactions and anaphylaxis are extremely rare. Adverse reactions, with the
exception of anaphylactic reactions, are less likely to occur after receipt of a second dose. The rate of serious AEFI is minimal compared to the complications observed after measles disease or infection. Observed rates of measles vaccine reactions are shown in Table A1.

Table A1: Observed rates of Measles vaccine reactions

<table>
<thead>
<tr>
<th>Measles vaccine reactions</th>
<th>Onset interval</th>
<th>Reaction incidence (Per dose or %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local reaction at injection site</td>
<td>0-2 days</td>
<td>~1/10 (~10%)</td>
</tr>
<tr>
<td>Fever &gt; 39.4°C</td>
<td>7 to 12 days</td>
<td>5 to 15%</td>
</tr>
<tr>
<td>Rash</td>
<td>7 to 10 days</td>
<td>2 - 5%</td>
</tr>
<tr>
<td>Febrile seizures</td>
<td>6 to 11 days</td>
<td>1/3000</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>15 to 35 days</td>
<td>1/30 000</td>
</tr>
<tr>
<td>Anaphylaxis</td>
<td>0 – 2 hours</td>
<td>3.5 - 10 / 1,000,000</td>
</tr>
<tr>
<td>Encephalopathy/encephalitis</td>
<td>8-9 days</td>
<td>&lt;1/1,000,000</td>
</tr>
</tbody>
</table>

Adapted from WHO information sheet: Observed rate of vaccine reactions measles, mumps and rubella vaccines (May 2014) http://www.who.int/vaccine_safety/initiative/tools/MMR_vaccine_rates_information_sheet.pdf?ua=1

1 b Rubella Live Attenuated Vaccine

Vaccine characteristics and administration

Most of the licensed rubella vaccines are based on the live attenuated RA27/3 strain, which is propagated in human diploid cells. Rubella-containing vaccines (RCV) are available either as a monocomponent rubella vaccine or as combined vaccines: with measles (MR), measles-mumps (MMR), and measles-mumps-varicella (MMRV).

Over 95% of susceptible children will seroconvert after a single dose of rubella vaccine at 12 months of age or older. This high response rate and the long-term persistence of protection in vaccines do not support a routine requirement for a second dose of rubella vaccine. However, based on indications for a second dose of measles-containing and mumps-containing vaccines, and for programmatic reasons, WHO recommendation is that the same measles-containing vaccine product be administered for both first and second dose. When RCV is given as MR or MMR, the age of administration usually follows the schedule for measles.

During outbreaks of measles, RCVs (as MR or MMR) may be administered to infants as young as 6 months. Because of the possibility of lower seroconversion, this dose should not be counted as a valid dose and the child should be vaccinated with subsequent dose(s) of RCVs according to the usual national immunization schedule.

Adverse reactions

Generally, the adverse reactions following RA27/3 rubella vaccination (whether monovalent, or in fixed combinations) are mild and transient, particularly in children. Low-grade fever and rash, irritability, lymphadenopathy, myalgia and paraesthesia are commonly reported. While acute joint-related symptoms last from a few days to 2 weeks, large epidemiological studies have not supported any
association between rubella vaccine and chronic joint disease. Observed rates of rubella vaccine reactions are shown in Table A2.

Table A2: Observed rates of Rubella vaccine reactions

<table>
<thead>
<tr>
<th>Rubella vaccine reactions</th>
<th>Onset interval</th>
<th>Reaction incidence (Per dose or %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local reaction at injection site</td>
<td>0-1 day</td>
<td>~1/10 (~10%)</td>
</tr>
<tr>
<td>Low grade fever</td>
<td>7 to 12 days</td>
<td>2%</td>
</tr>
<tr>
<td>Acute arthralgia (in children and men)</td>
<td>7 to 21 days</td>
<td>0 - 3%</td>
</tr>
<tr>
<td>Acute arthralgia (in adult women)</td>
<td>7 to 21 days</td>
<td>up to 25%</td>
</tr>
<tr>
<td>Acute arthritis (in adult women)</td>
<td>7 to 21 days</td>
<td>up to 10%</td>
</tr>
<tr>
<td>Anaphylaxis</td>
<td>0 – 2 hours</td>
<td>3.5 - 10 / 1,000,000</td>
</tr>
</tbody>
</table>

Adapted from WHO information sheet: Observed rate of vaccine reactions measles, mumps and rubella vaccines (May 2014) http://www.who.int/vaccine_safety/initiative/tools/MMR_vaccine_rates_information_sheet.pdf?ua=1

1c Measles-Rubella (MR) Vaccine
This vaccine has the characteristics of both components listed previously. For MR vaccine, the protective immune responses to each individual antigen as well as vaccine-associated adverse events remain largely unchanged. Contraindications and precautions to MR vaccine are the same as those to measles and rubella monocomponent vaccines (see below).

1d Measles-Mumps-Rubella (MMR) Vaccine
This vaccine includes live attenuated mumps vaccine, along with the measles and rubella components. Accumulated global experience has demonstrated that the prevention of mumps requires more than one dose of the vaccine. WHO recommends integrating strategies to control mumps with existing high priority goals of measles and rubella control or elimination. Once the decision has been made to include mumps vaccine, the use of combined MMR vaccine is strongly encouraged. Contraindications to MMR are the same as those to M, R, and MR (see below).

Adverse reactions
Adverse reactions to mumps vaccination are rare and mild – the most common are parotitis and low-grade fever. Higher rates of post vaccination aseptic meningitis have been described in vaccines containing the Urabe and Leningrad-Zagreb strains, however, it is difficult to compare results from different studies given the differences in methods used to monitor for adverse events, including active vs passive surveillance, clinical vs laboratory-confirmed cases, and prospective vs. retrospective ascertainment. The WHO Global Advisory Committee on Vaccine Safety (GACVS) cautions that if Urabe, Leningrad-Zagreb and Leningrad-3 strain vaccines are used in SIAs, national immunization programmes need to take into the account the potential for clustering of aseptic meningitis cases, and implement appropriate strategies for risk communication and case management.

There is no evidence to support a causal relationship between MMR vaccine and autism.
There is no evidence to support a causal relationship between MMR vaccine and inflammatory bowel disease, Crohn’s disease or ulcerative colitis.

**Contraindications for measles and rubella vaccination**

Measles and rubella vaccination should not be postponed in the presence of mild conditions (e.g. mild upper respiratory infections, otitis media, diarrhoea, low-grade fever ≤38.5°C). Symptomatic or asymptomatic HIV infection is NOT a contraindication, except in severely immunocompromised patients.

The contraindications to measles-rubella vaccine are:

- History of anaphylactic reaction to a vaccine component (neomycin, gelatin).
- Severe immunodeficiency (advanced HIV infection and AIDS, congenital immune disorders, malignancies, aggressive immunosuppressive therapy).
- Acute severe illnesses, including those with severe fever or evolving neurologic conditions, as a precautionary measure vaccination should be postponed until the acute severe illness is resolved.
- Active untreated tuberculosis, as a precautionary measure vaccination should be postponed until therapy has been established.
- Pregnancy*.

* As a precautionary measure M, MR, and MMR vaccination should be avoided in pregnancy. Women planning pregnancy should avoid it for one month after vaccination. Foetal damage has not been documented when measles or mumps containing vaccines have been administered to pregnant women. No CRS cases have been reported in women inadvertently vaccinated in pregnancy and in identified foetal infections. Inadvertent administration of MR or MMR vaccines in pregnancy is not considered an indication for pregnancy termination.

**Storage of measles and rubella containing vaccines**

Measles and rubella containing vaccines should be kept at temperatures below 8°C and always protected from heat and light. At central stores, it is recommended to keep the freeze-dried vaccine at a temperature of -20°C. Diluent vials must never be frozen. Diluents can be stored at ambient temperature, unless they are packed with the vaccine, in which case they should be kept in the cold chain at 2-8°C. Reconstituted vaccine quickly loses potency at ambient temperatures. Vaccine vial monitors (VVMs) are of no use once the vaccine vial has been opened. **After reconstitution, the vaccine must be stored in the dark at 2–8°C and used within 6 hours, or discarded at the end of each immunization session (whichever comes first).**

**1e Administration with other vaccines or antibody-containing products**

Immunogenicity and reactogenicity of the individual components are similar when MCVs and RCVs are administered as combined products or simultaneously at different anatomical sites with other vaccines, such as diphtheria toxoid, tetanus toxoid, pertussis vaccine, *Haemophilus influenzae* type b vaccine, poliovirus vaccines (oral poliovirus vaccine [OPV] or inactivated poliovirus vaccine), varicella vaccine, hepatitis B vaccine, or heptavalent pneumococcal vaccine. Similarly, available data suggest that vaccines
against measles and yellow fever or Japanese encephalitis may be administered at the same time at different sites.

As a general rule, live vaccines should be given either simultaneously or at intervals of 4 weeks. An exception to this rule is OPV, which can be given at any time before or after MCVs without interference in the response to either vaccine.

### VACCINES

<table>
<thead>
<tr>
<th>Type of vaccine</th>
<th>Recommended minimum interval between doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactivated vaccines and MCV/RCV</td>
<td>Can be administered simultaneously or at any interval between doses. No interference.</td>
</tr>
<tr>
<td>MCV/RCV and other live injectable vaccine(s) – e.g. JE, yellow fever</td>
<td>Must be simultaneous, or 4-week minimum interval</td>
</tr>
</tbody>
</table>

### BLOOD PRODUCTS

Antibody-containing blood products and MCV should not be administered simultaneously

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Recommended minimum interval between doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ig-containing blood product</td>
<td>MCV</td>
<td>Depends on the type of product and dose given, but varies between 3-11 months for MCVs. For monocomponent rubella vaccine, 3 months should be sufficient</td>
</tr>
<tr>
<td>MCV/RCV</td>
<td>Ig-containing blood product</td>
<td>2 weeks</td>
</tr>
</tbody>
</table>

### Annex 2. Systems approach to SIA – potential routine immunization (RI) strengthening activities

For more information on strengthening routine immunization programmes, a number of reference documents are available from WHO including:

- *Global Vaccine Action Plan (GVAP) 2011-2020*, online:  

- *Immunization in Practice – A practical guide for health staff*, modules online:  
  http://www.who.int/immunization/documents/training/en/

- *Global Mid-Level Management (MLM)*, modules online:  
  http://www.who.int/immunization/documents/training/en/

  WHO Regional Office for Africa, online:  
Annex 3. Securing access for immunization in security-compromised areas: lessons from the polio eradication

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WHO Polio Teams Nigeria and Pakistan

Context
In the past three years, the overwhelming majority of wild poliovirus cases have been reported from countries that are experiencing conflict or from areas that are highly insecure. In addition, tens of frontline health workers working on polio eradication efforts have also been attacked or killed.

NEED: Lack of access to children for planned polio SIAs was impacted by some of the following reasons:
• displacement and movement of thousands of people;
• impact of violence and fear among the health workers and local populations, limiting high-quality work;
• targeted attacks on health workers and primary health-care facilities;
• lack of legitimate government authorities in areas of insecurity and conflict to assist in planning and implementation of polio SIAs;
• large areas under the control of “non-governmental groups”;
• state of emergency resulting in United Nations Department of Safety and Security security levels that prevent movement of UN staff to assist in planning and supervision of activities;
• lack of respect by armed groups for International Humanitarian Law and Geneva Conventions and the “neutrality” of health activities or UN activities.

Access support
In order to ensure a focused approach to securing access to children in such high-risk and insecure areas, the Polio Eradication Programme at WHO headquarters established a unit called “Polio Access Support”. This unit provides support and guidance in four areas: 1) field security support and assessments; 2) political/conflict analysis and advocacy; 3) access diplomacy and programme innovation; and 4) community acceptance and trust, which have proven to be essential to secure access to children
and conduct vaccination campaigns in areas of insecurity. The Polio Oversight Board also approved four “access approaches” that the Polio Eradication Programme could utilize, as needed (Fig: A3.1).

Fig. A3.1

<table>
<thead>
<tr>
<th>Operational strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remote operations/management</td>
<td>Conduct planning and training of local staff from insecure areas outside the high-risk zone; operations in insecure areas should be implemented and managed remotely from safe zones.</td>
</tr>
<tr>
<td>2. Permanent health teams</td>
<td>Minimal visibility of local vaccination teams who are active throughout the month</td>
</tr>
<tr>
<td>3. Shortened Immunization Days</td>
<td>Reduce the duration of SIAs while increasing the teams and logistics to seize short periods of peace/stability</td>
</tr>
<tr>
<td>4. “Fire-Walling” and Permanent Transit Points</td>
<td>Vaccinating on transit points and bordering districts surrounding a high risk or inaccessible areas</td>
</tr>
</tbody>
</table>
Lessons learned - key activities that have helped to improve quality of Immunization in the security compromised areas:

1. Conducting detailed security risk assessment with the involvement of:
   a. government security, and traditional and religious leaders;
   b. local surge capacity personnel

2. Conduct of Intensified Community mobilization, Acceptance and Demand creation activities:
   a. Engage traditional and religious leaders in planning;
   b. Identify and select local staff /vaccinator and develop Community Mobilization Network;
   c. Conduct Health camps – provision of broader range of health services.

