



सत्यमेव जयते

# Operational Guidelines For JE Vaccination Campaigns

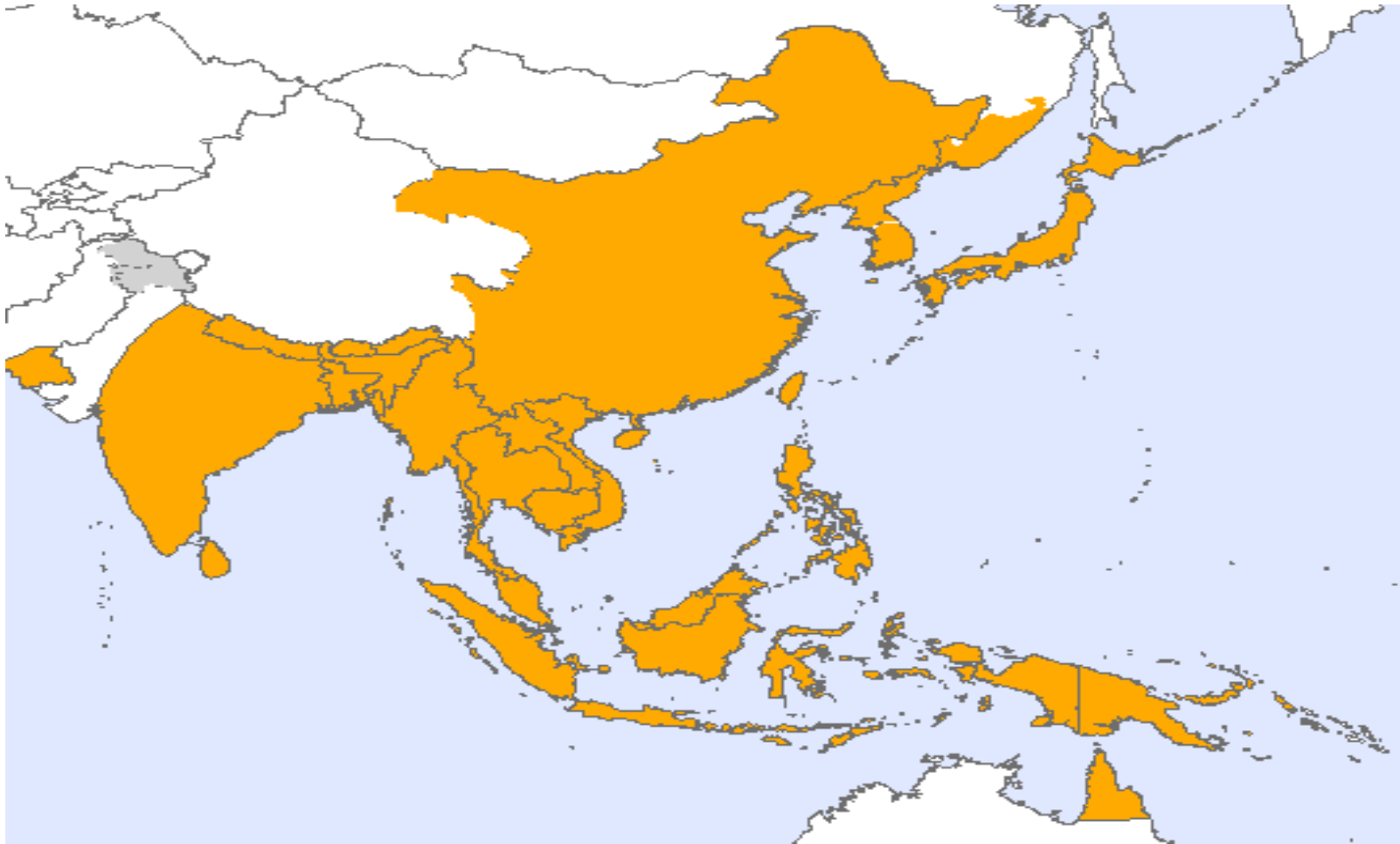
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# Outline of the presentation

- Global Scenario
- Historical Perspective in India
- JE Vaccination Government of India: Strategy
- JE vaccine: presentation, storage, administration and contra-indications
- Micro-planning and its components
- Team: composition, workload & roles
- Introduction of JE vaccine in RI: guidelines & planning

# Global Scenario



**24 countries are JE endemic around the world**

*Source: WHO/CDC Map Production: Public Health Information and Geographic Information Systems (GIS), WHO 2012*

# Historical Perspective

- **1952** - First evidence of JE viral activity VRC (NIV) during sero-surveys for arboviruses.
- **1955** - First human case of JE(suspected case).
- **1958** - First viral isolation from JE case.
- **1973** - First outbreak- Bankura and Burdwan in West Bengal.
- **1976** - Repeat outbreak in Burdwan.
- **1978**
  - Widespread occurrence of suspected JE cases.
  - National level monitoring initiated by NMEP in 1978.
  - Initiation of immunization using inactivated mouse brain vaccine
- **2005**
  - Massive JE Outbreak hit Eastern UP and Bihar
  - Around 6000 AES/ JE cases /1500 deaths were reported from UP
  - Around 6500 AES/JE cases/1600 deaths from 10 states of India.

