

Deliberations of the IEAG

24-25 June 2009

Issues for the IEAG

- Epidemiology has not matched projections – should programme maintain same intensity in 2009-10?
- What challenge do VDPVs pose to the programme?
- Should mop-ups in response to WPV3 in UP & Bihar.
- Multifocal strategy for PE - sanitation, diarrhea, Zinc, improving RI coverage.
- Vaccine projections for rest of 2009 & early 2010.

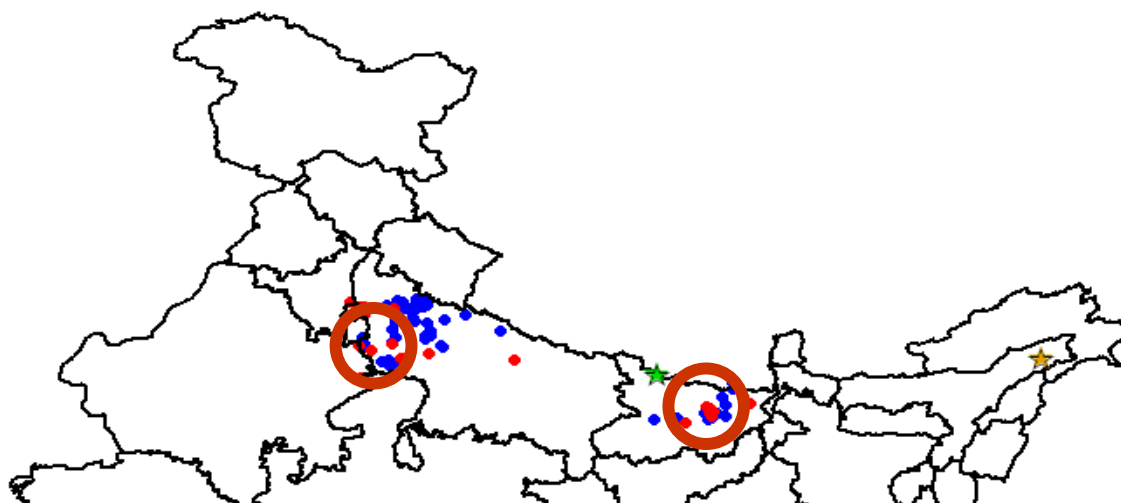
Are we on the right path?

(question from Uttar Pradesh)

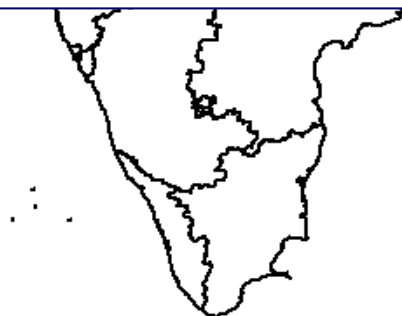
***The epidemiologic, virologic,
genetic, operational &
technical evidence all suggest
that India is firmly on the right
path to finish eradication.***

***Epidemiologic &
Virologic Evidence***

Epidemiologic evidence: 1st time both viruses very geographically restricted in both UP & Bihar



Epidemiologic evidence: longest period with no type 1 or 3 outbreak outside endemic areas



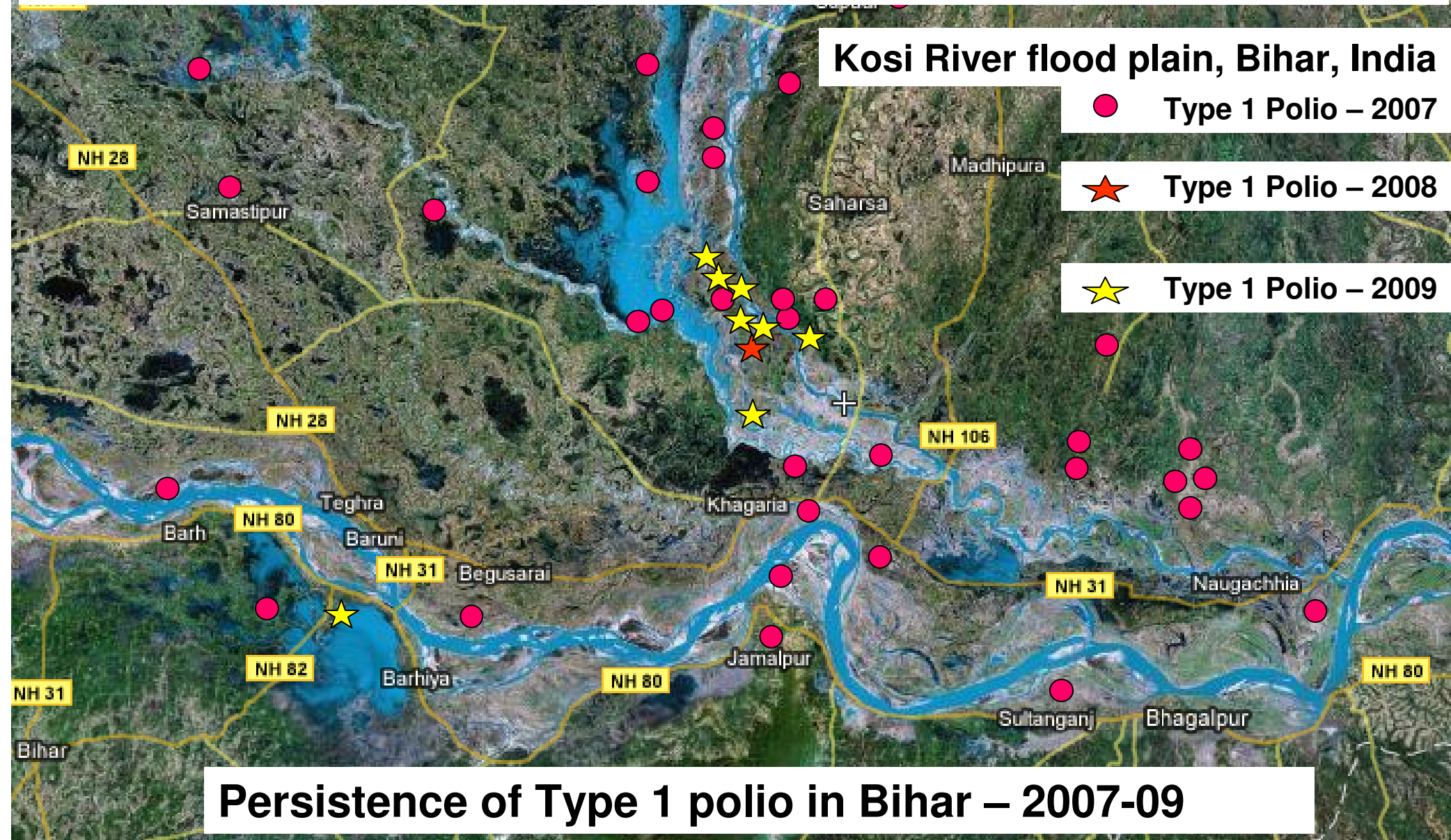
WPVs			
State	● P1	● P3	Total
Uttar Pradesh**	11	41	51
Bihar	9	15	24
Delhi	3	0	3
Rajasthan	1	0	1
Total	24	56	79