3. Periodic revision of micro-plans based on population displacements / movements

4. Pre-positioning of vaccines and operational funds to quickly implement vaccination activities once a window of opportunity opens

5. Intensifying and fine-tuning the existing local innovations for security compromised areas – Transit Points, Permanent Teams, Community Volunteers, Tribal Councils, Fixed posts

6. Sustained advocacy with the Government and Law enforcement authorities to provide access or security support, and maintain “neutrality”

7. Outreach to third parties/ local interlocutors who can engage with non-state armed groups.

Annex 4. SIA Strategies: Fixed or mobile posts with house-to-house canvassing and house-to-house vaccination

4a Fixed or mobile posts with house-to-house canvassing

Strategy description
Due to the high cost and labour-intensive nature of house-to-house canvassing, this vaccination strategy is only recommended in areas where the communities may be hesitant about vaccination or need additional motivation in order to seek vaccination. This strategy can also be helpful in reaching the urban poor and migrant populations.
This vaccination strategy with added social mobilization element involves the use of an additional trained volunteer/community mobilizer (referred to as a “canvasser”) who goes house-to-house informing caregivers about the SIA. He/she works in coordination with the personnel at the vaccination post. Therefore, the full vaccination/canvassing team includes a volunteer canvasser going house-to-house and the vaccinator(s) and an additional volunteer(s) who remain at the vaccination post. There should be one supervisor for every four vaccination/canvassing teams.

The geographic area of responsibility of the house-to-house canvasser should match that of the vaccination team. A trained canvasser conducts visits to around 50 to 100 households with eligible children in a defined area for the duration of the post during SIA. In most cases there is one house-to-house canvasser in the area of responsibility of each team. As the canvasser should be a member of the community being vaccinated, there may be a need for training several canvassers per vaccination team but only one canvasser will be working in any given area. Some countries have specific community canvassers for performing household visits during SIAs and routine immunization. If these are successful, the countries should continue with their own approach.

Canvassers must be able to read and write and should be selected from the local community. Prior to each vaccination day, canvassers will receive workplan sheets to track progress, a map of the designated neighbourhoods to be visited, and a form to indicate the number of houses visited and the total number of eligible children in the area. Visits should be planned so that the canvasser does not cover more than 3 to 5 km daily. If complete and accurate maps are not available, simple diagrams showing the limits of the designated neighbourhood should be provided. Example of such diagrams is shown in Figure A4.1.

The diagram should include the following:

- approximate size of the catchment area;
- labelled area to cover in a day;
- useful landmarks in the area to inform the route and movement plans.
Figure A4.1 Example of diagram of areas for canvassing visits per day

<table>
<thead>
<tr>
<th>Canvasser Name and mobile no.</th>
<th>Sectors / neighbourhoods to be visited by canvasser each day</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANVASSER-2</td>
<td></td>
</tr>
</tbody>
</table>

Figure A4.2: Example workplan for canvasser
Health centre: ____________________________
SIA Week: From _____ to ______
Work Area: ____________________________
Day: ___
Canvassing supervisor: __________________
Canvasser: ____________________________
Sector/neighbourhood: _________________

<table>
<thead>
<tr>
<th>Houses visited</th>
<th>Total No children in target age group</th>
<th>Comments and location of households that refuse vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6, etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure A4.3* Example of form to be filled daily by canvassers

**Household visits**

1. During each visit, the canvasser should:
   - Courteously introduce himself/herself as a health centre (SIA) volunteer, and explain the reason for the visit.
   - Seek informal consent of the household head to discuss the immunization status of children.
   - Inform the head of household about the disease, its control, and need for vaccination. The messages should be short and concise, e.g. what vaccine will be administered/why it is important. In addition, messages about the importance of routine vaccination and need to have each child fully vaccinated should be included.
   - Determine the number of children of age eligible for the SIA.
   - Encourage the head of household to bring all eligible children to the SIA vaccination post – emphasize times, dates, and location of nearest vaccination post.
   - When leaving the household, mark the main door with chalk or a pre-printed sticker, with the date of the visit and any other marking agreed by the country.

2. Fill out the house to house canvassing form indicating the number of houses visited, the total number of children in the target age group in the area covered (See Example above Fig. A4.3)

3. Report any household in which caregivers refuse vaccination to the vaccination team and supervisor, so he/she can visit the houses and provide further advice.

**Responsibilities of the vaccination/canvassing team supervisor**

There is one supervisor for four vaccination/canvassing teams. The supervisor should use the same maps/diagrams as the canvasser. The responsibilities of the supervisor include:

1. Checking the vaccination activities at each of the four assigned vaccination posts (see Chapter 13)
2. Checking the work of each house-to-house canvasser:
a. Assess every day that each of the canvassers have completed all household visits in the assigned area, by checking the house to house canvassing forms and doing spot checks on some of the houses to verify that they were visited and marked.
b. If possible revisit all houses in which the canvasser reports that the family refuses vaccination.
c. Provide feedback to the responsible next-level supervisor regarding the need (or not) to keep teams in the same area the following day.

Variations on the strategy
There is a number of variations of the canvassing approach, and every country may have a preferred procedure. An ideal scenario is for the canvasser to count the SIA eligible children in each household, or even write down their names, to share with the vaccination team so they can confirm that they have been vaccinated. Although this can substantially increase the workload of the canvasser and the vaccination team, it can be used in places with a sufficient number of volunteers. Additionally, canvassers can record the vaccination status of all age-appropriate children within the household, to help identify zero dose children for future follow up through the routine immunization program. Such thorough approaches to canvassing have been used successfully in some countries of the African Region.

4b House-to-house vaccination
Strategy description
The house-to-house vaccination strategy involves a two-person vaccination team (usually one health worker who administers the vaccine and one volunteer), conducting at least one visit to all households in a defined area each day. The vaccination team will administer vaccine to all eligible children directly and mark the door of the house accordingly. This strategy is best used as a mop up strategy for areas shown by RCM to have refusals of vaccination as it provides opportunity for informative dialogue. The vaccination team must be well trained to avoid vaccination related errors and multi dose vial policy should be applied according to the national policy.

Given the effort and distances involved, the use of this strategy means that vaccination teams will be able to vaccinate fewer (approximately 50 to 75) children per day, rather than the expected 100 to 150 in urban or 75 to 100 in rural areas for temporary and mobile teams. As with house-to-house canvassing, it requires strong supervision: one supervisor for every four vaccination teams (depending on the setting).

The geographic area of responsibility of the house-to-house vaccination team must be clearly defined and made available to the vaccination teams and the supervisor

Responsibilities of the house-to-house vaccination team
The responsibility of the team is to visit all households in the assigned geographic area, vaccinate all eligible children found, appropriately mark all households, and return to any households with remaining unvaccinated children to vaccinate them.
Each vaccination team should be provided a map/diagram of the catchment area, which, if possible, includes a scale to define the size of the area, any prominent physical features that inform the route or movement plans, and have visit dates planned in such a way that the vaccination team does not have to cover an area larger than 3 km² each day.

**Household visits**
During each visit, the vaccination team should:

1. Courteously introduce themselves as health workers and/or health centre (SIA) volunteer, as appropriate, and explain the reason for the visit.
2. Ask the parent or caregiver about the immunization status of children.
3. Inform the caregiver, about benefits of vaccination, encourage the family to vaccinate all children, including in routine immunization programme.
4. Determine the number of children in the household eligible for the SIA.
5. Vaccinate them all, if present.
6. Mark the finger of each child vaccinated with indelible marker pen, usually the left ring finger, to differentiate from finger markings for polio vaccination.
7. Fill out the SIA vaccination card or immunization card, ensuring that SIA doses are not recorded as routine doses, for each vaccinated child.
8. When leaving the household, mark the household with the date of visit and indicate if a revisit is needed (either because the eligible children were absent at the time of the visit or the caretakers are refusing vaccination or it is unknown if there are eligible unvaccinated children).
9. Any households refusing vaccination should be recorded and the supervisor should be informed that further assistance is needed. GPS equipment may be used to record the specific location of households refusing vaccination.

**Ensuring safe vaccination in house-to-house vaccination strategy**
The best approach is to use single dose vials. If single dose vials are not available, and multidose vials (5, 10, or 20 dose) are being used, the options to avoid safety issues are the following:

a. Once a vial is opened in a household, the vaccinator stays and continues to vaccinate at this site, while the volunteer visits the houses nearby to bring other eligible children for vaccination. Once the vial is finished, the team moves to the next house. In this case, the houses from which children are brought for vaccination should be marked appropriately.

b. If there are no eligible children living nearby, and if there are concerns about vaccine safety, it may be advisable to discard the open vial rather than move from house to house with an open vial.

**Responsibilities of the house-to-house vaccination supervisor**
There should be at least one supervisor for every 4 house-to-house vaccination teams. His/her responsibilities include:

1. overseeing the vaccination activities of each of the four vaccination teams assigned him/her (see Chapter 13);
2. checking the proper marking of the households using spot checks;
3. assessing daily that the 4 assigned teams have completed all household visits, including repeated visits to households with unvaccinated eligible children;
4. revisiting all houses marked as having unvaccinated children at the end of the day, regardless of repeated visits by the house-to-house vaccination team, and attempting to encourage vaccination;
5. using the findings to advise corrective actions (e.g. best times for vaccination in the area).

4c Vaccination at schools, preschools and day-care centres
Schools are practical settings for vaccination of appropriate age cohorts in which both teachers and students can contribute to social mobilization activities. School based vaccination strategy can make use of schools in the following ways:

- A member of the vaccination team, or another health-centre nurse, visits each school prior to the SIA to provide a short presentation to the students on the diseases covered by the SIA, the SIA schedule and the importance of routine immunization.
- SIA-related homework: Following the class, the teacher provides each student with a letter to parents informing them about: (a) vaccines included in the SIA, (b) age eligibility, (c) timing of the SIA, and (d) location of the vaccination posts.
- Vaccination and social communication teams are assigned to visit schools to provide information about the SIA on pre-agreed days, and prior to vaccinating all eligible children class by class.

Because school children are unaccompanied, school vaccination will require taking into account national and institutional regulations regarding consent from parents or caregivers for the vaccination. In countries where informed consent from parents is required, i.e. where measles vaccination is not mandatory, parents need to be adequately informed of the measles vaccination and provided with a consent form. In those cases, it is most efficient to establish an ‘opt-out’ procedure that requires those parents not wanting to vaccinate their child to sign a form. Sufficient time needs to be planned and allowed for the forms to be provided to parents and to be returned to school prior to the vaccination session. Further guidance can be found in the WHO document “Considerations regarding consent in vaccinating children and adolescents between 6 and 17 years old” at http://www.who.int/immunization/programmes_systems/policies_strategies/consent_note/en/

Annex 5. Examples of common challenges that contribute to low quality SIAs and suggestions to address them

<table>
<thead>
<tr>
<th>Common challenges</th>
<th>Suggested preventive measures or solutions</th>
</tr>
</thead>
</table>