# Historical Perspective (contd)

## Gol's Decision

- JE outbreak - *trigger* for decision making for mass vaccination campaigns in JE endemic districts

## 2006 – 2010-11

- In 2006, 113 endemic districts of 15 States planned and covered in 5 years in a phased manner – 7.8 crore children immunized.

## 2012-2017

- Improved surveillance identified 118 new JE endemic districts. Total district count 231.
- JE vaccine has been integrated into RI across 216 districts subsequent to the completion of campaigns wherein more than 15 crore children have been immunized.
- JE campaign for adults completed in all 31 identified districts in Assam, WB and UP – 3.3 crore adults (15-65 yrs) vaccinated.

# JE Vaccination

## Government of India: Strategy

- ▶ JE Campaign: Target beneficiaries- 1-15 year age group in highest risk districts of the country.
- ▶ One time campaign followed by integration into the Routine immunization.
- ▶ Two doses for JE are scheduled under routine immunization.



# JE Vaccine

## 1. Live attenuated SA-14-14-2 JE vaccine (from CDIBP\*, China)

- ▶ Freeze dried
- ▶ Each vaccine vial contains 5 doses
- ▶ Needs to be reconstituted
- ▶ To be used within 4 hours of reconstitution
- ▶ For use in:
  - **Campaign:** single dose of 0.5 ml subcutaneous left upper arm
  - **RI:** Two doses at 9-12 months and 16-24 months



\* Chengdu Institute of Biological Products

# JE Vaccine

## 2. Inactivated JE Vaccine (JEEV)

- ▶ Suspension containing JE purified inactivated vaccine (adsorbed)
- ▶ Each vaccine vial contains single dose – increased cold chain space requirement
- ▶ Licensed for use in  $\geq 1$  to  $< 3$  yrs
- ▶ No need for reconstitution
- ▶ Administered Intra-muscularly – Anterolateral aspect of thigh
- ▶ **For use in routine immunization only**
- ▶ Two doses – 1<sup>st</sup> at 16-24 months; 2<sup>nd</sup> dose 1 month after administration of 1<sup>st</sup> dose