** One case reported mixture of P1 wild & P3 wild

Epidemiologic evidence: very geographically restricted in Bihar

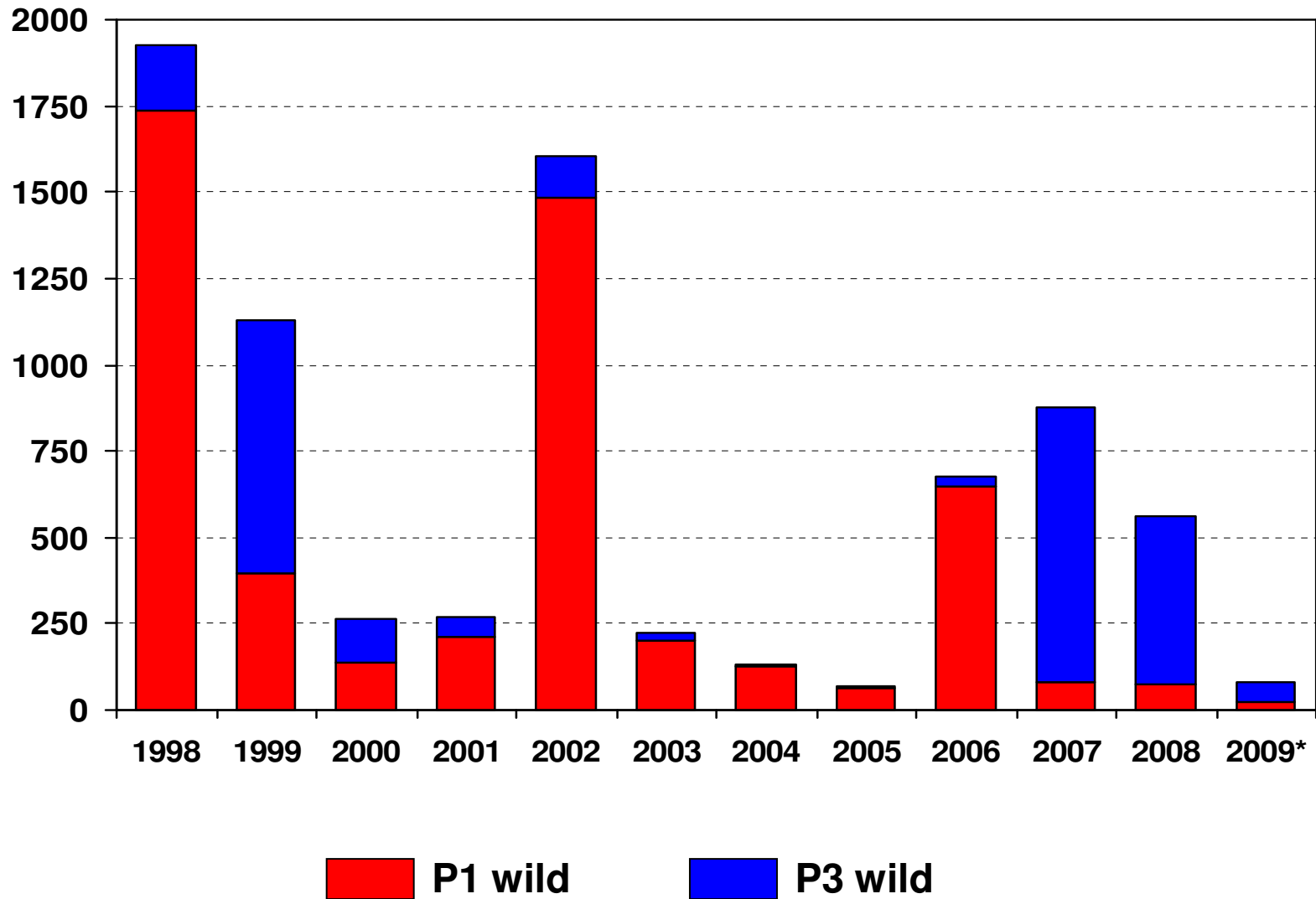
Kosi River flood plain, Bihar, India

- Type 1 Polio – 2007
- ★ Type 1 Polio – 2008
- ★ Type 1 Polio – 2009



Persistence of Type 1 polio in Bihar – 2007-09

Epidemiologic evidence: lowest levels of both type 1 & type 3 at same time



* data as on 19th June 2009

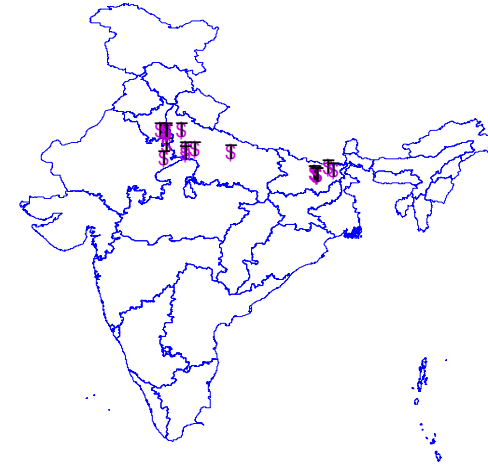
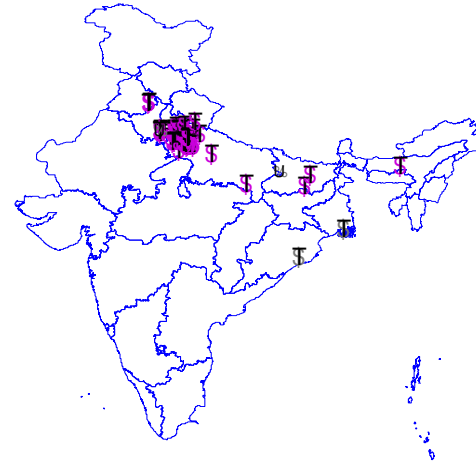
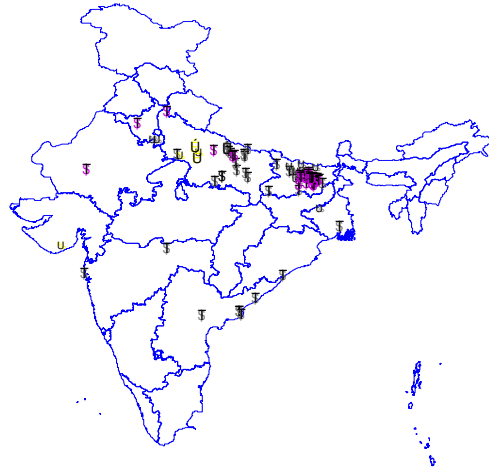
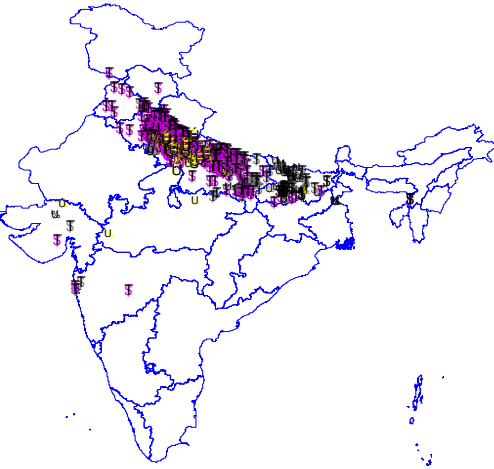
Virologic evidence: elimination of all but 1 genetic lineage of type 1 poliovirus