128
<table>
<thead>
<tr>
<th>Issue</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient national high level political support for the SIA</td>
<td>- Negotiate high level political support for the SIA.</td>
</tr>
<tr>
<td></td>
<td>- Mention need for advocacy visits or high level “ambassadors for the SIA”</td>
</tr>
<tr>
<td></td>
<td>- If high level political support is not obtained, consider postponing the SIA as the risk of failure without political support is high</td>
</tr>
<tr>
<td>Operational resources (particularly financial) reaching the</td>
<td>- Start planning the SIA, including its budget, sufficiently early to obtain the necessary assurances, approvals and resources from government and donors (15 to 12 months before SIA)</td>
</tr>
<tr>
<td>implementation (local) level either too late or not in the required</td>
<td>- Plan in sufficient detail (amounts, dates, responsible persons) the distribution of financial and other resources down to the local level.</td>
</tr>
<tr>
<td>amounts</td>
<td>- Plan reporting requirements to track accountability and use of all resources for operations at each level.</td>
</tr>
<tr>
<td></td>
<td>- Ensure that the staff is aware of these processes and requirements.</td>
</tr>
<tr>
<td></td>
<td>- Ensure high level political support as it is key for improving accountability.</td>
</tr>
<tr>
<td>Vaccine and devices ordered / delivered too late:</td>
<td>- Order devices and vaccines at least 9 months prior to the SIA. Devices shipped by sea must have longer lead times than vaccines.</td>
</tr>
<tr>
<td></td>
<td>- Obtain assurances for timely delivery, borrow vaccine and/or devices from nearby countries, or delay the SIA until they arrive.</td>
</tr>
<tr>
<td></td>
<td>- A timeline for vaccine delivery and a vaccine distribution plan should be developed and monitored by the SIA logistics taskforce</td>
</tr>
<tr>
<td>Late start of planning and preparation</td>
<td>- Use the SIA readiness assessment tool as a management tool to help with ensuring that critical activities are implemented in a timely manner.</td>
</tr>
<tr>
<td>Insufficient or delayed local level microplanning:</td>
<td>- At the outset, ensure that sufficient resources are available for microplanning workshops and the microplanning activities are carried out in a timely manner.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Unclear designation of responsibilities</td>
<td>• Clearly define roles with responsibilities and authorities for each position at each level (usually contained in ToRs)</td>
</tr>
</tbody>
</table>
| Inadequate resources for communication at all levels | • Budget for costs and plan resources at all administrative levels  
• Include low cost social mobilization strategies, including use of religious and community groups to pass the information, visits to schools so the students and teachers become engaged SIA promoters and information agents, engage local authorities and recognized subject matter experts to talk about the SIA |
| Visits to schools not included for social mobilization or vaccination | • Include Ministry of Education early in planning. Engage schools private educational facilities and their associations. |
| Inadequate distribution of supplies to vaccination posts, and/or inadequate provision of transportation for supplies and vaccination teams | • Maintain sufficient flexibility in logistics planning, including emergency transportation resources and contingency funds |
| Long queues that discourage participation of attendees, irrespective of their causes | • In well-publicized SIAs for high-demand vaccines, plan for twice as many vaccines to be administered by each team for the first few days of the SIA. Be prepared to increase the number of teams and extend the time when personnel are available at each SIA site. These additional teams can be moved to different sites after the initial demand decreases.  
• For fixed sites with two vaccination teams, having the two teams vaccinate simultaneously in different areas of the same health centre as far as possible from each other can help with crowd control. |
| At the vaccination posts, too much information is demanded from each child, which increases the delays and the likelihood of recording errors | • To facilitate training and implementation, and to avoid errors, vaccination cards should contain the minimum information, usually including (a) location and date (which can often be filled in advance) and (b) name and age of the vaccinee  
• Tally sheets should contain only the essential information for recording |
| Working hours of the vaccination posts not convenient for parents and children | • SIA planning should specifically include strategies to reach difficult to vaccinate populations, so while planning, it is critical to use local knowledge to ensure teams are present when children/parents are at home  
• Visits to all preschools, schools, etc. should be included in the plans, and schools should be informed on time |
| Civil unrest | • In situations of high insecurity or civil unrest, it is often necessary to delay implementation of SIAs. If the decision is made to move |
forward with the SIA, implementation of all or most local
activities, including vaccination and supervision, may need to be
carried out by properly trained local personnel (see Annex 3 for
suggested strategies during civil unrest)

Annex 6. Critical activities and proposed timeline for planning high quality
SIAs

Some of the activities planned for the SIA (see Table A6.1 and A6.2) may be a part of regular national
and district level activities and as such would be in-kind contribution not requiring additional budgetary
funds. These activities/items along with those marked as needing funding will vary according to the
specific country situation and needs, and will have to be evaluated on a country-by-country basis.
District level planning complements the national level planning, and the district activity list is similar to
the national level activity list but with greater operational elements. The two tables below highlight the
key activities and indicate whether or not these activities usually incur additional funding.

Table A6.1 National level planning list

<table>
<thead>
<tr>
<th>Suggested Timing</th>
<th>Activity/Items</th>
<th>Extra funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 12 months prior to SIA</td>
<td>Develop budgeted macroplan with a timeline (plan funds for pre- and intra-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>campaign monitoring and post-campaign activities)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meetings with Ministries of Health and Finance regarding allocation of funds for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the SIA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application to partners (e.g., Gavi, M&amp;RI, local partners etc.) for additional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>funding, if applicable</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Present draft macroplan and discuss the financing within the Interagency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coordination Committee (ICC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Establish and plan the meetings of the national coordinating committee (NCC)</td>
<td>X</td>
</tr>
<tr>
<td>12 to 9 months before the SIA</td>
<td>Establish and plan the meetings of technical sub-committees with clear terms of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>reference</td>
<td></td>
</tr>
<tr>
<td>9 to 6 months before the SIA</td>
<td>Meet with district leaders and health officials (initiate microplanning</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>meetings)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conduct microplanning workshops at the regional/district level</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Conduct microplanning meetings to finalize plans</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Finalize plans and obtain endorsement by the NCC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop and finalize plan for social mobilization, advocacy and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop/update logistics spreadsheets and ensure consistency of calculations,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>including:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplies needed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vaccine and diluents vials</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>AR syringes (0.5 ml) and needles</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Reconstitution syringes (5ml) and 19G or 20G needles</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Gauze, soap, trays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AEFI treatment kits</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Indelible ink for finger marking</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Vaccination cards</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Cold chain equipment</td>
<td>X</td>
</tr>
<tr>
<td>Time Frame</td>
<td>Actions</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Vaccine carriers</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Coolant-packs</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Portable cold boxes</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Safety boxes (5L)</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Incinerator/Pit construction</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Car/motorboat rental and fuel</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Motorcycle rental and fuel</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Fuel if vehicles are available</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Vaccinators</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Volunteers</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Announcers</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Canvassers</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Vaccination team supervisor (per diem)</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Technical assistance consultant, if needed</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>External monitors</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Coordinators, supervisors, stockroom managers, incineration workers, drivers</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Place order for vaccines and injection devices</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Develop national SIA guidelines</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Transfer operational funds to the district level</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Review and validate microplans at the national level</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Budget revision and adjustment according to the microplans</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Develop social mobilization materials</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Confirm participation of public figures in launching ceremony</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Print and distribute supervisory checklists including SIA readiness, tally sheets, AEFI forms, summary forms, cards</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Develop and distribute training materials and tools</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Develop radio/TV announcements and press articles</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Confirm the work plan for monitoring and evaluation of SIAs</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct supervisory visits to province/district levels to assess SIA readiness and identify problems</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Start preparation of launching ceremony</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Verify availability of transport for supervision, social mobilization etc.</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Transport vaccine from central level to provincial cold rooms and district levels</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct supervisory visits to districts with problems to check readiness</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Designate supervisory teams for SIA implementation</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Confirm preparations for the launching ceremony</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct training of mid-level trainers (training sites, refreshments, notebooks, pens, other materials)</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Start regular newspaper, TV and radio announcements</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct training of vaccination teams (training sites, refreshments, notebooks, pens, other materials)</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct supervisory visits to selected districts to confirm preparation and identify and address readiness gaps</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Set up a national operations control room to follow the SIAs and provide back up support to the sub-national level</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>SIA Readiness supervisory visit</strong></td>
<td>X</td>
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</tr>
<tr>
<td><strong>Intensify all social mobilization activities</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Prepare site for launching ceremony and verify public relations arrangements</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Conduct opening ceremony</strong></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### Every day of the SIA Implementation
- Visit/supervise service delivery posts and vaccination teams
- Follow up and review implementation through national supervisors
- Provide back up support to subnational level if needed
- Support daily monitoring meeting at district, regional and central level with key stakeholders
- Support intra-SIA monitoring (independent RCM monitors)
- X

### 1 week after SIA
- Actively collect and compile coverage results from all administrative units
- X

### 2 weeks after SIA
- Conduct a national review meeting with supervisors, consultants, program managers, national and subnational coordinators
- Conduct post-SIA RCM and coverage survey
- X

### 1 month after SIA
- Compile and submit a technical and expenditure report
- Provide written feedback to the subnational level

### Table A6.2 District level planning list

<table>
<thead>
<tr>
<th>Suggested time for completion</th>
<th>Activity</th>
<th>Extra funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 to 6 months before SIA</td>
<td>Prepare initial planning meeting: census data, maps, list of communities, inventory of human resources, transport, cold chain, storage and waste incinerators/pits in the district</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Establish a district SIA coordinating committee relevant subcommittees composed of participants from health and other sectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conduct microplanning workshops</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Verify the availability of transport logistics for the distribution of vaccines and materials</td>
<td></td>
</tr>
<tr>
<td>4 to 3 months before SIA</td>
<td>Verify the availability of operational funds to be transferred from the national level</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meeting with the sub-district and local level SIA coordinators – assign schedule and task lists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distribute SIA guidelines to the sub-district and local coordinators</td>
<td>X</td>
</tr>
<tr>
<td>8 weeks before SIA</td>
<td>Initiate local social mobilization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confirm strategies for hard to reach and special populations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start preparations for the local launching ceremony</td>
<td>X</td>
</tr>
<tr>
<td>8 to 6 weeks before SIA</td>
<td>Verify the availability of transport logistics for the distribution of vaccines and materials, supervision etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finalize distribution plans of vaccines and materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conduct supervisory visits to assess readiness</td>
<td>X</td>
</tr>
<tr>
<td>4 weeks before SIA</td>
<td>Confirm preparations for the local launching ceremony</td>
<td>X</td>
</tr>
<tr>
<td>4 to 2 weeks before SIA</td>
<td>Transfer vaccines and materials to sub-districts and health facilities</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Conduct second round of pre-campaign supervisory visits to selected sites</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Initiate social mobilization activities for hard-to-reach and special populations</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Intensify social mobilization activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conduct training of vaccination teams</td>
<td>X</td>
</tr>
<tr>
<td>1 week before SIA</td>
<td>Visit and support selected underperforming sub-districts</td>
<td>X</td>
</tr>
<tr>
<td>1 to 2 days before SIA</td>
<td>Confirm deployment of supervisors</td>
<td></td>
</tr>
<tr>
<td>Day of the SIA start</td>
<td>Conduct opening ceremony</td>
<td>X</td>
</tr>
<tr>
<td>Every day of the SIA</td>
<td>Visit/supervise service delivery posts and vaccinating teams</td>
<td>X</td>
</tr>
<tr>
<td>implementation</td>
<td>Conduct intra-SIA monitoring - RCM by independent monitors (on average one area per district)</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Calculate immunization coverage at the end of each day for all levels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daily meetings of district supervisors and coordinators to review daily administrative coverage and to review the quality of SIA implementation</td>
<td></td>
</tr>
<tr>
<td>Timeframe</td>
<td>Activity</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>3 days after SIA</td>
<td>Meet with all sub-district coordinators of the district</td>
<td></td>
</tr>
<tr>
<td>1 week after SIA</td>
<td>Review supervision checklists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimate vaccine coverage and wastage in the district</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mop up activities, if needed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Submit coverage results and reports (technical and financial) with documented lessons learnt to the national level</td>
<td></td>
</tr>
<tr>
<td>2 weeks after SIA</td>
<td>Participate in the national review meeting</td>
<td></td>
</tr>
</tbody>
</table>

In case of AEFI, respond to reports and/or rumours

X indicates task completed.
Annex 7. Communication Tools

7a. Assessing Awareness of an Upcoming SIA

The survey is useful for assessing whether social mobilization efforts are effective, particularly in high-risk or hard-to-reach populations. Spot-check surveys should begin 2 weeks before the SIA, allowing enough time to rectify any problems identified. Supervisors/monitors should also make this assessment as part of the SIA readiness tool 2 and 1 weeks prior to the SIA. In each neighbourhood of interest, it is recommended to interview 5 parents/caregivers of SIA-eligible children. Interviews can take place at households, markets, bus stops, etc.

| Date:__/__/__ | Interviewer: _____ | Supervisor: _____ | Town: _____ | Neighbourhood: _____ | District: _____ |

<table>
<thead>
<tr>
<th>Parent/Caregiver:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you know that measles and rubella vaccine can save the life of your child?</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
<tr>
<td>Do you know the dates of the SIA?</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
<tr>
<td>Do you know which age groups will be vaccinated?</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
<tr>
<td>Do you know where the nearest vaccination post will be located?</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
<tr>
<td>Do you know which hours you can take your child to be vaccinated?</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

How did you learn about the SIA?

1. Health worker/volunteer
2. Radio
3. Television
4. Poster, banner
5. Neighbour
6. Other source
7. Never heard
7b. Example of key communication messages for measles and rubella SIA

**Measles**

- Measles is a dangerous disease which can kill children.
- It is so contagious that any child exposed to it who is not already immune is likely to get the disease.
- Measles is caused by a germ (the measles virus). Signs include a red rash over the whole body, fever, runny nose, red eyes, and cough.
- Children with measles must be taken to a health centre immediately. A child with measles can develop ear and eye infections, diarrhoea, pneumonia, even blindness, deafness or swelling of the brain.
- Measles can be prevented by giving at least two doses of measles vaccine. It is a safe vaccine. The first dose is given when the child is 9 months or soon afterwards. The second dose should be given when the child is 15-18 months of age.
- Sometimes mild swelling and redness can occur at the site of the vaccine injection. It goes away with warm compresses and paracetamol.
- An extra dose of measles vaccine is given during measles SIAs to all children aged 9 months to under 15 years (target age group...depending on the SIA), even if they were vaccinated previously, and regardless of whether or not they already had measles.
- Take your child (insert target age range) to the nearest health centre or vaccination post for vaccination during the measles immunization days taking place on ...... (dates).
- Bring your child’s home-based immunization record (vaccination card) when you come for vaccination, so health workers can tell you which other vaccines are needed. If you do not have the vaccination card, you still need to bring your child for vaccination.
- Other important health services, such as (insert integrated interventions) will also be available during the campaign.

