

# India: towards Measles Eradication

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## Abstract

After successful eradication of Polio; India is now moving forward for Measles control and elimination. The vision of “a world without measles” is supported by WHO, UNICEF and other partners in newly released Global Measles and Rubella Strategic Plan 2012-2020.

Key words: Measles eradication, Measles elimination, Under five mortality.

## Introduction

Measles control has achieved two major milestones worldwide. Out of two first was measles is no more endemic in western hemisphere since November 2002 [1] and the second was, decreasing measles death to half of that of 1999, has been achieved in 2005 [2].

The vision of “a world without measles” is supported by WHO, UNICEF and other partners in newly released Global Measles and Rubella Strategic Plan 2012-2020 [3]. The plan has provided clear strategies that country immunization managers can utilize as a road map to achieve the 2015 control and 2020 elimination goals.

### Current trends of Measles in India

Measles is a highly contagious disease and is a major cause of death in children in India. India accounts for more than one third of all deaths due to measles worldwide. Measles is responsible for 4% of all deaths in under five children in India [4]. Indian studies have shown median case fatality ratio (CFR) of 1.63% (0-30%) among children with measles [5]. India accounted for 47% of world deaths due to measles in 2010 [6].

### Strategies for Measles Eradication

India is building on its Polio eradication campaign experience to ensure more children get vaccinated against measles. India has launched a massive project of Measles vaccination on the lines of polio eradication in 14 high burden states in a three phased campaign. Key

Strategies followed globally for reducing mortality due to measles:

1. First dose high coverage (90% National level, 80% District level)
2. Laboratory Supported Surveillance (Serological and Virological) Confirmed outbreak is when Measles IgM is detected from serum of at least 2 suspected cases.
3. Appropriate case management along with Vitamin A.
4. Second dose of measles vaccine.

India launched 2<sup>nd</sup> dose of measles vaccine in UIP in 2010, in a state specific delivery plan. 14 states with <80% coverage will have SIAs for 9 months to 10 years old children [4]. 17 states will introduce second dose in routine immunization. 4 states and union territories (Delhi, Goa, Sikkim, Puducherry) already use second dose of measles as MMR vaccine in their immunization program.

### Supplementary Immunization Activities (SIAs) and Measles catch up Programme (MCUP) [7]

SIAs are mass campaigns directed towards targeted age groups with the objective of reaching to maximum number of susceptible individuals. These SIAs are conducted in wide geographical areas in order to cover rapidly the susceptible children. The children in the defined age group are vaccinated irrespective of their previous immunization status, so that large population is covered which will enhance the herd immunity.

### Measles Case Surveillance with Laboratory confirmation

An effective Measles surveillance system is a significant pillar of a Measles immunization program in order to monitor its impact. The surveillance will help in making strategies in time of outbreaks too.

WHO developed standards for epidemiological surveillance of Measles and Rubella for use in conjunction with the updated surveillance performance indicators and the measures to monitor progress towards elimination [8, 9].

These standards are based on case based surveillance with laboratory confirmation, in depth outbreak investigations and identification of viral genotype from every outbreak.

Outbreaks help to assess gaps in routine as well as SIAs coverage. Laboratory confirmation of measles will help in excluding other diseases with fever and rash and in tracing importations and thus it is a very critical component of surveillance system.

The standard Lab Net IgM is the laboratory test used for measles [10]. Rapid diagnostic tests are being developed for field investigations. High quality surveys should be conducted to verify vaccine coverage based on service delivery data. Surveys should be done to assess the cause of non-vaccination.

Reliable surveys should be established to monitor adverse events following immunization (AEFI) [11]. These events should be rapidly and impartially investigated in order to allay fear of vaccines.

In addition to investigations an AEFI surveillance system should establish treatment guidelines for all AEFI and guidance on effective and transparent communication. Several countries use SIAs for AEFI surveillance activities which can be further utilized in routine immunization system [12].

### Measles surveillance in India [13]

Of the 14 states implementing measles SIAs six states (Assam, Bihar, Gujrat, Jharkhand, MP and Rajasthan) have lab supported measles surveillance data to make before and after comparisons. The overall outbreaks were only 2 post SIAs as opposed to 53 before SIAs. The measles cases were 2351 before SIA and 54 post SIA, thus Measles catch up program (MCUP) strategy has been effective in reducing measles transmission [14].

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