2006

2007

2008

2009*



Grey 1	▲	89
Grey 2	■	38
Grey 3	☆	2
Black 1	▲	11
Black 2	■	12
Pink 1	▲	459
Yellow 2	■	11
Yellow 3	☆	14
Yellow 4	●	4

Grey 1	▲	29
Grey 2	■	14
Grey 3	☆	1
Black 1	▲	1
Pink 1	▲	32
Yellow 2	■	3
Yellow 3	☆	2

Grey 1	▲	2
Grey 2	■	2
Pink 1	▲	71

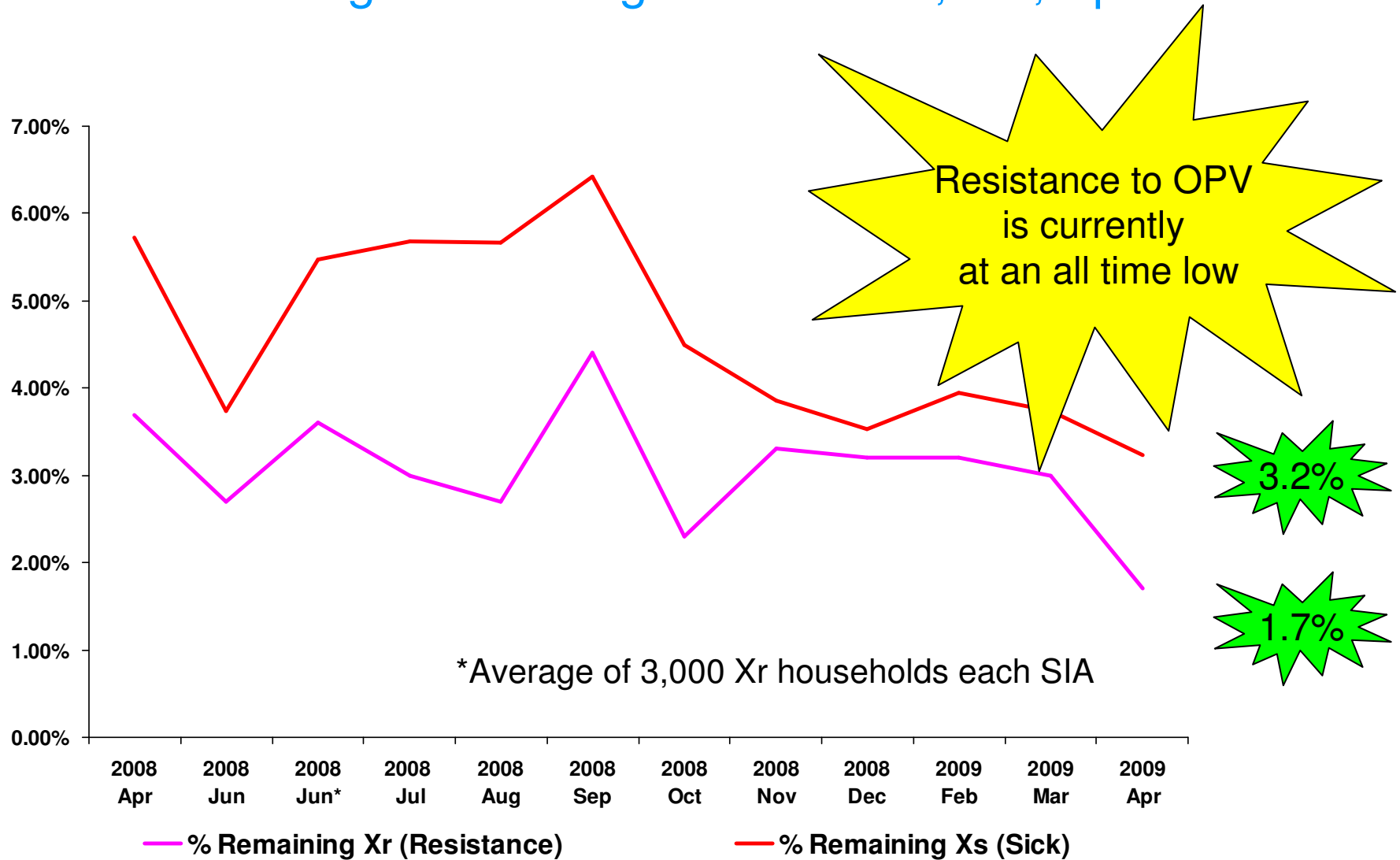
Pink 1	▲	18
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*as of 22nd Jun, 2009