**Rubella/CRS**

- Rubella is a highly contagious disease that can cause crippling birth defects or the death of the unborn child of an infected pregnant woman.
- Deafness, cataracts, heart defects, mental retardation, liver and spleen damage are some of the irreversible birth defects caused by congenital rubella.
- All infants/children should be protected by rubella vaccination, using a measles/rubella vaccine; the protection lasts for life.
- If enough people are vaccinated with rubella vaccine, injuries to unborn babies as a result of rubella infection of the mother can be eliminated.
Routine immunization

There are five (5) essential messages that caregivers should receive when they go to be vaccinated/take their child/children to be vaccinated:

1. Explain what vaccine is to be given and the disease that the vaccine will prevent.
2. Explain what side effects may occur, how to treat them and when they should be reported and to whom.
3. Tell the caregiver the place and time of the next immunization session.
4. Tell the caregiver to bring the child back for immunization even if he/she is sick.
5. Tell the caregiver to take good care of the immunization card and to bring it every time the mother and/or child come to a health facility. The vaccination card should be kept safe like a birth certificate.

Note: Each of the five (5) messages should be given more than once.

Vitamin A

- Vitamin A contributes to healthy growth and development, prevents blindness and provides defence against diarrhoea and measles.
- Vitamin A deficiency can be prevented by administering vitamin A supplements to all children aged 6–59 months. It is also very important to consume foods rich in vitamin A, such as breast milk, whole milk, liver, kapenta, green vegetables, carrots and other foods of yellow, orange or red colour, e.g. pawpaws, mangoes, sweet potatoes, pumpkins, palm oil and yellow maize.
- A lack of vitamin A can cause night blindness and other eye problems.
- To reduce vitamin A deficiency in ..........(area), vitamin A drops will be given to all children aged between 6 months and 5 years during measles immunization days to be conducted on .............(dates).
- Take all children aged between 6 months and 5 years to receive vitamin A drops.
Annex 8. SIA Readiness Assessment Tool

8a Measles Rubella SIA Readiness Assessment Tool – National Level
Desired timeframes for completion of each preparation activities are shaded yellow. When an activity is shaded yellow over a period of time, this either indicates an ongoing activity or that the activity is started at the first yellow box and should be completed by the time of the last yellow box. Summary results of the activities and activity components completed at each monitoring/supervisory visit are given below each column as a number and percentage of the total number of critical preparation activities.

Planned SIA Start Date: _____/____/_____  

<table>
<thead>
<tr>
<th>Critical activities</th>
<th>Completed? Enter 'Y' or 'N' each time reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ideal time prior to SIA to complete the activity</td>
</tr>
<tr>
<td></td>
<td>15 m</td>
</tr>
<tr>
<td>If not completed, give reason</td>
<td>Action required</td>
</tr>
</tbody>
</table>

| 1. Budgeted macro-plan developed in line with the cMYP for resource mobilization purposes |
| 2. SIAs budget prepared with MoH and Ministry of Finance collaboration or approval |
| 3. Political commitment at highest level |
| 4. Agreements with local partners to mobilize local resources |
| 5. National Coordinating or Steering Committee established and meeting regularly |
| 6. National Sub-committees established: 1) Technical, 2) Vaccine, Cold Chain & Logistics, 3) Advocacy, Social Mobilization & Communication, and others (e.g. Risk Management/Media Relations) |
| 7. National SIAs guidelines and microplanning tools prepared and distributed |
| 8. Funds available to the district level for operational costs |
| 9. Microplanning workshops conducted at district level |
10. Pocket guides, supervisory checklists, tally sheets, report forms, AEFI forms, etc. developed, printed and distributed
11. Training materials developed and distributed

<table>
<thead>
<tr>
<th>MONITORING &amp; SUPERVISION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan and budget for administrative and &quot;special&quot; monitoring (including independent monitors, RCM, AEFIs) and evaluation (including CES) of SIAs completed</td>
<td></td>
</tr>
<tr>
<td>2. Conduct supervisory visits to province and/or district levels to assess preparedness</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VACCINE, COLD CHAIN &amp; LOGISTICS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A budgeted national logistics plan developed and finalized</td>
<td></td>
</tr>
<tr>
<td>2. Order placed for the purchase of vaccines, injection devices, safety boxes or alternate disposal method and additional commodities (e.g., vit A, deworming, ITNs, etc.)</td>
<td></td>
</tr>
<tr>
<td>3. Cold chain assessment completed at all levels and action taken</td>
<td></td>
</tr>
<tr>
<td>4. Bundled vaccine and other inputs distributed to province and district levels</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADVOCACY, SOCIAL MOBILIZATION &amp; COMMUNICATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A budgeted national plan for advocacy, social mobilization and communication developed and finalized</td>
<td></td>
</tr>
<tr>
<td>2. Advocacy &amp; planning meetings held with partners and stakeholders - e.g., other line ministries (e.g., education, local government, religion), NGOs, professional/scientific societies, journalists, civil society groups (e.g., scouts, Red Cross/Red Crescent, Lions, LDS,) and others</td>
<td></td>
</tr>
<tr>
<td>3. Advocacy, social mobilization and communication materials developed and distributed (e.g., pamphlets, leaflets, T-shirts, caps, banners, posters, cassettes, jingles, radio/TV announcements, etc.)</td>
<td></td>
</tr>
<tr>
<td>4. Preparation of launch to be confirmed before the SIA</td>
<td></td>
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</tbody>
</table>
**8b Measles and Rubella SIA Readiness Assessment Tool – District Level**

<table>
<thead>
<tr>
<th>Province: ____________</th>
<th>Planned SIA Start Date: <strong>/</strong>/___</th>
<th>Target Population: ______________</th>
</tr>
</thead>
<tbody>
<tr>
<td>District: ______________</td>
<td>Dates of visits: (1) <strong>/</strong>/___ (2) <strong>/</strong>/___ (3) <strong>/</strong>/___ (4) <strong>/</strong>/___</td>
<td></td>
</tr>
<tr>
<td>Name of Supervisor/monitor: __________________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical activities / Source of information in italics - desired timeframe for completion shaded light yellow</th>
<th>Completed? Write “Y” or “N” each week visited</th>
<th>If not completed, give reason</th>
<th>Action required</th>
<th>Deadline</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have the following SIA components been operationally planned? Workplan with list of assigned activities and dates</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- vaccine &amp; supplies management</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- waste management</td>
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<tr>
<td>- AEFI investigation</td>
<td></td>
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<tr>
<td>- training</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>- social mobilization/communication</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>- daily data aggregation, reporting and analysis</td>
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</tr>
<tr>
<td>2. Is there a coordination team at this level? Source: Minutes of coordination</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**PLAN, COORDINATION AND FUNDING**

<table>
<thead>
<tr>
<th>Total score: No. of items with ”Y”</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target number of completed activities</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>14</td>
<td>15</td>
<td>18</td>
<td>20</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Circle time of assessment:</td>
<td>15 m</td>
<td>12 m</td>
<td>9 m</td>
<td>6 m</td>
<td>4 m</td>
<td>3 m</td>
<td>2 m</td>
<td>1 m</td>
<td>2 w k</td>
</tr>
</tbody>
</table>

Is the national level on track to conduct the SIA as scheduled?
<table>
<thead>
<tr>
<th><strong>MONITORING AND SUPERVISION</strong></th>
<th><strong>1. Is there a supervision plan that includes names, dates and daily locations of supervisors?</strong></th>
<th><strong>2. Have supervisors/monitors been identified and trained to do rapid convenience monitoring?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Source: Supervision plan</strong></td>
<td><strong>Source: Supervision plan, Training report</strong></td>
</tr>
<tr>
<td><strong>3. Is there political commitment for the SIA?</strong></td>
<td><em>Source: evidence of involvement of local authorities with the coordination team, communication, local resource mobilization, planned launch, and/or involvement of different government sectors</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Do validated microplans identify target population by geographic area/vaccination site?</strong></td>
<td><strong>Source: Microplans, maps and lists</strong></td>
<td></td>
</tr>
<tr>
<td><strong>5. Are “special” strategies planned for geographically hard to reach, marginalised and resistant populations?</strong></td>
<td><strong>Source: Microplans, maps and lists</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microplans, maps and lists: team deployment adapted to special needs group with special logistic and budget allocation</td>
<td></td>
</tr>
<tr>
<td><strong>6. Have funds been received and distributed for all planned activities?</strong></td>
<td><strong>Source: Microplan, budget and financial statement</strong></td>
<td></td>
</tr>
<tr>
<td><strong>7. Have health workers and volunteers been trained?</strong></td>
<td><strong>Implementation status of training plan</strong></td>
<td></td>
</tr>
<tr>
<td>VACCINE, COLD CHAIN AND LOGISTICS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 3. Have arrangements been made to ensure daily reporting of coverage and other data to the next highest level, and analysis?  
  *Source: Workplan* |
| 1. Is there sufficient functional cold chain capacity and/or contingency plans for vaccine storage?  
  *Cold chain inventory and requirements (assume each M/MR dose requires 2.5 cm³ storage volume; add 4 cm³ per dose for diluent in refrigerators, cold boxes and vaccine carriers)* |
|   - refrigerators |
|   - freezers |
|   - cold boxes |
|   - vaccine carriers |
| 2. Does the district have a waste management plan that clearly describes how, when, where and by whom filled safety boxes will be transported and incinerated/discarded?  
  *Waste management plan for used needles & syringes* |
| 3. Have pocket guides for vaccinators (and supervisors), forms, checklists, training and communication materials been received?  
  *Review documents received; list missing materials* |
| 4. Has the district secured vehicles and fuel (or other means of transportation) to transport bundled vaccines, supplies, and staff before and during the period of the SIAs?  
  *Transport plan* |
5. Are the received supplies of bundled vaccines and other inputs consistent with the target population and expected wastage factors?

**Vaccine and logistics plan**
- **Vaccine** (TP x 1.11 wastage multiplication factor \([WMF]\))
- **AD syringes** (= total # of vaccine doses=TP X 1.11)
- **Mixing syringes** (= total # vials= [TPx1.11] / 10)
- **Safety boxes** (AD+Mixing syringes) / 100

### SOCIAL MOBILIZATION & COMMUNICATION

1. Are social mobilization and communication activities being implemented according to plans/microplans?
   **Implementation status of plan**

2. Is the community aware of the date and venue of the SIA?
   **Spot check of community members beginning 2 weeks before SIA - 5 households/caregivers**

<table>
<thead>
<tr>
<th>Total score: No. items with &quot;Y&quot;</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

**Target number of activities**
- **District level:**
  - 20
  - 25
  - 28
  - 28

**Summary Assessment**
- **Circle week of visit:**
  - 8 wk
  - 4 wk
  - 2 wk
  - 1 wk
- **Is the district on track to conduct the SIA? (Y/N)**

143
8c Verifying completion of critical activities at district level

PLANNING, COORDINATION AND FUNDING

1. **Have the following SIA components been operationally planned?**

Each district should have plans addressing the following six components with specific persons designated as responsible for each component: 1) vaccine and supplies management, 2) waste management, 3) AEFI investigation, 4) training, 5) social mobilization and communication, 6) daily data aggregation, reporting and analysis. Although one person may have more than one role/responsibility, each responsibility/task should be delegated to a specific person. Sources of data may include a work plan that identifies the persons responsible for the specific activities. If these activities have not been assigned, the district has not accomplished this critical activity. Ideally, these activities and responsible persons will be designated by 8 weeks prior to SIA implementation, with a proposed deadline of 4 weeks prior to SIA implementation.

2. **Is there a coordination team at this level?**

The national level steering or coordination committee and sub-committees should be replicated sub-nationally and at a district level. Sources of data may include the minutes from meetings. The coordination group should be in place no later than 8 weeks before the SIA.

3. **Is there evidence of political commitment for the SIA?**

Political commitment at every level is an important factor that determines whether the SIA will be successful. Evidence of such commitment would include involvement of local political authorities (e.g., district governor) with the coordination teams and/or with social mobilization and communication activities, local resource mobilization, planned SIA launches at the district level, and involvement of different government sectors in the SIA. Political commitment is needed early and throughout SIA preparation and should be evaluated at each visit. By 8 weeks before the SIA this should be well in place.

4. **Do validated microplans identify target numbers by geographic area/vaccination site?**

Each district should identify specific target numbers of persons to be vaccinated (and provided vitamin A, de-worming medicine, or other interventions) by age group (e.g. 6/9 – 11 months, 12-59 months, 5-14 years), by geographic area (e.g. village, urban slum, hard to reach area) and by vaccination site (e.g. permanent fixed (health facility), temporary fixed or mobile sites). Sources of data may include microplans, maps and lists. If these targets have not been identified, the district has not accomplished this critical activity. This should be recognized in earlier assessments and re-evaluated 8 weeks prior to SIA implementation.