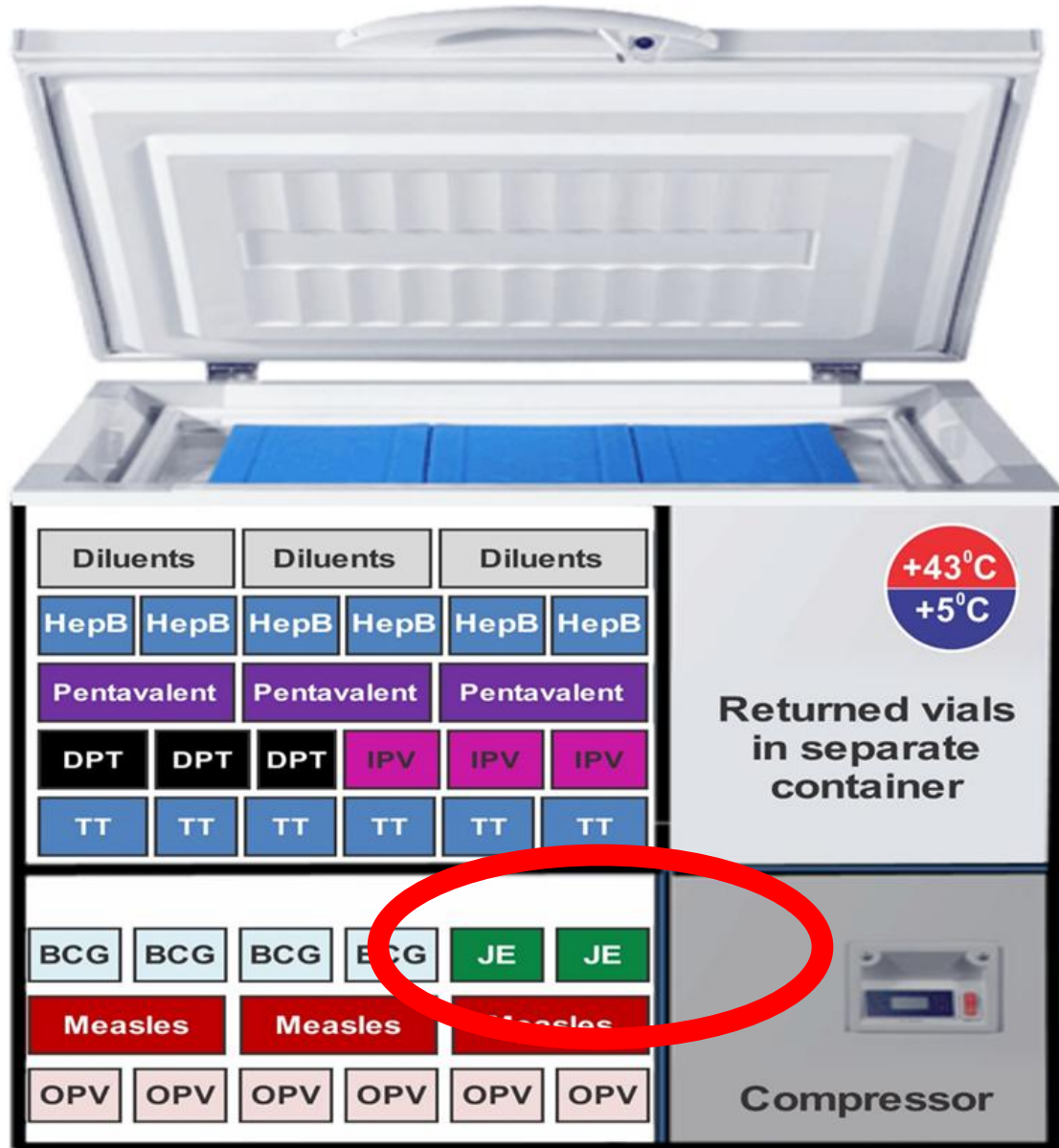


# When not to vaccinate a child with JE vaccine

- Fever
- Malnourished child
- Acute infections
- Liver, heart and kidney problems
- H/o of Allergy
- Epilepsy or H/O Convulsions
- Treatment with any immunosuppressive therapy
- Hypersensitivity to Kanamycin or Gentamycin
- Pregnancy

# Cold Chain

- Both the vaccines are to be stored between +2°C and +8°C in the lower basket of ILR
- VVM is present on the cap of vial in both the vaccines
- **No open vial policy**
- Return all used/unused vials after completion of session



# **Japanese Encephalitis Vaccination Campaign**

# Dosage & Route of Administration

**Only Live attenuated JE**

**Vaccine is used for campaigns:**

- ▶ Single dose, 0.5 ml irrespective of age group, through **Subcutaneous route, left upper arm**
- ▶ Vaccine to be used within 4 hours of reconstitution



Live attenuated  
JE vaccine -  
sub-cutaneous  
(left upper arm)

# Pre Planning

- **Timelines and Activities - DTF / BTF**
- **Micro planning**
- **Cold chain**
- **Training**
- **IEC & Social Mobilization**
- **Vaccination site**
- **Team composition**
- **Vaccine safety/ Waste management**
- **Adverse Events Following Immunization**

# Micro plan

- Center site selection
- Estimation of beneficiaries
- Manpower
- Vaccine, logistics and cold chain
- Route chart for distribution of vaccine and logistics
- Supervision, Recording and reporting
- Training
- IEC
- Referral in case of AEFI