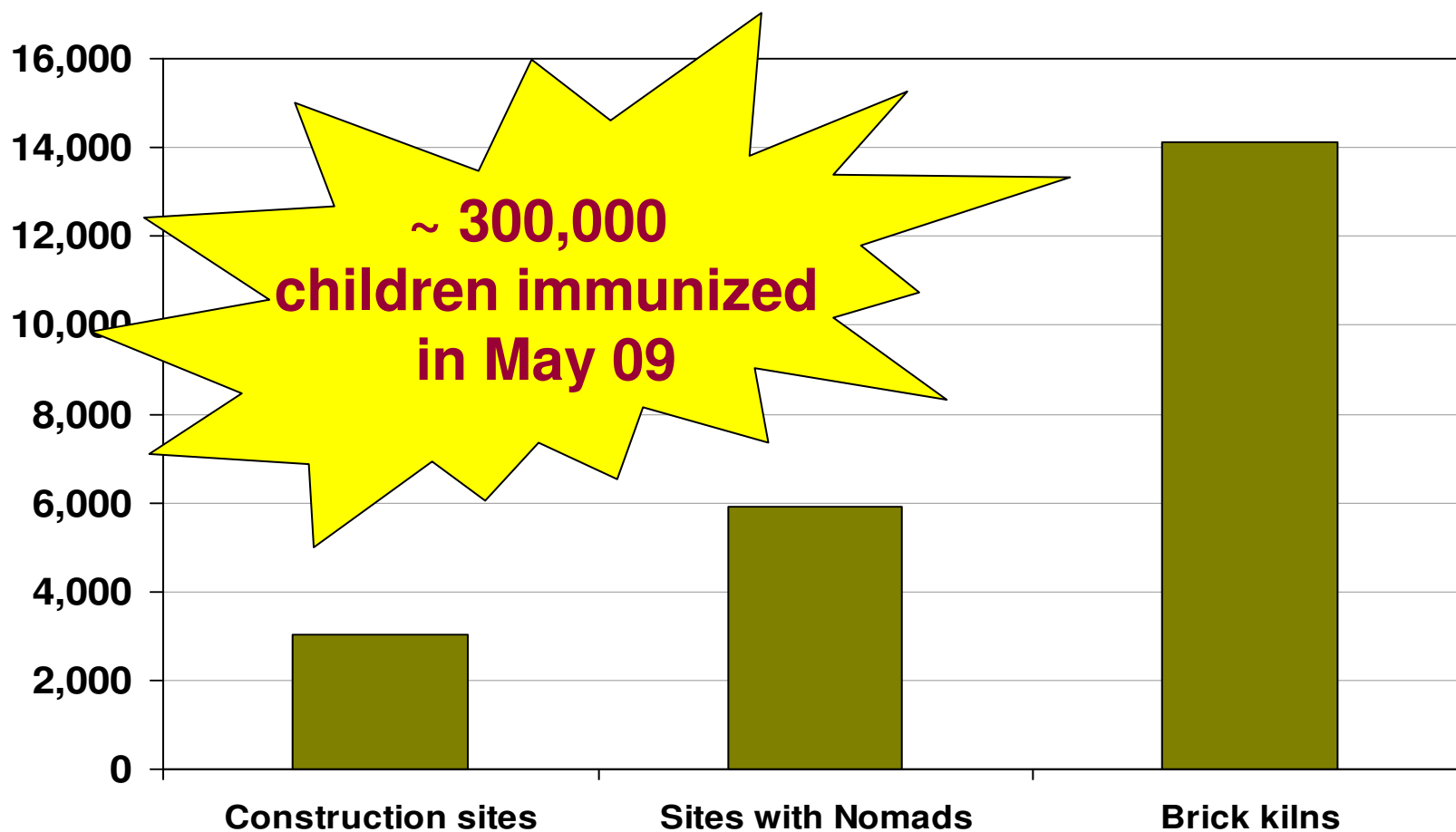
Operational Evidence

Operational Evidence: *lowest resistance ever, UP*

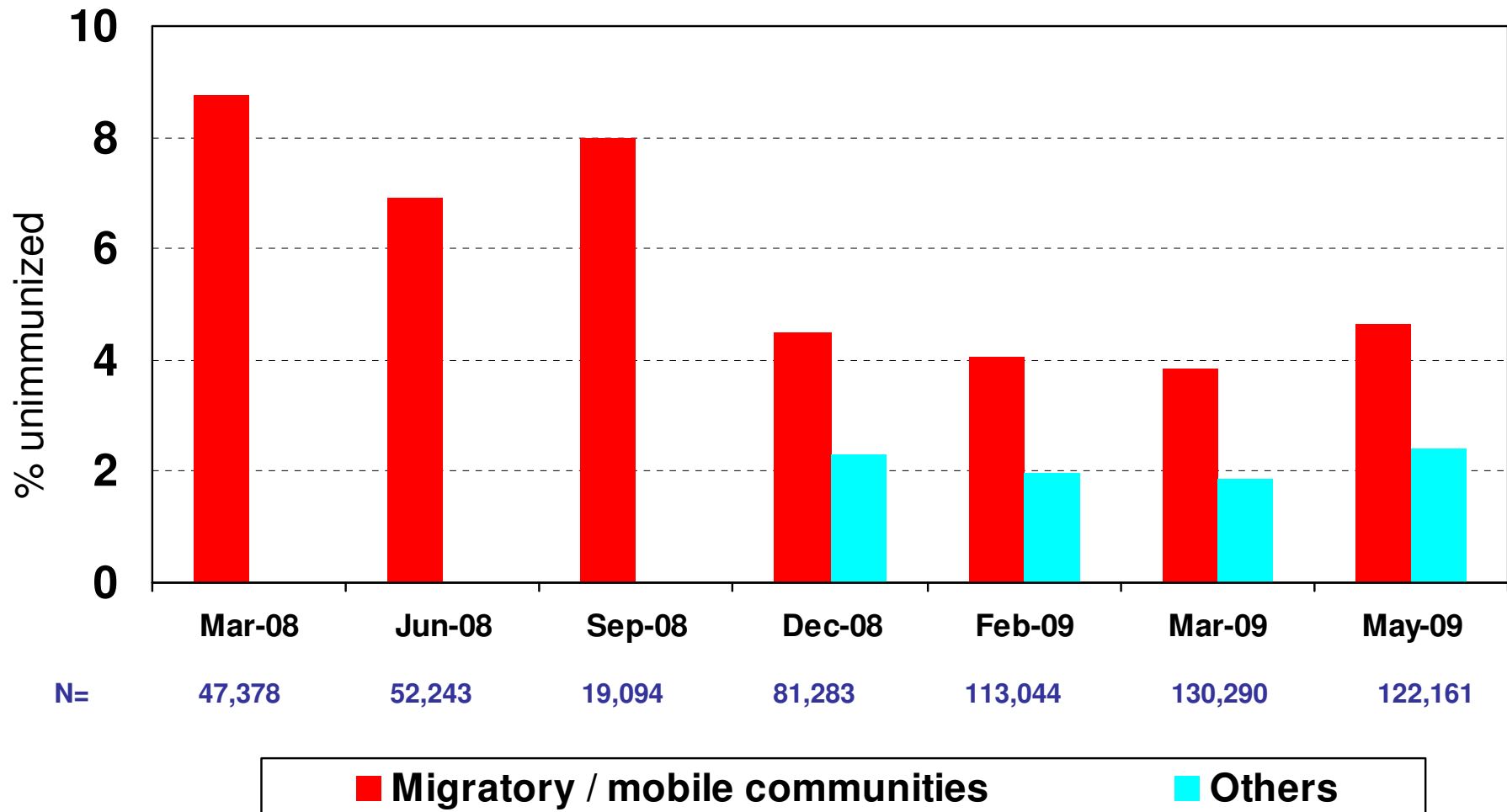
% Xr & Xs remaining in CMC High Risk Areas, UP, April 08 –09