5. **Are “special” strategies planned for geographically hard to reach, marginalized and resistant populations?**
Each district should identify the special population and high risk groups (e.g. hard to reach and underserved groups); identify the strategies that are needed to reach them (e.g. using fixed site with house to house canvassing); and develop specific team deployment plans, including special logistics, travel and budget needs adapted to these populations. Sources of data may include microplans, maps, lists and reports from respective health centres. If special strategies for these populations have not been identified, the district has not accomplished this critical activity. Ideally, these will be confirmed identified by 8 weeks prior to SIA implementation, with a proposed deadline of 2 weeks prior to SIA implementation.

6. **Have funds been received and distributed for all planned activities?**

Each district should receive the necessary funds as early as possible before the SIA so that the needed preparatory activities (e.g., training, social mobilization and communication), may proceed without delays. If SIA preparation activities are fully funded, the activity is accomplished. Sources of data may include receipts or bank statements. Ideally, funds for SIA preparation should be available at the district level six to four months before the SIA. Funds should be available at the health centre level 8 weeks but no later than 4 weeks before the SIA so that training and preparation activities may proceed as planned.

7. **Have health workers and volunteers been trained?**

The number of cascade levels in training is recommended to be limited to two: national level master trainers train mid-trainers 4 weeks before the SIA and Mid-trainers directly train health care workers and others 2 weeks and no later than one week before the SIA. Sources of data may include the training plan, signed participant attendance lists, daily allowance receipts, and completed pre- and/or post-tests.

**MONITORING AND SUPERVISION**

1. **Is there a supervision plan that includes names, dates and daily locations of supervisors?**

A supervision plan should detail the name of each supervisor, his/her daily location (travel plan) and which team(s) he/she will supervise. Sources of data include the supervision plan and/or map. The detailed supervision plan ideally should be finalized by 8 weeks before the SIA. Transport and logistics will need to be arranged for the supervisors, and should be verified to answer Q 4 in the cold chain and logistics section of this tool.

2. **Have supervisors and/or monitors been identified and trained to do rapid convenience monitoring?**

Rapid convenience monitoring (RCM) is often done by both supervisors (for intra-SIA RCM) and independent monitors (for post-SIA independent RCM). You must verify that the district has provided training to supervisors and independent monitors and that the training has included RCM. Sources of data may include a supervisor/independent monitors training plan, RCM forms, copies of training materials, signed participant attendance lists, travel and daily allowance receipts, and completed pre- and/or post-tests. Ideally, districts should conduct training of supervisors and independent monitors no
later than 2 weeks before the SIA. However, keep in mind that if supervisors are administering the SIA Readiness Assessment Tool, they may also be briefed and/or trained for this purpose more than 8 weeks prior to the SIA.

3. **Have arrangements been made to ensure daily reporting of coverage and other data to the next highest level, and analysis?**

In addition to verifying that specific persons have been designated as responsible for the daily reporting of number vaccinated, RCM results, AEFIs identified, etc. (PLANNING, COORDINATION AND FUNDING, Q 1), arrangements should be made to transmit this information daily from the health centre to district level, from the district to province level, and so on. Such arrangements may be by telephone or cell phone communication, e-mail correspondence, PDA transmission, FAX machine, or physical couriers that deliver paper-based report forms. You should verify that the indicated mechanism of data transmission is available by physical inspection and, if data are to be transmitted by courier, by review of the budget and contact information of the intended courier. Such arrangements should be finalized and confirmed ideally 2 weeks before the SIA.

**VACCINE, COLD CHAIN AND LOGISTICS**

1. **Is there sufficient functional cold chain capacity and/or contingency plans for vaccine storage and freezing waterpacks?**

You must determine if there is sufficient space in the functional refrigerators/ILRs, freezers, and cold boxes to store the needed amount of vaccines (usually the target population number times a wastage factor of 1.11) and waterpacks. In addition, you must determine if there are a sufficient number of vaccine carriers to store the required daily amount of vaccine and diluent. Thus, this activity has four components: refrigerators, freezers, cold boxes and vaccine carriers. Keep in mind that measles and MR vaccine in 10-dose vials require 2.6 cubic centimetres (cm$^3$) of storage volume per dose and diluent bottles require 4 cm$^3$ per dose. The volumes and specifications of cold chain equipment vary by make and model, so you likely will need to refer to the PQS Device Catalogue when determining cold chain capacity. Remember in comparing litres and cubic centimetres that 1 litre = 1000 cm$^3$. The cold chain assessment ideally should be conducted 9 to 6 months before the SIA so that repairs may be done and/or additional cold chain equipment procured before the SIA. If in the assessment 8 weeks before the SIA reveals insufficient cold storage capacity, contingency plans such as phased vaccine distribution or use of alternative cold storage facilities in the private sector should be in place.

2. **Does the district have a waste management plan that clearly describes how, when, where and by whom filled safety boxes will be transported and incinerated/discarded?**

Districts must ensure that the SIA does not result in an increased risk of transmission of blood-borne pathogens by mishandling of biological waste such as used needles and syringes. A plan is needed that identifies who will transport the filled safety boxes, when they will be transported, how they will be transported, and where they will be ultimately incinerated, discarded, or recycled. Data sources would
include the waste management plan and evidence of funding in a budget. Operational plans from
district levels should be included in the national logistics plan 6 months before the SIA. This should be
confirmed at the visits to the districts at 8 weeks prior to the SIA.

3. **Have pocket guides for vaccinators (and supervisors), forms, checklists, training and communication materials been received?**

Each district should receive the necessary field guides (e.g. for vaccination teams and supervisors), tally
sheets, report forms, AEFI and other forms, checklists, training materials and communication materials
well before the SIA. Field guides, forms and checklists are often used in the training, and therefore they
should be received before the training begins. Sources of data may include stock ledgers and receipts,
and physical inspection should be done to verify these are present. Ideally, these materials will be
received by the district and immediately distributed to the health centre level 12 weeks before the SIA,
with a proposed deadline of 8 weeks prior to SIA implementation so that local level training and
communication may be conducted during the month before the SIA.

4. **Has the district secured vehicles and fuel (or other means of transportation) to transport bundled vaccines, supplies, and staff before and during the period of the SIAs?**

Each district should prepare a transport plan that specifically identifies how vaccine, logistics, and staff
(vaccination teams and supervisors) will move daily for the whole district. This includes return of
unused vaccine and tally or report forms to the health centre or possibly district. If all of these transport
needs have been secured, the activity is accomplished. Sources of data may include a transport plan
and budget and financial statements indicating available resources to fund transport. The means of
transport should be confirmed or secured ideally 8 to 6 weeks before the SIA.

5. **Are the received supplies of bundled vaccines and other inputs consistent with the target population and expected wastage factors?**

Each district should determine the target population number and required number of doses of M or MR
vaccine based on a standard wastage factor, as described above (1.11 for 10% wastage, 1.05 for 5%
wastage). The wastage multiplication factor (WMF) is calculated as follows:

\[ \text{WMF} = \frac{100}{(100 - \text{wastage rate})} \]

A WMF of 1.11 is usually used for vaccines; as AD syringes, reconstitution/mixing syringes and safety
boxes are bundled with vaccine, the number of AD syringes should match the total number of vaccine
doses (including wastage), and the number of reconstitution/mixing syringes should equal to the total
number of vaccine vials, or total number of vaccine doses (including wastage) divided by ten. The
number of safety boxes should be equal to the total number of AD syringes and 5 ml (reconstitution/
mixing) syringes divided by 100 (assuming the safety box is designed to hold 100 syringes). Thus, this
activity has 4 components: vaccine, AD syringes, reconstitution/mixing syringes, and safety boxes.
Sources of data may include vaccine and stock ledgers, verified by physical inspection. Districts ideally
should receive vaccines, injection equipment and safety boxes 8 to 4 weeks before the SIA so that health centres can receive vaccine, injection equipment and safety boxes 2 weeks but no later than 1 week before the SIA.

SOCIAL MOBILIZATION & COMMUNICATION

1. Are social mobilization and communication activities being implemented according to plans/microplans?

Social mobilization and communication planning should engage different ministries, civil society organizations/ members and NGOs, as well as village leaders. Data sources include implementation status of social mobilization and communication plans, records of meetings and events, participant lists, communication materials developed and disseminated and relevant contracts or receipts. While social mobilization activities may begin as early as 6-4 months before the SIA with advocacy and planning meetings at different levels, communication activities are usually intensified during the month leading up to the SIA. These activities should continue during the SIA implementation.

2. Is the community aware of the date and venue of the campaign?

The source data are from visits to 5 households in the community and interview of parents to assess their awareness of the SIA, and knowledge of when and where to bring their children to be vaccinated. Someone in each of the 5 sampled households should know when and where the SIA will be conducted for the “activity” to be accomplished. Ideally, the community should be aware when and where the SIA will take place 2 weeks before the SIA with a deadline of the final week.
Annex 9: Examples of checklists and forms used for SIA monitoring and supervision

9a Roles and responsibilities of various individuals assigned to support the SIA

**Vaccination team supervisors**

| Who: | Selected among local health staff experienced with immunization program activities, including SIAs. On average, one supervisor is needed per 4 vaccination teams. In urban settings where the distance covered to reach each team is small, one supervisor can supervise more than four teams while in rural settings fewer teams can be covered by each supervisor. |
| Responsibility: | Supervision of the vaccination teams. Visit teams daily to make sure teams are performing according to SIA guidelines and local microplan, ensure daily tally sheets and other forms are properly completed, ensure any challenges that arise during implementation are being addressed, ensure efforts are made to reach every child. |
| Activities: | Visit vaccination teams, at least once per day for supportive supervision using supervision check-list. Compile vaccination team reports, analyse and report to higher level; giving attention to areas at risk of not reaching entire targeted population. Attend and contribute to daily review meetings. Review team performance and undertake corrective actions if needed. Perform intra-SIA RCM in recently-vaccinated areas as necessary and undertake corrective actions. |
| Reporting: | SIA coordinating team lead, specifically the health centre-level supervisor (i.e. health centre coordinator/EPI chief) or district supervisors (this will depend on the country’s health system structure). |

**Health centre level supervisors**

| Who: | At least one supervisor per health centre, usually the health centre coordinator or EPI chief/coordinator at the health centre-level. Larger health centres may require more than one supervisor at this level (usually one supervisor for approximately every 4 vaccination team supervisors). Where there are multiple supervisors at this level, one person should be designated as the coordinator (usually the EPI manager). |
| Responsibility: | Ensuring that the team supervisors are managing activities of the vaccination teams, and ensuring that the supervisor and team tally sheets are properly completed, and addressing any challenges that arise during implementation. Ensuring appropriate corrective actions are taken after intra-SIA RCM. Ensuring efforts are made to reach every child. |
Prior to the SIA and during the microplanning phase, ensuring that the hard-to-reach and high-risk groups are identified and appropriate vaccination and communication strategies are planned for reaching these groups.

**Activities:**
Visit vaccination teams with team supervisors, at least once per day using checklist. Review submitted reports and compiles supervisor data, analyse and report to higher level, giving attention to areas at risk of not reaching entire targeted population. Perform intra-SIA RCM as necessary. Attend and contribute during daily review meetings. Communicate at least daily with SIA coordinating team to assist with addressing challenges arising during the SIA.

**Reporting:**
SIA coordinating team, specifically the district supervisors or, in large centres, the health centre-level coordinator (i.e. EPI manager) This will depend on the country’s health system structure.

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**District (and/or provincial) level supervisors**

**Who:**
Selected among district level personnel well-acquainted with the SIA field guide and operating procedures. District-level supervisors will usually include the district EPI AEFI managers, among others. Often members of the SIA coordination team.

**Responsibility:**
Should be involved in both pre- and intra-SIA supervisory and monitoring activities. Ensuring that the health centre-level supervisors are planning and executing activities, completing proper reporting procedures, and addressing challenges that arise during implementation. Attending and contributing to pre-SIA planning meetings and intra-SIA daily review meetings. Ensuring efforts are made to reach every child during both the planning and the implementation phases of the SIA.

**Activities:**
Visit health centres or districts at 8, 4, 2, and 1 week prior to the SIA to monitor progress in preparedness. Support training and microplanning activities, review submitted reports, compile health centre level data, analyze and report to higher level, giving attention to areas at risk of not reaching entire targeted population. Perform intra-SIA RCM in recently vaccinated areas as necessary. Attend and contribute during daily review meetings.

**Reporting:**
Regional and/or national supervisors (depending on the health system structure in country).
### Monitors and independent monitors

**Who:** Monitors are usually local staff assigned to geographic areas other than those where they usually live or work or guests who belong to various organizations (WHO, UNICEF, Red Cross/Red Crescent National Societies, other non-governmental organizations, etc.) collaborating with the SIA. Independent monitors are individuals who are not involved in planning or implementation of the SIA and can thus provide an independent and unbiased assessment of the SIA. Both monitors and independent monitors should be familiar with vaccination activities and SIA implementation.