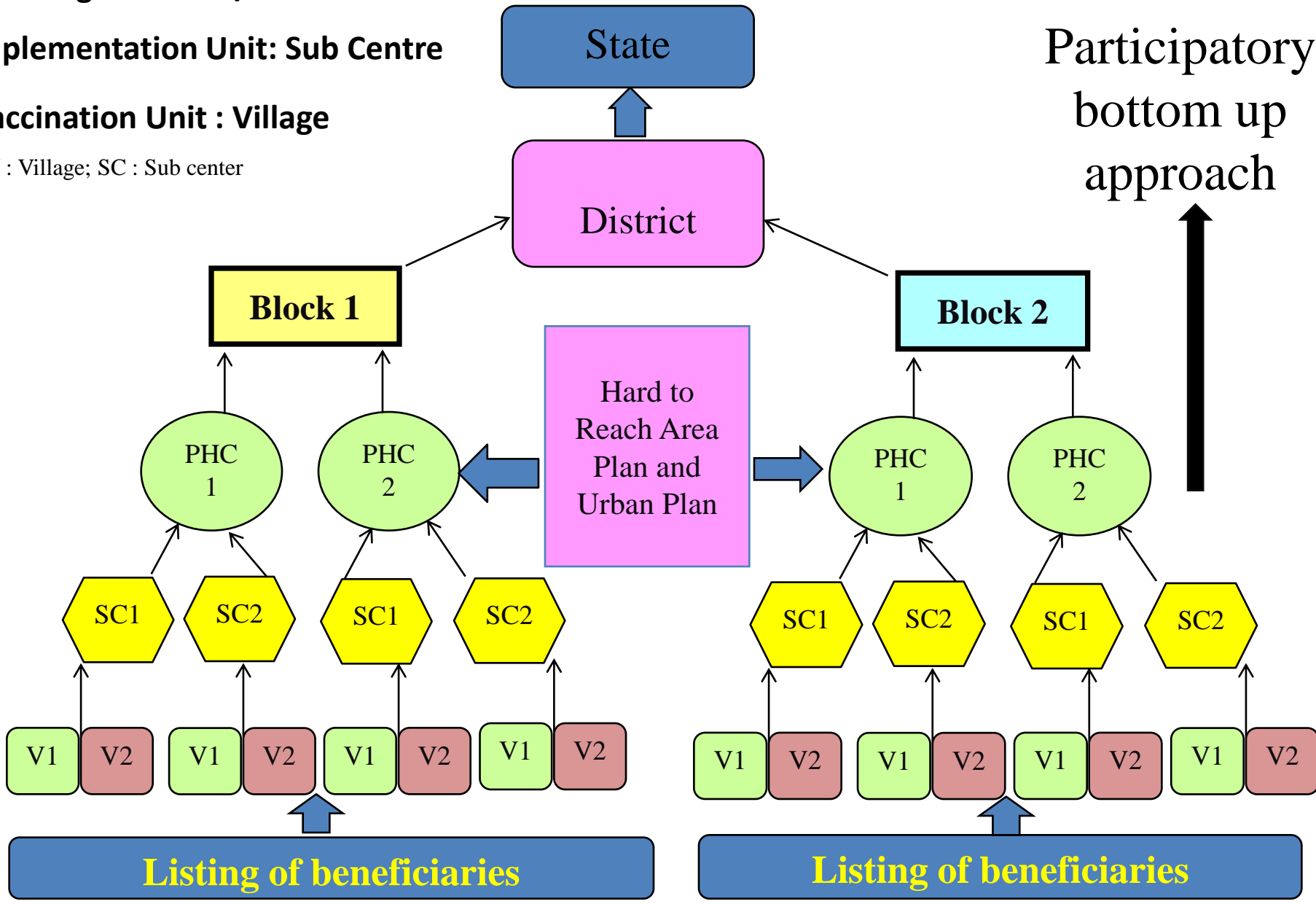


**Planning unit: PHC/Block**

**Implementation Unit: Sub Centre**

**Vaccination Unit : Village**

V : Village; SC : Sub center



**HR mobilization and formulation of microplan to be ensured in vacant subcentres by MO I/c of PHC/Block**

# General guidelines

- Total duration of the campaign: 3 weeks; 1<sup>st</sup> week for school activity, 2<sup>nd</sup> & 3<sup>rd</sup> week for community activity.
- Each village including its hamlets in the sub center area will have an immunization center assigned specifically for the village and located within the village.
- Two or more villages should not be clubbed together for one immunization center.
- *The activity should always be carried out from within a room designated as the “vaccination center”*
- Timing of activity – 9 AM to 5 PM.



# Estimation of Beneficiaries

- All children between the age group above 1 year and below 15 years should be estimated for vaccination with JE vaccine **with best available data.**
- It is estimated that the National average age group of 1-15 years is 33 % of the population however, headcount/ census is a preferred mode of estimation of beneficiaries

**Children between the age group of 1 to 15 years  
= 33 % of total population**

# Estimation of Vaccines/Logistics

1. JE vaccine doses required = Total Population x 33% x 1.1 (to include 10% vaccine wastage)
2. JE vials (5 dose) required = JE vaccine doses required **(S. No. 1)** / 5
3. Diluents required = JE vials (5 dose) required **(S. No.2)**
4. Disposable syringes required = JE vials (5 dose) required **(S. No.2)**
5. Auto disable syringes required = JE vaccine doses required **(S. No. 1)**
6. Number of Immunization Cards = JE vaccine doses required **(S. No. 1)**
7. No. of Hub cutters = 1 per vaccinator
8. Red plastic bags = 1 per 50 syringes
9. Black plastic bags - 2 per session site per day

# Cold chain: Key Actions.....

- ▶ Assess cold chain capacity at District and PHC level
  - ▶ JE vaccine can be safely stored during campaign?
- ▶ Verify functioning ILRs, DFs, ice packs and cold boxes
  - ▶ These equipment can support campaign?
- ▶ Identify ice factories/Cold storage for ice/freezing of ice packs
- ▶ Orient all cold chain handlers
  - ▶ They should understand their role in this campaign
- ▶ Vaccine transportation and distribution plan
  - ▶ Vaccine to be delivered on site on every day of the campaign

# Cold Chain

- Vaccine vial and diluents should be stored and transported at 2-8°C in a vaccine carrier with 4 conditioned ice packs
- Planning for replenishment of icepacks/ice is an essential component of micro plan
- Alternate transportation plan/ vehicles– as per GOI guidelines
- Separate route chart plan for each vaccination site
- Micro plan to determine requirement of vehicles
- The JE vaccine comes in small box containing 10 vaccine vials a with the boxes size being- 83 mm x 43.5 mm x 38.5 mm
- The diluent comes in a small box containing 10 diluent vials with the boxes size being 84 mm x 53 mm x 38 mm.