Operational evidence: clear identification of missed populations in UP

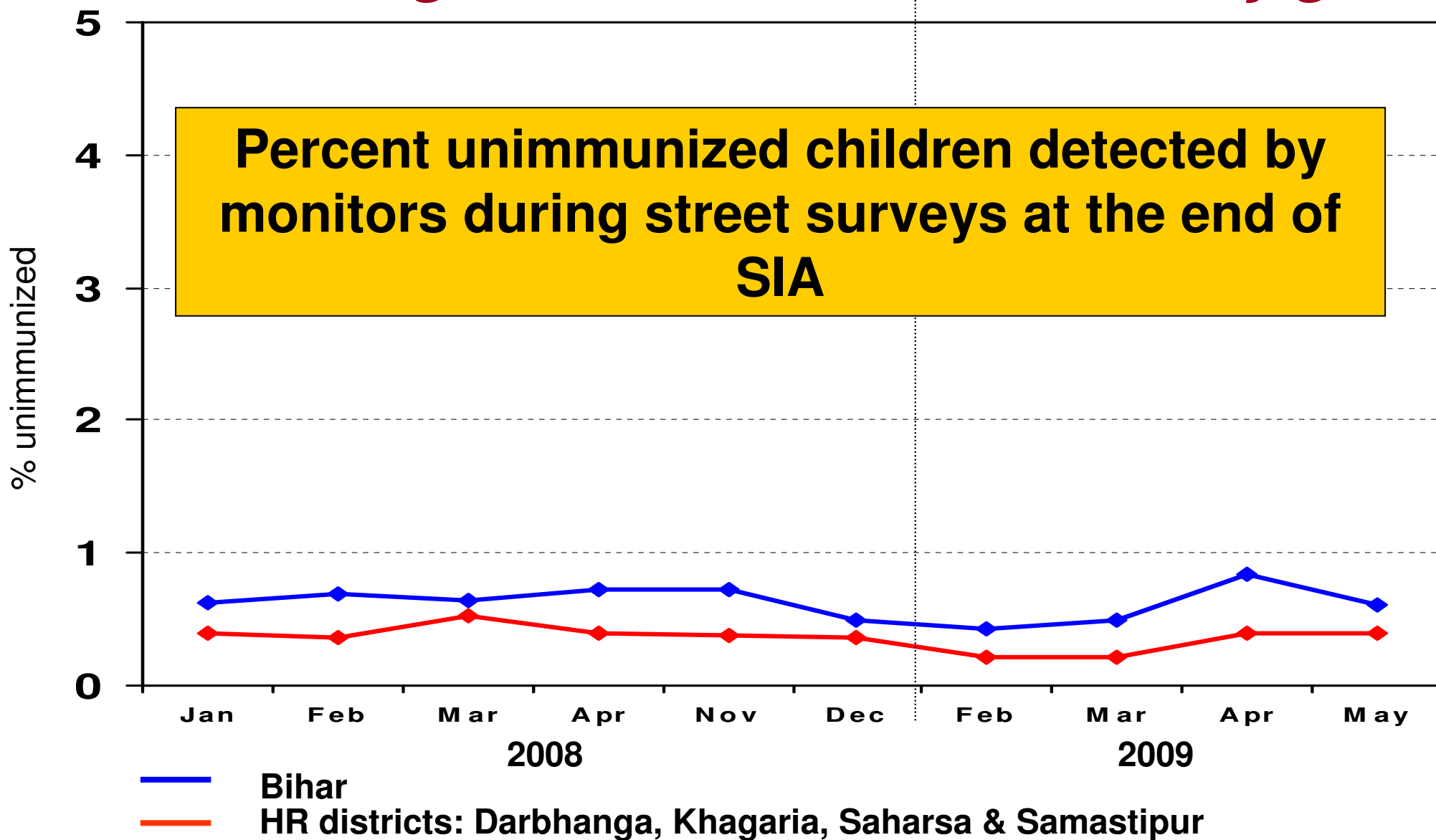


Operational evidence: decreasing proportion of missed children in migratory communities, UP

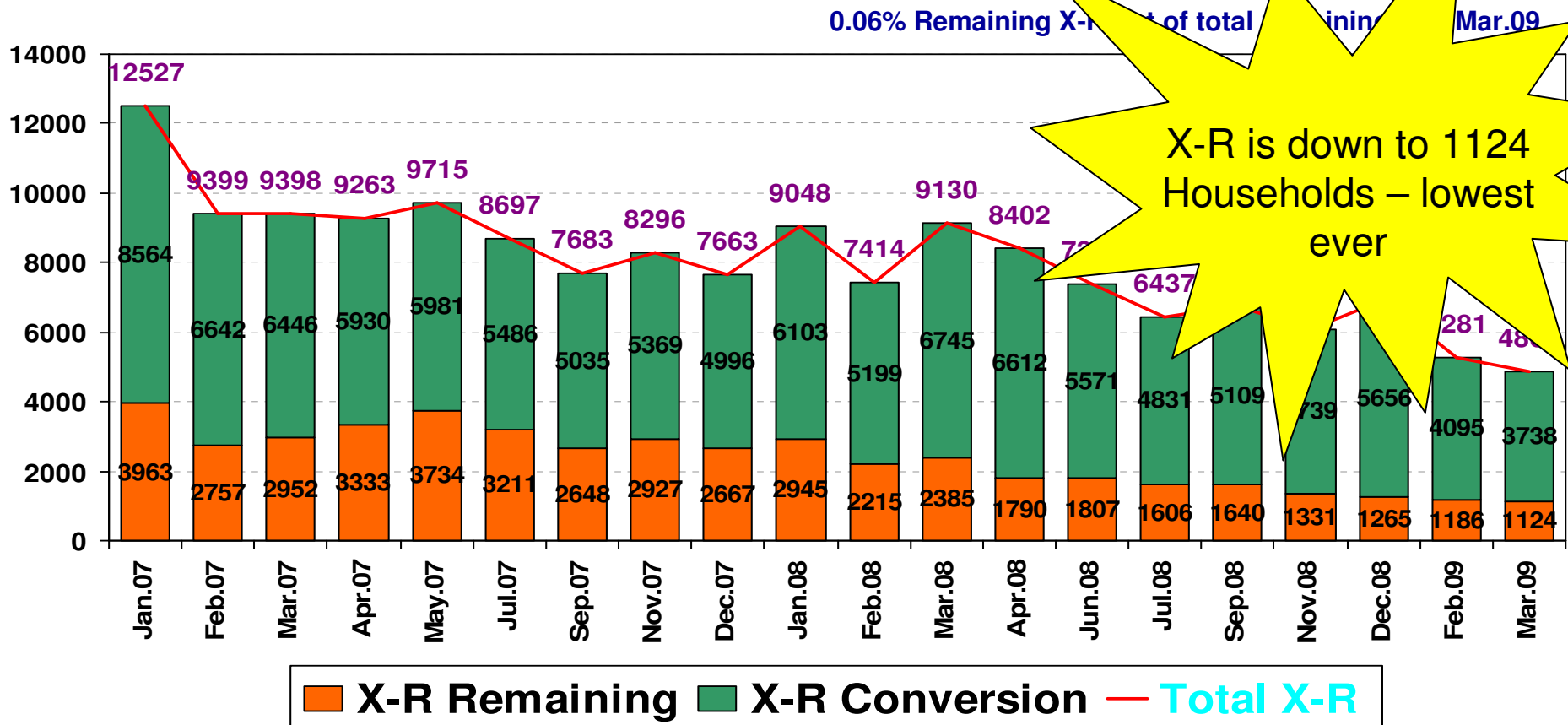


Source of data : NPSP monitoring

Operational Evidence: Overall SIA quality in Bihar, incl. high risk districts, remains very good