**Responsibility:** Provide an additional layer of attention and observation of the SIA preparation and implementation, particularly in areas at-risk for achieving suboptimal SIA coverage. They can visit vaccination sites and recommend efforts to ensure that every child is reached. Monitors can also, through carrying out intra-SIA RCM, verify communities are reached, with special attention to finding missed children. Post-SIA RCM should be carried out by independent monitors once the SIA is completed.

Share observations with vaccination team and supervisors and provide recommendations to improve SIA implementation, as needed.

**Activities:** Visit vaccination sites and complete monitoring forms (modified versions of supervisory checklists). Carry out intra-SIA RCM (monitors) and post-SIA RCM (independent monitors). Participate in meetings of the coordination team responsible for the area being monitored. They should also be available to assist in troubleshooting, as needed.

**Reporting:** Report their observations and recommendations on the status of the SIA and provide recommendations for improvements in SIA implementation and mop up activities for consideration by vaccination team supervisors, district and provincial supervisors, and coordination teams.
**Example of a checklist for intra-SIA supervision at a vaccination post**

<table>
<thead>
<tr>
<th>Province/region:</th>
<th>District:</th>
<th>Sub-district (Area):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of supervisory visit</td>
<td>Day of SIA:</td>
<td>Name of person completing supervisory visit:</td>
</tr>
<tr>
<td><strong>/</strong>/__</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Vaccination Post:</th>
<th>Yes/ No</th>
<th>Issues Identified</th>
<th>Corrective Action (and person responsible)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Social mobilization**

- Post clearly identified by banner or other means
- Health workers/volunteers actively searching for unvaccinated children, and directing them to vaccination post
- Health workers explain to caregivers about the vaccine and possible side effects

**Cold chain and vaccine handling**

- Correct vaccines and correct diluents stored in vaccine carriers with 4 conditioned water-packs
- Diluent cooled before reconstituting the vaccine
- Vaccinator reconstitutes only one vial at a time
- Vaccinator writes time of reconstitution on vial
- Reconstituted vaccine discarded after 6 hours*  

**Availability of vaccines and supplies**

- Sufficient vaccine and diluent
- Vaccines bundled with enough reconstitution and AD syringes
- Enough cold boxes
- Enough safety boxes
- Enough tally sheets

**Post organization**

- Post well organized (e.g. no bottlenecks)
- Sufficient vaccinators and volunteers
Every child is tallied immediately after vaccination

**Immunization safety and waste management practices**

- Vaccinator checks VVM at cap of vaccine vial
- Vaccinator checks expiry date for vaccine and diluent
- MR injection given correctly (0.5 ml SC, outer part of upper arm)
- Used syringes inserted into safety boxes without recapping
- AEFI reporting forms present at site and procedures applied
- Safety boxes correctly used and filled

**Recording and use of data**

- Tally sheets correctly completed
- Number of vials used and children vaccinated as per tally sheet match (wastage between 5-20%)
- Zero dose children properly accounted for (if the corresponding tally sheet was used)

**Routine immunization mobilization**

- Health workers explain to caregivers about times and locations for routine immunizations, including measles vaccination

* Reconstituted vaccine should be discarded either after 6 hours or at the end of the vaccination session, whichever is first

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**9c Example of a District or provincial supervisor checklist for supervision during SIA**

<table>
<thead>
<tr>
<th>Province:</th>
<th>District:</th>
<th>Sub-district (Area):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of supervisory visit</td>
<td>Day of SIA:</td>
<td>Name of person completing supervisory visit:</td>
</tr>
<tr>
<td><strong>/</strong>/__</td>
<td><strong>/</strong>/__</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

**Coordination team**

- Daily review meeting held
- Action points known and being followed up daily

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153
<table>
<thead>
<tr>
<th>Daily bulletin/report being produced and distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data management</strong></td>
</tr>
<tr>
<td>Data are available from previous day’s vaccination activities</td>
</tr>
<tr>
<td>Data reported separately for formal (paper, email, fax, scan) and informal (phone, SMS) reports</td>
</tr>
<tr>
<td>Daily data analysed and discussed by coordination team</td>
</tr>
<tr>
<td>RCM data and findings from vaccination team supervision are analysed and discussed by coordination teams.</td>
</tr>
<tr>
<td><strong>Supervision</strong></td>
</tr>
<tr>
<td>Microplans available (seen)</td>
</tr>
<tr>
<td>Transport available for supervisor</td>
</tr>
<tr>
<td><strong>Cold chain and vaccine handling</strong></td>
</tr>
<tr>
<td>Waterpacks being frozen for following day’s activities.</td>
</tr>
<tr>
<td>Refrigerators packed correctly to allow air circulation (adequate space)</td>
</tr>
<tr>
<td>Refrigerators between 2-8 degrees C</td>
</tr>
<tr>
<td>Vials in VVM stage I or II</td>
</tr>
<tr>
<td><strong>Availability of vaccines and supplies</strong></td>
</tr>
<tr>
<td>Sufficient vaccine and diluent</td>
</tr>
<tr>
<td>Vaccines bundled with enough reconstitution and AD syringes</td>
</tr>
<tr>
<td>Enough cold boxes</td>
</tr>
<tr>
<td>Enough safety boxes or hub cutters</td>
</tr>
<tr>
<td>Enough tally sheets</td>
</tr>
<tr>
<td><strong>Waste management practices</strong></td>
</tr>
<tr>
<td>Plan to dispose of safety boxes (without open air burning) can be articulated</td>
</tr>
<tr>
<td><strong>Social mobilization/Advocacy</strong></td>
</tr>
<tr>
<td>Check if population awareness of SIA performed (e.g. through spot checks)</td>
</tr>
<tr>
<td>Reasons for non-vaccination from RCM discussed and corrective actions identified</td>
</tr>
<tr>
<td><strong>Mop-up activities</strong></td>
</tr>
<tr>
<td>Identification of mop-up areas discussed at daily meeting</td>
</tr>
</tbody>
</table>
Mop-up activities assigned to teams
Mop-up activities implemented
Routine immunization mobilization
Local population aware of opportunities to receive measles and other vaccinations through routine service delivery

9d Sample Tally Sheet to record administered doses for SIA with a target age range group: 9 months to 14 years
Sample Tally sheet to record doses for M or MR SIAs with a target age 9 month to 14 years.

Vaccinator/HW responsible for vaccination post: ______________Signature: _____
Town/Village: ___________________Neighbourhood, block/site:________________________
District/Zone: ______________Municipality: _______Province/Region: ______________ Date: __/___/___Name of supervisor: _________Signature: __________Mobile no.: ___
Location and contact details of nearest AEFI treatment centre __________________________

Please cut one circle diagonally (ø) after vaccination of each child with M or MR in the appropriate box based on the child’s age

<table>
<thead>
<tr>
<th>Child’s Age</th>
<th>Counting of M or MR vaccination</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 to 11m</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>12m to 4y</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>5y -14 y</td>
<td></td>
<td>C</td>
</tr>
</tbody>
</table>

155
Total for all ages = A+B+C

<table>
<thead>
<tr>
<th>Vials</th>
<th>Number of vials</th>
<th>Supervision</th>
<th>Y/N</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received</td>
<td></td>
<td>Supervisor visit today</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opened</td>
<td></td>
<td>Written feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not usable (e.g. VVM expired)</td>
<td></td>
<td>Monitor visit today</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returned in good condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEFI identified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEFI reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9e Proposed Tally Sheet Stratified by Prior RI dose of MCV per the RI card to identify number of zero dose children
This sheet is designed for optional use, in SIA where the immunization card is checked for routine measles vaccination with the first dose of MCV

<table>
<thead>
<tr>
<th>Child’s Age Group</th>
<th>Complete for All Children: Child Received M or MR Vaccine during SIA (Column A)</th>
<th>Complete only for Children Aged 12-23 Months: Child Received M or MR Vaccine during RI Services (Column B)</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>9m to 11 m*</td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Total SIA (A1): _____</td>
</tr>
<tr>
<td>12m to 23 m</td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Total SIA (A2): _____</td>
</tr>
<tr>
<td></td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Total RI (B): _____</td>
</tr>
<tr>
<td></td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Zero dose children= A2-B</td>
</tr>
<tr>
<td>24m to 4 y</td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Total SIA (A3): _____</td>
</tr>
<tr>
<td>5y to 14 y</td>
<td>00000 00000 00000</td>
<td>00000 00000 00000</td>
<td>Total SIA (A4): _____</td>
</tr>
</tbody>
</table>

Total number of children receiving vaccine during SIA=A1+A2+A3+A4

* This first category should be adjusted to represent all children above 9m and not yet eligible for the second routine measles dose.
**9f Sample first-level summary reporting form for vaccination doses given during the SIA targeting 9m-14 years without additional interventions**

Supervisor: ___________________  Mobile Number: ___________________  Signature: ___________________

District/Zone: ___________________  Municipality: ___________________  Province/Region: ___________________

Date: __/___/______

Person receiving report: Title _______  Name: ___________________  Mobile Number: ___________________

Signature: ___________________

<table>
<thead>
<tr>
<th>Team</th>
<th>Source of report (F=Formal, I=Informal)</th>
<th>Final Report (Y or N)</th>
<th>9-11m</th>
<th>12m-4y</th>
<th>5y-14y</th>
<th>Total</th>
<th>Vials</th>
<th>Supervision</th>
<th>AEFI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*) Target population for the catchment area of the vaccination site as calculated in the microplan
Annex 10.

Annex 10a: AEFI Reporting Form

REPORTING FORM FOR ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)

<table>
<thead>
<tr>
<th><em>Patient Name:</em></th>
<th><em>Reporter’s Name:</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Patient’s full Address:</em></td>
<td>Institution:</td>
</tr>
<tr>
<td>Telephone:</td>
<td>Designation &amp; Department:</td>
</tr>
<tr>
<td>Sex: M F</td>
<td>Address:</td>
</tr>
<tr>
<td><em>Date of birth:</em> _ _ / _ _ / _ _</td>
<td>Telephone &amp; E-mail:</td>
</tr>
<tr>
<td>OR Age at onset: ☐ ☐ Years ☐ ☐ Months ☐ ☐ Days</td>
<td>Date patient notified event to health system: _ _ / _ _ / _ _</td>
</tr>
<tr>
<td>OR Age Group at onset: ☐ &lt;1 Year ☐ 1 to 5 Years ☐ &gt;5 Years</td>
<td>Today’s date: _ _ / _ _ / _ _</td>
</tr>
</tbody>
</table>

Health facility (place or vaccination centre) name & address:

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Diluent (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Name of vaccine</em></td>
<td><em>Date of vaccinatio n</em></td>
</tr>
<tr>
<td></td>
<td><em>Time of vaccinatio n</em></td>
</tr>
<tr>
<td></td>
<td>Dose (1st, 2nd, etc.)</td>
</tr>
<tr>
<td></td>
<td><em>Batch /Lot number</em></td>
</tr>
<tr>
<td></td>
<td>Expiry date</td>
</tr>
<tr>
<td></td>
<td>Name of diluent</td>
</tr>
<tr>
<td></td>
<td>Expiry date</td>
</tr>
</tbody>
</table>

*Adverse event(s):*

- [ ] Severe local reaction ☐ >3 days ☐ beyond nearest joint
- [ ] Seizures ☐ febrile ☐ afebrile
- [ ] Abscess
- [ ] Sepsis
- [ ] Encephalopathy
- [ ] Toxic shock syndrome
- [ ] Thrombocytopenia
- [ ] Anaphylaxis
- [ ] Fever ≥38°C
- [ ] Other (specify).......................... Date AEFI started: _ _ / _ _ / _ _

- [ ] Death ☐ Life threatening ☐ Persistent or significant disability ☐ Hospitalization ☐ Congenital anomaly ☐ Other important medical event (specify)..........................

| *Outcome:* | Recovering ☐ Recovered ☐ Recovered with sequelae ☐ Not Recovered ☐ Unknown |

AEFI reporting id number:
□ Died  If Died, date of death : _ _ / _ _ / _ _   Autopsy done: □ Yes □ No □ Unknown

Past medical history (including history of similar reaction or other allergies), concomitant medication and other relevant information (e.g. other cases). Use additional sheets if needed :

First Decision making level to complete:

Investigation needed: □ Yes □ No    If Yes, date investigation planned : _ _ / _ _ / _ _

National level to complete:

Date report received at National level _ _ / _ _ / _ _   AEFI worldwide unique ID :

Comments:

*Compulsory field

Jan 2016

Annex 10 b: AEFI treatment kit

Contents of an AEFI treatment kit:

- Injection adrenalin (1:1000) solution – 2 ampoules
- Injection hydrocortisone (100 mg) – 1 vial
- Disposable Syringe (insulin type) having 0.1 ml graduations and 26G IM needle – 2 sets
- Disposable Syringe (5 ml) and 24/26G IM needle – 2 sets
- Scalp vein set – 4 sets
- IV canula (for multiple sizes)
- Tab Paracetamol (500 mg) - 10 tabs
- IV fluids (Ringer lactate/Normal Saline): 1 unit in plastic bottle
- IV fluids (saline solution): 1 unit in plastic bottle
- IV drip set: 1 set
- Cotton wool + adhesive tape : 1 each
- AEFI reporting form
- Label showing: Date of inspection, Expiry date of Injectable adrenaline and shortest expiry date of any of the components
- Drug dosage tables for Inj Adrenaline and Hydrocortisone
- At hospital setting, oxygen support and airway intubation facility should be available.
Annex 10c: Recognition and treatment of anaphylaxis

Distinction between anaphylaxis and fainting (vasovagal reaction):

<table>
<thead>
<tr>
<th></th>
<th>Fainting</th>
<th>Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Onset</strong></td>
<td>Usually at the time or soon after the injection</td>
<td>Seconds to minutes of exposure to a given substance, most cases start within 1 hour of exposure (Brighton Collaboration definition)</td>
</tr>
<tr>
<td><strong>Skin effects</strong></td>
<td>Pale, sweaty, cold, and clammy</td>
<td>Red, raised and itchy rash; swollen eyes, face, generalized rash</td>
</tr>
<tr>
<td><strong>Respiratory effects</strong></td>
<td>Normal to deep breaths</td>
<td>Noisy breathing from airway obstruction ( bilateral wheeze or stridor)</td>
</tr>
<tr>
<td><strong>Cardiovascular Effects</strong></td>
<td>Slow pulse rate, Transient Hypotension</td>
<td>Fast pulse rate , Hypotension</td>
</tr>
<tr>
<td><strong>Gastrointestinal Effects</strong></td>
<td>Nausea, Vomiting</td>
<td>Abdominal cramps, vomiting</td>
</tr>
<tr>
<td><strong>Neurological Effects</strong></td>
<td>Transient loss of consciousness, relieved by supine posture (lying down)</td>
<td>Loss of consciousness, not relieved by supine posture (lying down)</td>
</tr>
</tbody>
</table>

Progression of signs and symptoms of anaphylaxis:

<table>
<thead>
<tr>
<th>Clinical Progression</th>
<th>Signs and symptoms of anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild, early warning signs</td>
<td>Itching of the skin, rash and swelling around injection site.</td>
</tr>
<tr>
<td></td>
<td>Painless swelling in parts of the body (e.g., face or mouth). Flushed, itching skin, blocked nose, sneezing, red and itchy eyes.</td>
</tr>
<tr>
<td></td>
<td>Nausea, vomiting, abdominal pain</td>
</tr>
<tr>
<td>Late, life-threatening symptoms</td>
<td>Noisy breathing ( wheeze or stridor), hoarse voice, difficulty swallowing or talking, difficult breathing (fast breathing, recession), collapse, low blood pressure, irregular weak pulse</td>
</tr>
</tbody>
</table>

Treatment of anaphylaxis

Once the diagnosis is made, consider the patient as being in a potentially fatal condition, regardless of the severity of the current symptoms. Begin treatment immediately and stay with the patient. Unless
you are already at the designated AEFI management centre or at the hospital, arrange for immediate transfer of the patient.

Adrenaline (epinephrine) stimulates the heart and reverses the spasm in the lung passages, and reduces oedema and urticaria, thus countering the anaphylaxis. But, if used in inappropriate doses, this potent agent can cause irregular heartbeat, heart failure, severe hypertension, and tissue necrosis.

Every health facility should have health staff trained in treatment of anaphylaxis, rapid access to an emergency kit with adrenaline, and should be familiar with its dosage and administration. The expiry date of the adrenaline should be written on the outside of the emergency kit and the whole kit should be checked three or four times a year. Adrenaline that has a brown tinge must be discarded. The adrenaline has a short expiry life, so the expiry date should be monitored on regular basis.

**Steps in initial management:**

- Stop administering any further vaccines.
- Place the patient in the supine position, or if difficulty breathing in a semi-supine position. Do not stand the patient up or allow the patient to walk.
- If already unconscious, place the patient in the recovery position and ensure that airway is clear.
- Assess Airway, Breathing and Circulation. If appropriate, begin cardiopulmonary resuscitation (CPR). Give adrenaline 1:1000 (See Table 15.6 below for correct dose by age or weight) by deep intramuscular injection into the opposite limb to that in which the vaccine was given. In general, in children it is administered in the upper lateral thigh, and in adults it is usually given in the deltoid. Subcutaneous administration is acceptable in mild cases.
- Give oxygen by face mask, if available.
- Repeat the same dose of adrenaline by intramuscular route every 5-10 minutes if symptoms are ongoing, up to a maximum of three doses.
- Call for professional assistance but never leave the patient alone. Call an ambulance (or arrange other means of transport), after the first injection of adrenaline, or sooner if there are sufficient people available to help you.
- Record, or get someone to record, vital signs (pulse rate, respiratory rate and blood pressure), as well as time and exact dose of any medication given. Make sure the details accompany the patient when s/he is transferred.
- Mark the immunization card clearly so the individual never gets a repeat dose of the offending vaccine. At a suitable moment, explain to parents or relatives the importance of avoiding the vaccine in the future.
- Report the occurrence of anaphylaxis to the appropriate officer by phone followed by the reporting form.

**Adrenaline dosage:** 1:1000 adrenaline (epinephrine) at a dose of **0.01ml/kg up to a maximum of 0.5 ml injected intramuscularly.** If the weight of the patient is unknown, an approximate guide can be used, as per table below:

<table>
<thead>
<tr>
<th>Age</th>
<th>Dose (^a) (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 months</td>
<td>0.10</td>
</tr>
</tbody>
</table>

---

\(^a\) Dose of adrenaline 1:1000 (aqueous) for treatment of anaphylaxis according to age.
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dose (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 months to 4 years</td>
<td>0.15</td>
</tr>
<tr>
<td>5 years</td>
<td>0.20</td>
</tr>
<tr>
<td>6-9 years</td>
<td>0.30</td>
</tr>
<tr>
<td>10-13 years</td>
<td>0.40&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>≥14 years</td>
<td>0.50&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Notes:  
<sup>a</sup> The dose for children is based on 0.01 ml/kg per dose up to 0.5 ml, repeated every 10-120 minutes, as indicated, for up to 3 doses.  
<sup>b</sup> For a mild reaction, a dose of 0.30 ml can be considered.

Example of the treatment protocol for anaphylaxis:
Annex 11. RCM Tools for monitoring during SIA and post the SIA

The most important objective of RCM is to find unvaccinated children in order to vaccinate them. Additional goals are to identify reasons for non-vaccination and plan and execute rapid corrective action. RCM data provide information on the general performance of the SIA and suggest how to refine strategies for reaching the hardest-to-reach children. RCM data also provides very useful information that can help improve the RI programme. RCM is a pass / fail assessment of the areas surveyed, not a coverage assessment. RCM data are collected using methods that are not designed to be representative of the population targeted for the SIA and, therefore, do not produce valid coverage estimates. RCM should be used while the SIA is still ongoing (referred to as intra-SIA RCM see below) and at the end of the SIA (referred to as post SIA independent monitoring- see section 14.1).

Other tools, besides the 15-household tool proposed here, also exist. For instance, some regions have used 20 households RCM tools, some use different options to identify reasons for non-vaccination, others include questions about routine immunization. It is important that the tool to be used for rapid monitoring is adapted to the needs of the country, and that it is planned early enough to assure proper training and implementation. When possible, children who have not received any vaccinations should have their name and house location recorded and shared with local health staff, so the child can be enrolled in routine immunization services.

IN-HOUSE monitoring: Monitors should visit 15 households that have at least one person in the SIA target age group. If the area being monitored is large, monitors should select locations considered to have the highest risk of unvaccinated children. Vaccination status for all SIA-eligible children in the households visited should be recorded on the IN-HOUSE monitoring form (see below for forms and further details). Upon completion of 15 household visits, monitors will summarize the following data: 1) the number of households (among the 15) with ALL SIA-eligible children vaccinated, and 2) the proportion of all SIA-eligible children who were vaccinated. Below are the steps to be carried out during In-house monitoring:

1: Select geographic areas, such as a neighbourhood or village, where unvaccinated target-age children are likely to be found.

2: Once in the area, start in the highest risk area within the area. Pick a direction at random to start, and begin with the first household (HH). A HH is defined as a group of people who live under one roof and cook and eat together.

3: In each household, ask the parent or caretaker if there are any target age children who slept in the house the previous night. If no one is at home or no eligible children are in the house, proceed to the “next” house. If the HH has eligible children, then complete the in-house monitoring form as follows:

   Column A: document the number of target age children in the HH
   Column B: document how many of these eligible children received a vaccination during the current SIA documented by card, fingermark or recall.
   Column C: If any unvaccinated children found, document the reason(s) for being unvaccinated using the number codes from the list of reasons at the bottom.
**Column D:** If the reason for unvaccinated was refusal, document the reason for refusal using the numeric codes from the list at the bottom.

**Column E:** If all age-eligible children in the HH are vaccinated (Number in column A = Number in column B) place a ‘1’ in column E, otherwise if there are children who are unvaccinated or with unknown vaccination status write a ‘0’ in column E.

**4:** Continue until 15 HHs with at least one eligible child per household have been interviewed.

**5:** Summarize data as follows:

1. Total column A = total # eligible children
2. Total column B = No. eligible children vaccinated in SIA (card/fingermarking/recall)
3. Calculate percentage of children vaccinated = \( \frac{\text{total column B}}{\text{total column A}} \times 100 \)
4. Total column E = total number of HHs with all eligible children vaccinated in this SIA.

*Note: The “next” house should be determined using the following guidelines:*

- For urban areas, or densely populated areas, monitors should skip two houses between selected households if the SIA target population is 9-59 months or 3 households if target population is under 15 years.
- For rural areas, where houses are further apart, monitors may proceed to the next house if the SIA target is 9-59 months. Skip one house if the target population is under 15 years, unless there are fewer than 30 households.

RCM Tool for in-house monitoring: All eligible persons in 15 HHs

<table>
<thead>
<tr>
<th>Region:__________</th>
<th>District:__________</th>
<th>Vaccination Team Supervisor (name): ________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of visit:<strong>/</strong>/__</td>
<td>Day of SIA _______</td>
<td>Post Name ____________________</td>
</tr>
<tr>
<td>Age of eligible children:</td>
<td>Monitor Name(s): ________</td>
<td>Additional location information (optional):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HH Number</th>
<th>No. Eligible Children in HH</th>
<th>No. Eligible Children VACCINATED IN SIA (CARD/ FINGERMARK/RECALL)</th>
<th>If ANY unvaccinated, reason (see list below)</th>
<th>If reason is REFUSAL, reason (see list below)</th>
<th>HH is COMPLETELY VACCINATED 1 = YES, 0 = NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
<td>(E)</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>15</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL NO. ELIGIBLE CHILDREN</td>
<td>TOTAL NO. VACCINATED CHILDREN</td>
<td>TOTAL NO. COMPLETELY VACCINATED HHs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

C: REASONS FOR BEING UNVACCINATED  
(select all that apply for the HH)  
1 – Child was absent/away from home  
2 – Unaware of the campaign/ location of post  
3 – Vaccine post too far away  
4 – Vaccine post did not have vaccine  
5 – Plan to go later today/tomorrow  
6 – Child is already vaccinated  
7 – Refusal  
8 – Other  
9 – Do not know/decline to respond  

D: REASON (CARETAKER) REFUSED  
(Column C = 7)  
(select all that apply for the HH)  
1 – Child was sick  
2 – Religious beliefs  
3 – Fear of vaccine  
4 – Respondent does not make that decision  
5 – Other  
6 – Do not know/decline to respond

**OUT-OF-HOUSE monitoring:** As monitors progress through the area being monitored, they should identify areas where children may congregate outside of their house (for example, in markets, bus/train stations, border crossings, fields, play grounds). When SIA-eligible children are identified outside the house, the monitors should record information on up to 10 SIA-eligible children on the OUT-OF-HOUSE monitoring form, and summarize by calculating the proportion of vaccinated SIA-eligible children interviewed.

Data from OUT-OF-HOUSE monitoring is supplemental data that should be viewed in context, along with the IN-HOUSE monitoring results. If ≥90% of children identified in the IN-HOUSE monitoring were vaccinated, use the OUT-OF-HOUSE monitoring data to confirm that the area does not need corrective action. In this event, if fewer than 10 out-of-house children have been identified, monitors may choose to search for additional children out of the house by going to markets, playgrounds, bus stations etc. If the in-house monitoring has found more than 2 households with unvaccinated children, or <90% of in-house children were vaccinated, then a decision about what corrective action needed can be made without having to have the additional out-of-house data.