# Planning of Cold chain Space

		<b>Storage Capacity</b>	
<b>Equipment</b>		<b>No. of Vials</b>	<b>No. of doses</b>
<b>1 Small ILR (Haier) – 45 Litres</b>	<b>Vaccines without diluents</b>	<b>3214</b>	<b>16070</b>
	<b>Diluents without vaccines</b>	<b>2647</b>	<b>13235</b>
<b>1 Large ILR – 108 Litres</b>	<b>Vaccines without diluents</b>	<b>7714</b>	<b>38570</b>
<b>1 Vaccine career - 1.7 Litres</b>	<b>Vaccine Vials +diluent vials</b>	<b>25-27</b>	<b>125-135</b>

*If cold chain space constraint exists then JE vaccine vials can be stored in DF at district level and above; use of DF below district level for storage of JE vaccine should not be done.*

# Example: Cold chain space requirement for JE campaign

*Estimation of Cold chain Space required for 1 lakh population (Considering 1 month storage of routine vaccine and birth rate of 25/1000)*

## **JE Campaign**

- Target population : 33% of total population
- Total children to be immunised with JE vaccine ie.  $100,000 \times 33/100 = 33,000$
- Vaccine doses required =  $33,000 \times 1.1$  (WMF) = 36300
- Total cold chain space need (in litres) for storage of JE vaccine =  $36300 \times 2/1000 = 72.6$  litres
- Total cold chain space need (in litres) for storage of JE diluent =  $36300 \times 4/1000 = 145.2$  litres
- Total space for JE vaccines and Diluents- 72.6 litres + 145.2 litres = 217.8 litres

***5 small ILRs of 45 liters net capacity or 2 large ILR of 108 liters net capacity are adequate for both RI & JE campaign***

*If the storage capacity is less, then the transport plan for the vaccines and logistics should be formalized with effective budgetary support.*

# Vaccine Route Chart & Bundling logistics Plan



# Transportation

- Vaccine and logistics delivered to the health workers at the immunization session sites.
- Health workers can start the immunization session on time
- Vaccines and logistics are collected on the same day and unused/opened vials, session report (tally sheet) and immunization waste are brought to PHC on the same day





# IEC & Social Mobilization

- Advocacy and social mobilization
- Sensitize general public, community leaders and other volunteers etc. about JE vaccine benefits.
- The communication planning should address the following issues:
  - Target group / Time / Place of vaccination
- Proper media orientation/ Media spokesman
- Media plan

# Training

- MOICs should train the MOs and the personnel such as Data managers, BHM's and Cold Chain Handlers
- Both vaccinators in a team and Supervisors must receive training on
  - National Guidelines on JE vaccination , JE Vaccines
  - Recording & Reporting coverage
  - AEFI – actions to be taken, referral & reporting
  - Waste disposal following vaccination
- The Vaccinators will further train the AWWs and ASHAs and Teachers

# Vaccination Site

- The village primary school will be the preferred site of vaccination activity
- In the absence of a school , the ICDS center or a fixed site which is easily identifiable, approachable and acceptable to the community may be selected
- If two or more teams are required in a village, these should work at separate vaccination sites.
- **Neutral site; acceptable to all**



# Team Composition

- One vaccinator is sufficient for injection load of 150 in community and 200 in school.
- Injection load  $\leq$  150-200, one vaccinator per team.
- Injection load  $\leq$  300-400, two vaccinators per team.
- Team members for school activity: 1-2 vaccinators, AWW, ASHA & school teacher
- Team members for community activity: 1-2 vaccinators, AWW, ASHA/Volunteer/link worker.
- Adequate numbers of teams to be deployed (based on injection load) in a village so that whole village is covered in a single day.
- MO, PHC shall be overall responsible for team selection
- Team supervisor will assist the MO, PHC in identifying team members where possible.

# Team Workload

- Each vaccinator can vaccinate 150 children per day in community & 200 in school.
- No. of team-days of activity in a village = (No. of beneficiaries)/300
- E.g. In a village with population 1000-1200,
  - No. of beneficiaries aged 1-15 years = 33% of popln = 330-400
  - No. of beneficiaries aged 1-5 years = 10% of popln = **100-120**
  - No. of beneficiaries aged 5-15 years = 230-280
  - Assuming 50% school turn-out, no. of beneficiaries vaccinated in school = **115-140**.
  - No. of beneficiaries to be vaccinated in community = (**115-140**) + (**100-120**) = 215-260.
  - No. of team-days required in that village = 1.