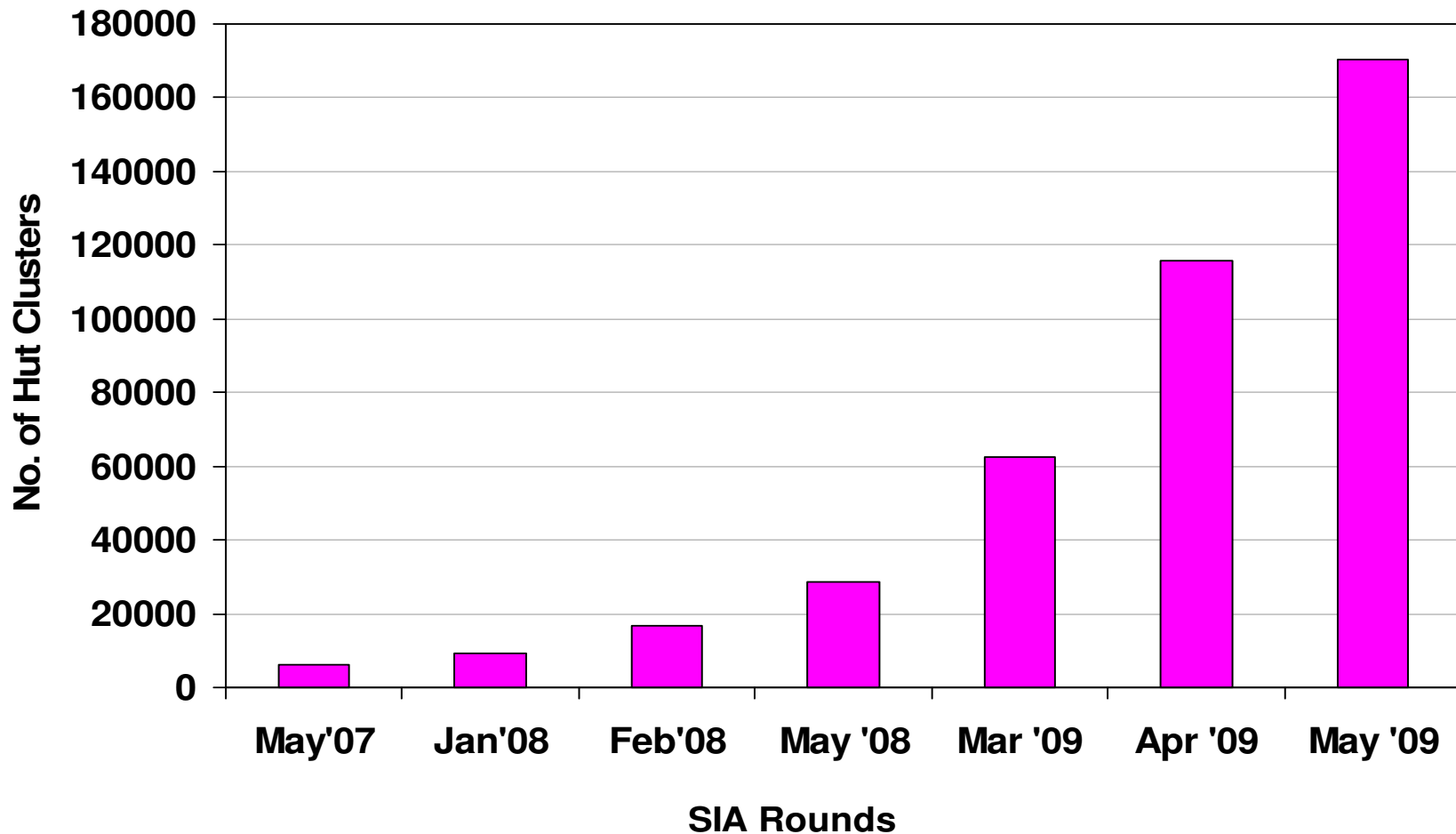


Operational Evidence: lowest refusal levels ever in Bihar

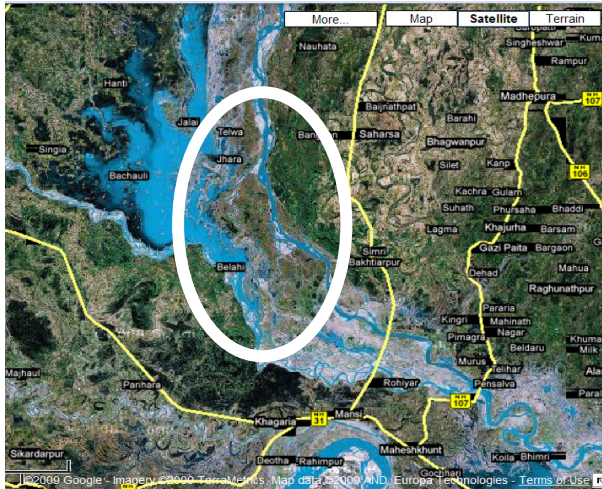


Operational Evidence: clear identification of last hardest-to-reach populations in Bihar