The OUT-OF-HOUSE monitoring form should be filled as follows:

**Column A:** Child number pre-filled.

**Column B:** Document where in the community child was found (example: markets, bus/train station etc.)

**Column C:** If the child <1 year, document his/her age in months and circle M and if the child is ≥1 year, document his/her age in years.

**Column D:** Document if the child is vaccinated by card, finger mark or recall (code=1) or unvaccinated (code=0).

**Column E:** Note/comment field for information to find the child’s house if unvaccinated, or other important information.
Once the monitoring in this neighbourhood has been completed, summarize out-of-house data by calculating the percentage of children identified outside the house that were vaccinated =

\[
\frac{(\text{total column D})}{\text{total column A}} \times 100
\]

OUT-OF-HOUSE RCM Monitoring Form

<table>
<thead>
<tr>
<th>Region: ______________</th>
<th>District ______________</th>
<th>Vaccination Team Supervisor (name) ________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of visit __ / __ / ____</td>
<td>Day of campaign ______</td>
<td>Post Name ________________________</td>
</tr>
<tr>
<td>Monitor Name (s): ________________________</td>
<td>Additional location information (optional):</td>
<td></td>
</tr>
</tbody>
</table>

AGE OF ELIGIBLE CHILDREN: ________________________

<table>
<thead>
<tr>
<th>CHILD No.</th>
<th>Where was the child located (example: markets, bus / train stations, border crossings, fields, play grounds)</th>
<th>Age of child Circle M for months if child &lt;1 year</th>
<th>CHILD VACCINATED in campaign? 1 = Vaccinated 0 = Unvaccinated</th>
<th>NOTES/COMMENTS (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
<td>(E)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>M</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td>M</td>
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<td>3</td>
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<td>9</td>
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<td>M</td>
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<tr>
<td>10</td>
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<td>M</td>
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<tr>
<td>TOTAL out of house children SURVEYED</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TOTAL out of house children VACCINATED</td>
<td></td>
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</tbody>
</table>

SCHOOL monitoring: the SIA technical subcommittee should consider adding school monitoring when a significant proportion of the SIA target are enrolled in schools and when schools are used as temporary vaccination posts. In this situation it is critical to monitor the completeness of this strategy, both in terms of ensuring all schools (public, private, religious) are visited and in terms of ensuring that children absent on the day teams visited their school were later reached.

Column A: Document the name and location of the school
Column B: Document school level (pre-school, primary, or secondary)
Column C: is the school listed on the microplan (yes/no)
Column D: has the school been visited by vaccination team (yes/no). If yes, give date(s)
Column E: if the school has not been visited, is it scheduled to be visited (yes/no). If yes, give date(s)
Column F: Number of children in school in the target age range*
**Column G:** Number of children actually vaccinated during the first visit by the team*

**Column H:** Number of children absent during the first visit by the team

**Column I:** How many children absent at the first team visit have since been vaccinated?

<table>
<thead>
<tr>
<th>School Name and location</th>
<th>Type of school (pre-school, primary, secondary)</th>
<th>Listed on microplan (yes/no)</th>
<th>Has the school been visited by the vaccination team (yes/no)? If yes, give date(s)</th>
<th>If no, are they scheduled to be visited (yes/no)? If yes, give date(s)</th>
<th>Number of children in school in the target age range*</th>
<th>Number of children actually vaccinated during the first visit by the team*</th>
<th>Number of children absent during the first visit by the team</th>
<th>How many children absent at the first team visit have since been vaccinated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
<td>(E)</td>
<td>(F)</td>
<td>(G)</td>
<td>(H)</td>
<td>(I)</td>
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</tbody>
</table>

* These two columns could be dropped if the information is not supposed to be kept at the schools or is otherwise unavailable. While information on the number of eligible children should be available at the school, the number vaccinated during the first visit may only be available from the vaccination team(s) at the school. Data on absences and re-visits, however, should be recorded during monitoring.

**OPTIONAL ACTIVITIES AND FORMS**

1: In wide age range SIAs, expand each column on the IN-HOUSE form to multiple columns, one for each age group. For example, column A becomes 3 columns: 6-59 m

<table>
<thead>
<tr>
<th>HH #</th>
<th>No. Eligible Children in HH</th>
<th>No. Eligible Children VACCINATED IN SIA (CARD/ FINGERMARK/ RECALL)</th>
<th>If ANY unvaccinated, reason (see list below)</th>
<th>If reason is REFUSAL, reason (see list below)</th>
<th>HH is COMPLETELY VACCINATED 1 = YES, 0 = NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
<td>(E)</td>
</tr>
<tr>
<td>6-59 mos</td>
<td>5-9 Yrs</td>
<td>10-14 yrs</td>
<td>6-59 mos</td>
<td>5-9 yrs</td>
<td>10-14 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

2: Alternatively, in wide age range age SIAs, collect each child’s information on a separate line.

<table>
<thead>
<tr>
<th>HH #</th>
<th>Child #</th>
<th>Age of Child</th>
<th>VACCINATED IN SIA (CARD/ FINGERMARK/ RECALL)</th>
<th>If ANY unvaccinated, reason (see list below)</th>
<th>If reason is REFUSAL, reason (see list below)</th>
<th>HH is COMPLETELY VACCINATED 1 = YES, 0 = NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

168
3: The In-house form can also be modified to capture vaccinated by card/fingermark and vaccinated by recall, separately.

<table>
<thead>
<tr>
<th>HH #</th>
<th>Child #</th>
<th>Age of Child</th>
<th>VACCINATED IN SIA BY CARD SEEN/ Fingermark</th>
<th>VACCINATED BY RECALL (NO CARD)</th>
<th>UNVACCINATED or UNKNOWN status</th>
<th>If ANY unvaccinated, reason (see list below)</th>
<th>If reason is REFUSAL, reason (see list below)</th>
<th>HH is COMPLETELY VACCINATED 1=YES, 0=NO (complete for last child only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

4: In addition to the above options, some countries may be well positioned or interested in monitoring RI as part of the SIA through looking at vaccination cards and checking completeness of vaccination.


**Summary Measles and Measles-Rubella SIA Technical Report**

(National EPI Programme to fill and submit to UNICEF & WHO within 4 weeks of the end of SIAs)

1. Country: 

2. Dates of SIAs: 

3. Target provinces (if not a nationwide activity): 

4. Targets and results for measles / measles-rubella vaccine by first subnational level (state / province / region)- please copy and paste table below into an excel spreadsheet and attach with the report

<table>
<thead>
<tr>
<th>Measles / Measles-Rubella Vaccine</th>
<th>State/Province/region</th>
<th>Target Age</th>
<th>Target Pop</th>
<th>No. Reached</th>
<th>Admin Coverage</th>
<th>Number (and % districts) ≥95 % administrative coverage</th>
<th>Survey Coverage</th>
<th>Wastage Rate</th>
<th>No. AEFI</th>
<th>AEFI attributed to SIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Targets and results for other interventions by first subnational level (state / province / region)

<table>
<thead>
<tr>
<th>State/Province/Region</th>
<th>Target Age</th>
<th>Target Pop</th>
<th>No. Reached</th>
<th>Admin Coverage</th>
<th>Number (and % districts) ≥95% coverage</th>
<th>Survey Coverage (if available)</th>
</tr>
</thead>
</table>

*Please fill out the above table for every intervention added to the SIA

6. Number (numerator and denominator) and % of monitored sites with more than 10% un-reached children during end-process monitoring

7. Cost of SIA and amount of financial resources mobilized within the country (in USD)

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Budgeted</th>
<th>Government Contribution</th>
<th>**Donor contribution &lt;specify donor&gt;</th>
<th>Donor contribution &lt;specify donor&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Bundled Vaccine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total operational costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine system strengthening activities* (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This is for routine systems strengthening activities that are linked to the SIA (occur before, during or post the SIA). Example is the cost of additional day training on non-measles and rubella related issues.

** Insert additional columns for donor contribution if more than 2 donors supported a given expenditure category.

8. Timing of availability of donor funding (e.g. GAVI/MRI) at national level in relation to the start date of the SIA

9. Timing of availability of operational funds at district level in relation to the start date of the SIA

10. When was the national SIA logistics plan completed in relation to the start date of the SIA?

11. Timing of completion of district level micro-planning workshops in relation to the start date of the SIA

12. Was SIA readiness assessed at the national level using the standard tool to assess status of preparedness at 12, 9, 6, 3 and 2 months prior to the start date of the SIA? If not, at what time points was SIA readiness assessed at the national level?

13. What percentage of districts conducted readiness assessment at least twice within the last
<table>
<thead>
<tr>
<th>Question</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 weeks prior to the SIA?</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>What percentage of districts had planned quantities of vaccine and devices at least 2 weeks before the start of SIA?</td>
</tr>
<tr>
<td>15.</td>
<td>Number of immunization posts actually operational during the SIAs</td>
</tr>
<tr>
<td>16.</td>
<td>Number of vaccination teams (including number of health workers per team) actually deployed during the SIAs</td>
</tr>
<tr>
<td>17.</td>
<td>Number of supervisors actually deployed during the SIAs</td>
</tr>
<tr>
<td>18.</td>
<td>Number of volunteers actually deployed during the SIAs:</td>
</tr>
<tr>
<td></td>
<td>• No Red Cross volunteers</td>
</tr>
<tr>
<td></td>
<td>• No. LDS Volunteers</td>
</tr>
<tr>
<td></td>
<td>• No. Lions volunteers</td>
</tr>
<tr>
<td></td>
<td>• No. Other (please specify)</td>
</tr>
<tr>
<td>19.</td>
<td>What is the number and percentage of permanent fixed vaccination sites assessed during the SIA that had proper cold chain (refrigerators monitored daily and temperatures between 2 – 8 °C)?</td>
</tr>
<tr>
<td>20.</td>
<td>What is the number and percentage of unvaccinated children detected during intra-campaign RCM?</td>
</tr>
<tr>
<td>21.</td>
<td>Describe the strategies employed to identify AND to address hard-to reach children, including the descriptions and size of these populations and the experiences in the SIAs?</td>
</tr>
<tr>
<td>22.</td>
<td>Comments on any serious AEFIs observed or reported (no. AEFIs should be already included in table for question Q4)</td>
</tr>
<tr>
<td>23.</td>
<td>Comments on the experience with injection safety.</td>
</tr>
<tr>
<td>Questions 24-33 below are on activities carried out during the planning and preparation of the SIAs and on any activities planned post the SIA to improve routine immunization?</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Is there a national/subnational focal point assigned to ensure that SIAs are used to strengthen</td>
</tr>
<tr>
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<td>---</td>
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</tr>
<tr>
<td>25.</td>
<td>Is there a budgeted plan for the routine strengthening activities before, during and post the SIA?</td>
</tr>
<tr>
<td>26.</td>
<td>Did SIA training include training on EPI beyond measles and rubella? State additional elements included in training and number of health workers trained.</td>
</tr>
<tr>
<td>27.</td>
<td>What cold chain improvements were done in preparation for the SIA (# of refrigerators refurbished, # refrigerators purchased, # vaccine carriers purchased, etc.)?</td>
</tr>
<tr>
<td>28.</td>
<td>What improvements were made in waste management (# of incinerators built, # waste disposal pits, etc.)?</td>
</tr>
<tr>
<td>29.</td>
<td>Did social mobilization include message on routine vaccination?</td>
</tr>
<tr>
<td>30.</td>
<td>Is there a plan to use the SIA microplans for updating facility-level RI microplans?</td>
</tr>
<tr>
<td>31.</td>
<td>Were SIAs used to improve measles surveillance? Did SIA training include measles surveillance (and rubella if MR SIA)? Explain.</td>
</tr>
<tr>
<td>32.</td>
<td>Did the SIA training include AEFI surveillance for other VPDs? If so, how many were trained in the above?</td>
</tr>
<tr>
<td>33.</td>
<td>Were the SIAs used in any other way to strengthen routine immunization? If so, please specify.</td>
</tr>
<tr>
<td>34.</td>
<td>Number and percentage of targeted districts that have at least one area monitored through RCM during or post the SIA?</td>
</tr>
<tr>
<td>35.</td>
<td>What is the number and percentage of unvaccinated children detected during post-campaign independent RCM?</td>
</tr>
<tr>
<td>36.</td>
<td>Were any mop-up activities organized, and on what basis was the selection of areas for mop-up done? (Give number of children targets for the mop up and the proportion reached, and explain how resources were organized.)</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>37. What is the number and percentage of monitored areas showing &lt;95% of total children vaccinated that had remedial action (e.g. mop up vaccination activities) taken within one week of end of the SIA?</td>
<td></td>
</tr>
<tr>
<td>38. What are the 5 top reasons for unvaccinated children during the SIA?</td>
<td></td>
</tr>
<tr>
<td>39. Highlight the three major problems that occurred during this SIA and how they were addressed.</td>
<td></td>
</tr>
<tr>
<td>40. Highlight the three major achievements during this SIA (including relevant best practices and / or innovative approaches used) from this SIA.</td>
<td></td>
</tr>
</tbody>
</table>