**Campaign activity to be completed in the predefined timelines**

# Role of vaccinator

## Planning Stage

- Develop micro plan for activity in her sub center area (local sub center ANM)
- Ensure completeness of micro plan
- Vaccination site selection in the village
- Identify the third and fourth and fifth member of the team
- Orientation of the third and fourth member
- Assist in vaccine and logistic transportation planning for her sub center area

## Activity Day

- Vaccinate children
- Give specific instructions to parents on AEFI
- Take appropriate measures in case of any AEFI
- Ensure completeness and reporting of day's activity in the designated format
- Overall responsible and accountable for planning, training and conducting the activity in the center

# Vaccinators to carry to the Vaccination Site


- 2 Vaccine carriers and 8 ice packs / team (1 vaccine carrier with 4 conditioned ice packs /ANM)
- Adequate number of JE Vaccine vials and equal number of JE diluents
- Adequate number of AD syringes / Syringes for reconstitution
- Adequate cotton swab
- Adequate number of vaccination record cards
- Tally sheets – multiple
- 1 Hub-cutter/ ANM, i.e. 2 Hub cutters per team
- Marker Pens – 1 per ANM (2 per team)
- Red bags and Black bags for waste disposal
- Banner to mark location site
- AEFI kit with Emergency medicines

# Role of other Team Members

Member	Primary Job Responsibility
<b>AWW / ASHA / Link person</b>	<p><b>Before Activity :</b></p> <ul style="list-style-type: none"><li>• Social Mobilization – parent’s meeting, IPC etc. in village as awareness campaign</li><li>• Coordinate with school personnel in preparing the vaccination center</li></ul> <p><b>On day of activity</b></p> <ul style="list-style-type: none"><li>• Manage queue</li><li>• Provide logistic support to vaccinators</li><li>• Repeat instructions of the vaccinator to parents before they leave the center</li></ul> <p><b>After- Activity</b></p> <ul style="list-style-type: none"><li>• Mobilize absentee children to the PHC for vaccination</li></ul>



# Role of other Team Members

Member	Primary Job Responsibility
<p data-bbox="19 292 299 357"><b>Teacher</b></p> 	<p data-bbox="550 292 1043 349"><b>Before Activity :</b></p> <ul data-bbox="550 378 1864 685" style="list-style-type: none"><li data-bbox="550 378 1864 521">• Ensure that all staff and children of school know of activity</li><li data-bbox="550 549 1864 685">• Make arrangements in vaccination site for activity</li></ul> <p data-bbox="550 714 1091 778"><b>On day of activity</b></p> <ul data-bbox="550 806 1758 1120" style="list-style-type: none"><li data-bbox="550 806 1758 871">• Fill up tally sheet and vaccination card</li><li data-bbox="550 899 1516 963">• Instruct Parents to retain card</li><li data-bbox="550 992 1738 1120">• Send school children in the village for mobilization</li></ul> <p data-bbox="550 1156 956 1220"><b>After Activity</b></p> <ul data-bbox="550 1249 1864 1378" style="list-style-type: none"><li data-bbox="550 1249 1864 1378">• Mobilize absentee children to the PHC for vaccination</li></ul>

# Role of Volunteers

- Mobilize children from the village to the vaccination center



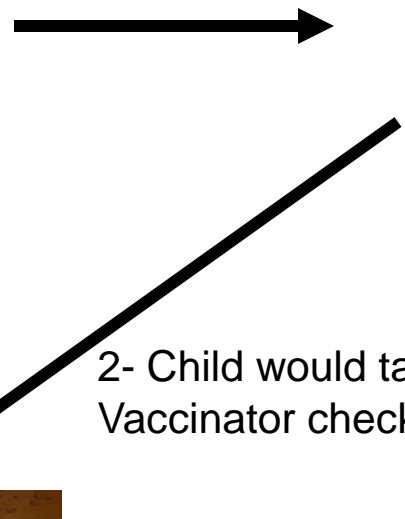
- Assist in identification of absentee children



# 1 Process of Vaccination 2

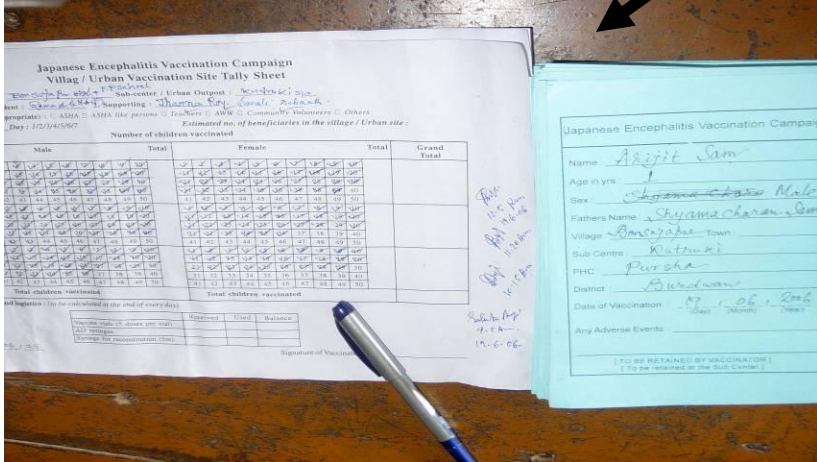


1- Teachers writing the cards



2- Child would take the card to Vaccinator  
Vaccinator checks the card and then vaccinate