No. of clusters of field huts identified for OPV coverage in Kosi riverine area

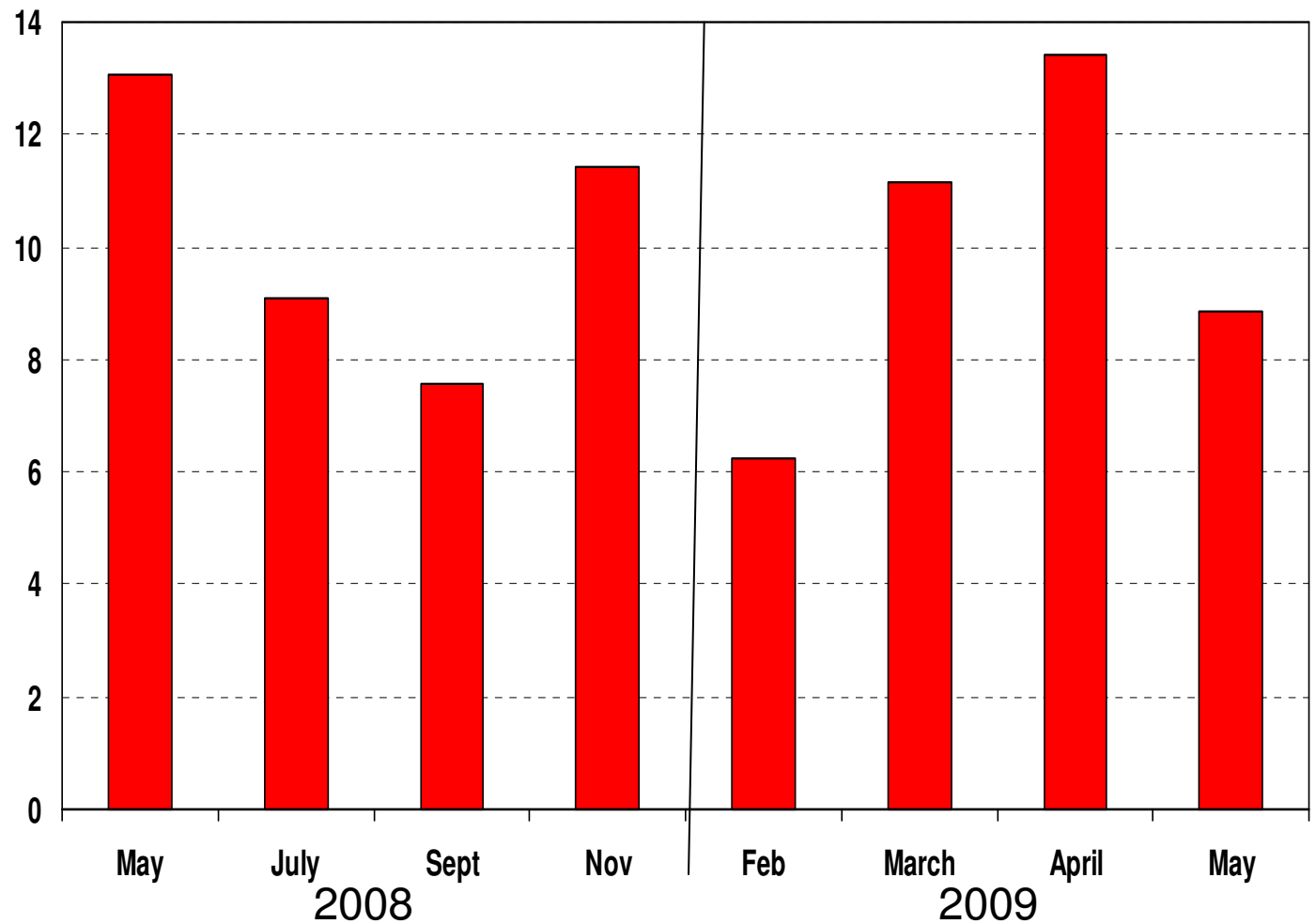


...but the coverage in field huts of Kosi area remains sub-optimal



~ 3,000 children checked each round

% unimmunized children in field huts in Kosi riverine area

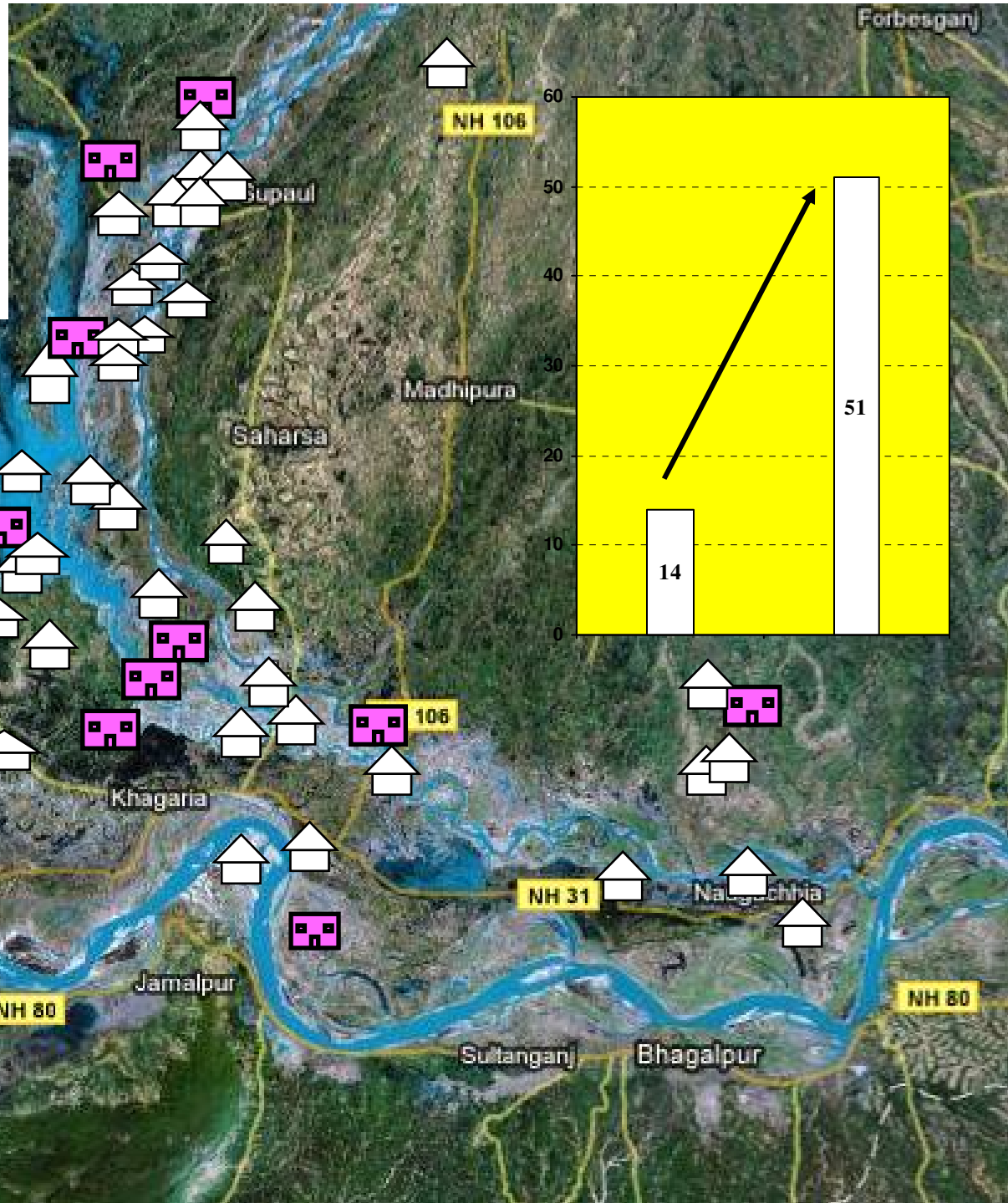




Source of data : NPSP monitoring

Kosi River Sub Region, Bihar

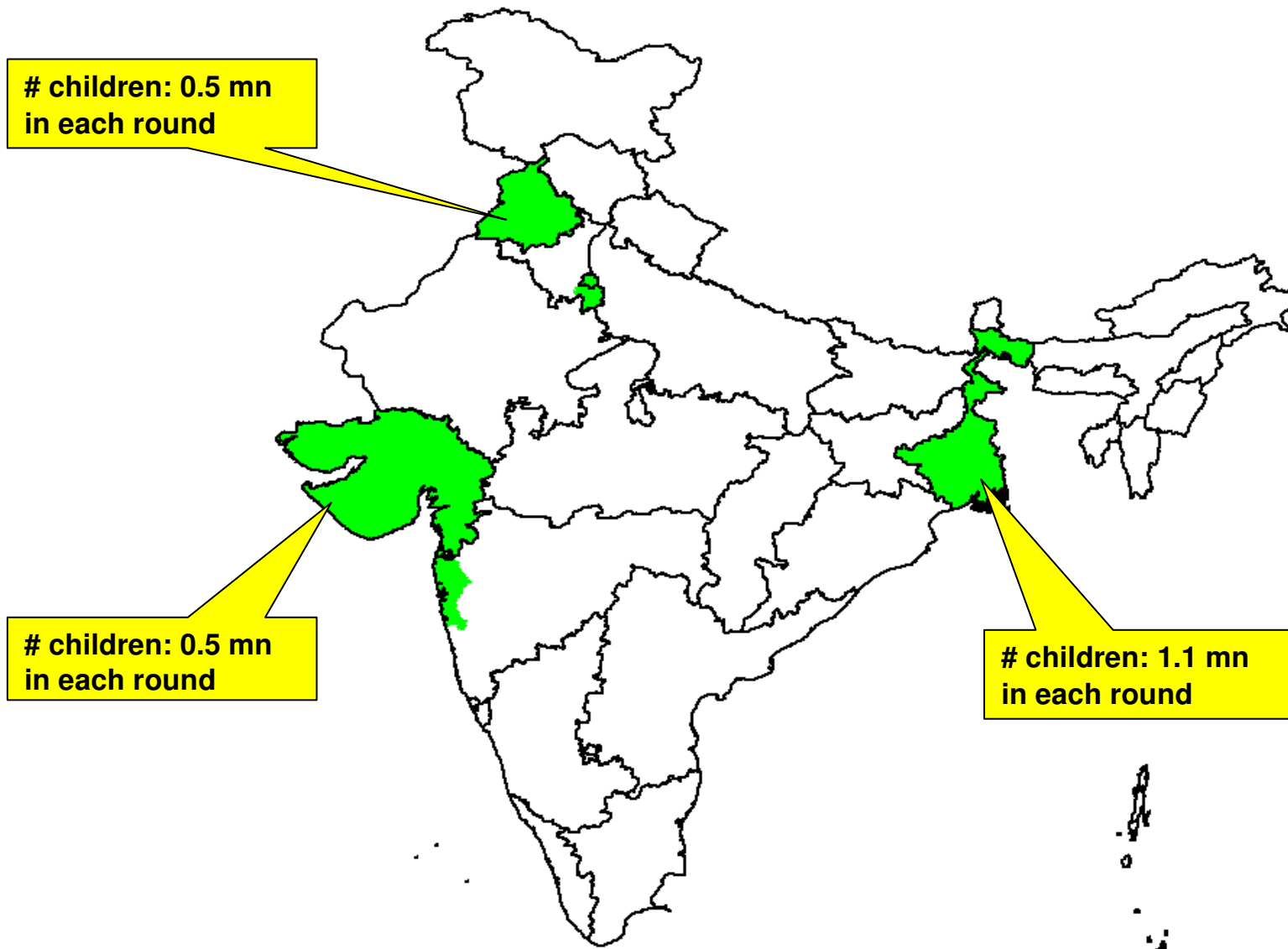


Operations: massive scale up of satellite units in kosi river area is currently underway



	Satellite Office	11
	Stay Point	40

Operational evidence: increasing coverage of migratory communities in key states in each SNID