3



4



Children would wait for half and hour after vaccination

3- After vaccination Child would get the Vacc. card  
Tally sheet is marked and counterfoil is with vaccinator

# Waste Management

As in Routine Immunization, Waste management guidelines of CPCB/SPCB to be followed.



# Summary -JE Vaccination Campaign

<b>Target population</b>	1-15 years (33% of total Population)
<b>No. of Team Days</b>	About 15 Days/ depending on the manpower VS No. of beneficiaries
<b>Estimation of target beneficiaries</b>	Through head count of the village (Due list)
<b>Sessions</b>	Fixed Site- School or AWC
<b>Strategy for Vaccination</b>	Village to Village, Ward to Ward, to be completed at a stretch via sector approach
<b>Team Members</b>	4 to 5 i.e 1/2 ANM, AWW, ASHA, Volunteer/school teacher
<b>Injection load</b>	Injection load per team = 150 to 200 per vaccinator
<b>No. of Supervisors</b>	1 Supervisor per 5 teams
<b>Calculation of Vaccine doses</b>	Total Population * 33/100*1.1 WF
<b>Calculation of Diluents</b>	Total Population * 33/100*1.1 WF/ 5
<b>Vaccine Careers</b>	2 per team
<b>Finger marking</b>	Left thumb nail
<b>Rapid Convenience Assessment Survey (RCA)</b>	To monitor the completeness of the campaigns and recommend corrective actions (re-activity) in areas where coverage is incomplete or low
<b>Marker Pens</b>	1 pen per 150 children - At least 2 per session site
<b>Red plastic bags</b>	1 per 50 syringes
<b>Black plastic bags</b>	2 per session site per day

# **Introduction of JE Vaccine in RI- Guidelines and Planning**

# JE vaccine in RI in Odisha

## Live Attenuated JE Vaccine (SA 14-14-2)

- To be introduced in Balasore, Cuttack, Dhenkanal, Kendrapara, Puri, Khurda, Ganjam, Kalahandi, Sonapur and Sundargarh districts.
- Vaccination under RI to be started immediately after campaign.
- 2 doses – 1<sup>st</sup> at 9-12 months & 2<sup>nd</sup> at 16-24 months.

## Inactivated JE Vaccine (JEEV)

- To be introduced in Koraput, Rayagada and Nabarangpur districts.
- Vaccination under RI to be started 6 months after completion of the campaign.
- Balance stocks of SA-14-14-2 to be sent to SVS after campaign.
- JEEV to be supplied to all cold chain points.
- 2 doses – 1<sup>st</sup> at 16-24 months; 2<sup>nd</sup> dose at 1 month after the 1<sup>st</sup> dose

# Revised Immunization Schedule

Age	Vaccines given
Birth	BCG, OPV, Hepatitis B
6 Weeks	OPV, Pentavalent, Rota#, fIPV, PCV
10 weeks	OPV, Pentavalent, Rota#
14 weeks	OPV, Pentavalent, Rota#, fIPV, PCV
9-12 months	Measles, <b>JE 1st dose (Live attenuated)</b>
16-24 months	Measles, <b>JE 2<sup>nd</sup> dose (Live attenuated)</b> / <b>JE 1<sup>st</sup> dose (inactivated)</b> , DPT-B, OPV –B
<b>1 month after JE 1<sup>st</sup> dose</b>	<b>JE 2nd dose (inactivated)</b>
5-6 years	DPT-B2
10 years	TT
16 years	TT
Pregnant Mother	TT1, 2 or TT Booster

*#in select states only*

*\*\* in endemic districts only*



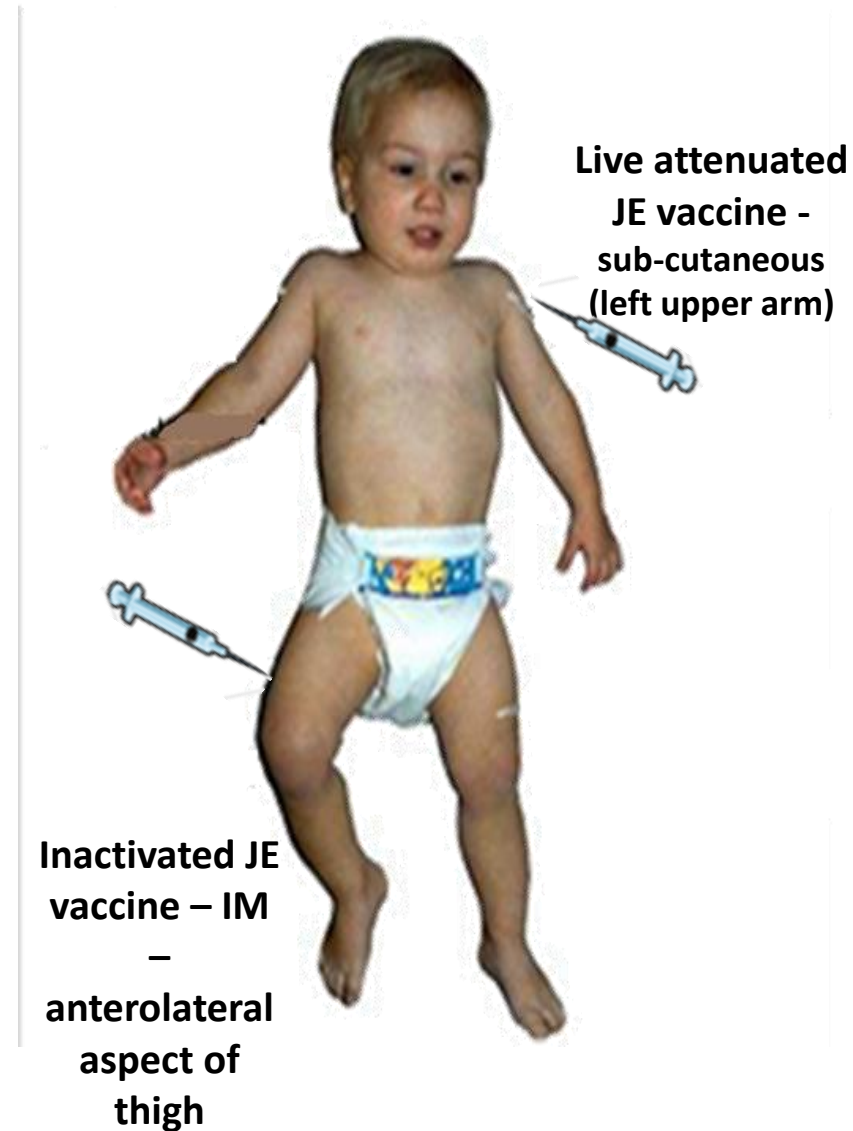
# Dosage & Route of Administration in RI

## Live attenuated JE Vaccine:

- Two doses at 9-12 months and 16-24 months.
- Each dose of 0.5 ml reconstituted vaccine through Subcutaneous route, left upper arm

## Inactivated JE Vaccine:

- Two doses – 1<sup>st</sup> at 16-24 months; 2<sup>nd</sup> at 1 month after 1<sup>st</sup> dose.
- Each dose of 0.5 ml vaccine through IM route, antero-lateral aspect of thigh



# Reporting

- Reporting of JE vaccine coverage under Routine Immunization should be done along with other RI vaccine coverage reports.
- Reports should be entered in HMIS database.
- Daily campaign reports should be submitted to District and State. State needs to submit daily district wise consolidated report to immunization division of the Ministry of Health and Family Welfare, GoI & ITSU and at end of campaign final signed report to be submitted.
- Email id for submitting daily reports:  
[immcontrolroom@gmail.com](mailto:immcontrolroom@gmail.com), [riindia2008@gmail.com](mailto:riindia2008@gmail.com),

# Programmatic issues leading to decreased RI coverage:

- **Administration along with other vaccines**
  - JE vaccine can be administered at same time as other live or inactivated vaccines.
- **Integration of JE vaccine under RI**
  - Delay in integration
  - Inaccurate calculation of target beneficiaries
  - Delays in demand and supply of vaccines
  - Low coverage
  - Resultant: Huge cohort of unvaccinated beneficiaries under RI
- **IEC**
  - Lack of awareness about benefits of vaccination against JE
  - Fear of multiple pricks amongst Health personnel and Community

# Strategies to Improve Coverage of JE Immunization Under RI

- Coordination Meetings on regular basis between Immunization and VBDC divisions to discuss JE coverage under RI and JE case burden with vaccination status of JE cases
- Coordination Meetings conducted with Immunization & VBDC under chairmanship– DM/CMO at district level & Principal Secretary/ Mission Director at State level
- Monitoring and Supervision of JE vaccination under RI both by Immunization and VBDC divisions (Determining vaccination status of AES/ JE cases should be mandatory and should be shared with Immunization division)

**THANK YOU**