Technical Evidence

Technical Evidence: mOPV1 formulation & products are being optimized for west UP & Bihar



March 2009: DCG(I) increased minimum potency release standard for mOPV1 from $10^{6.15}$ to $10^{6.3}$.

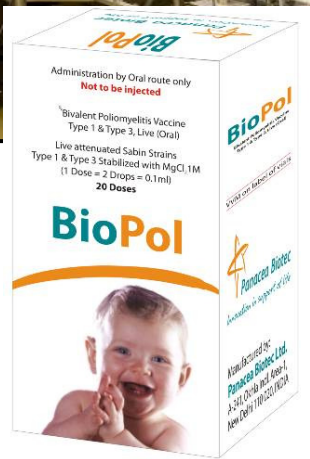
March 2009: DCG(I) licensed high-titre Sanofi-Pasteur mOPV1 ($10^{6.7}$).



High-titre mOPV1

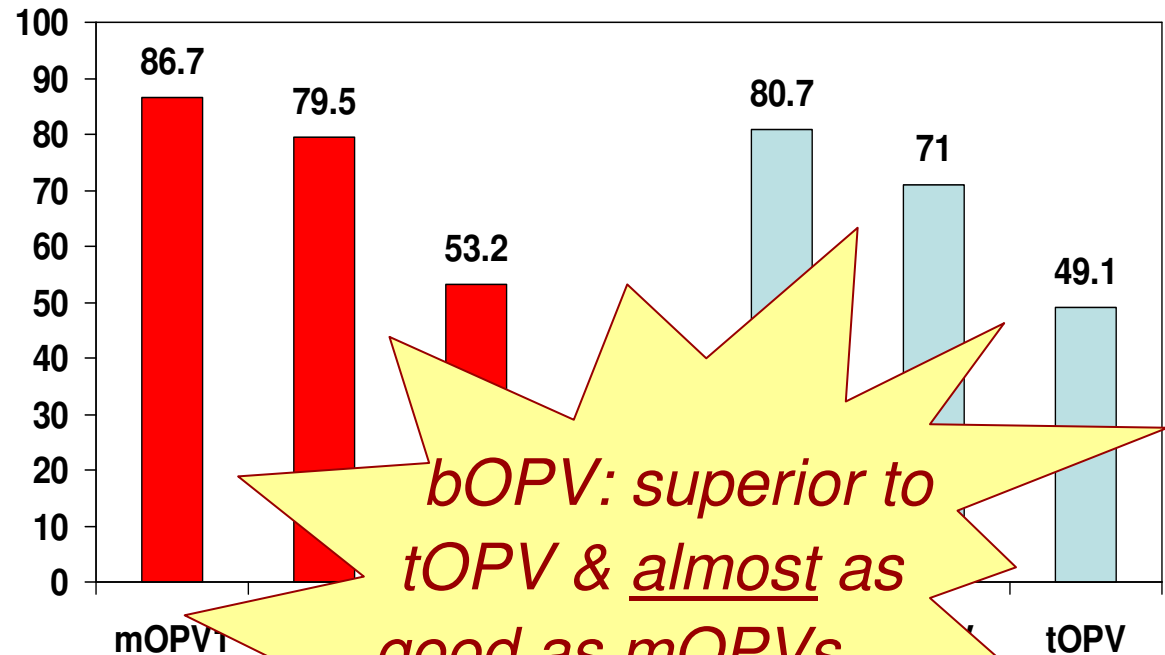
August 2009: result of trial comparing impact of high-titre mOPV1 (& IPV) in setting of western Uttar Pradesh.

Technical Evidence: new bivalent OPV can improve WPV3 control while eradicating WPV1



New bOPV Product

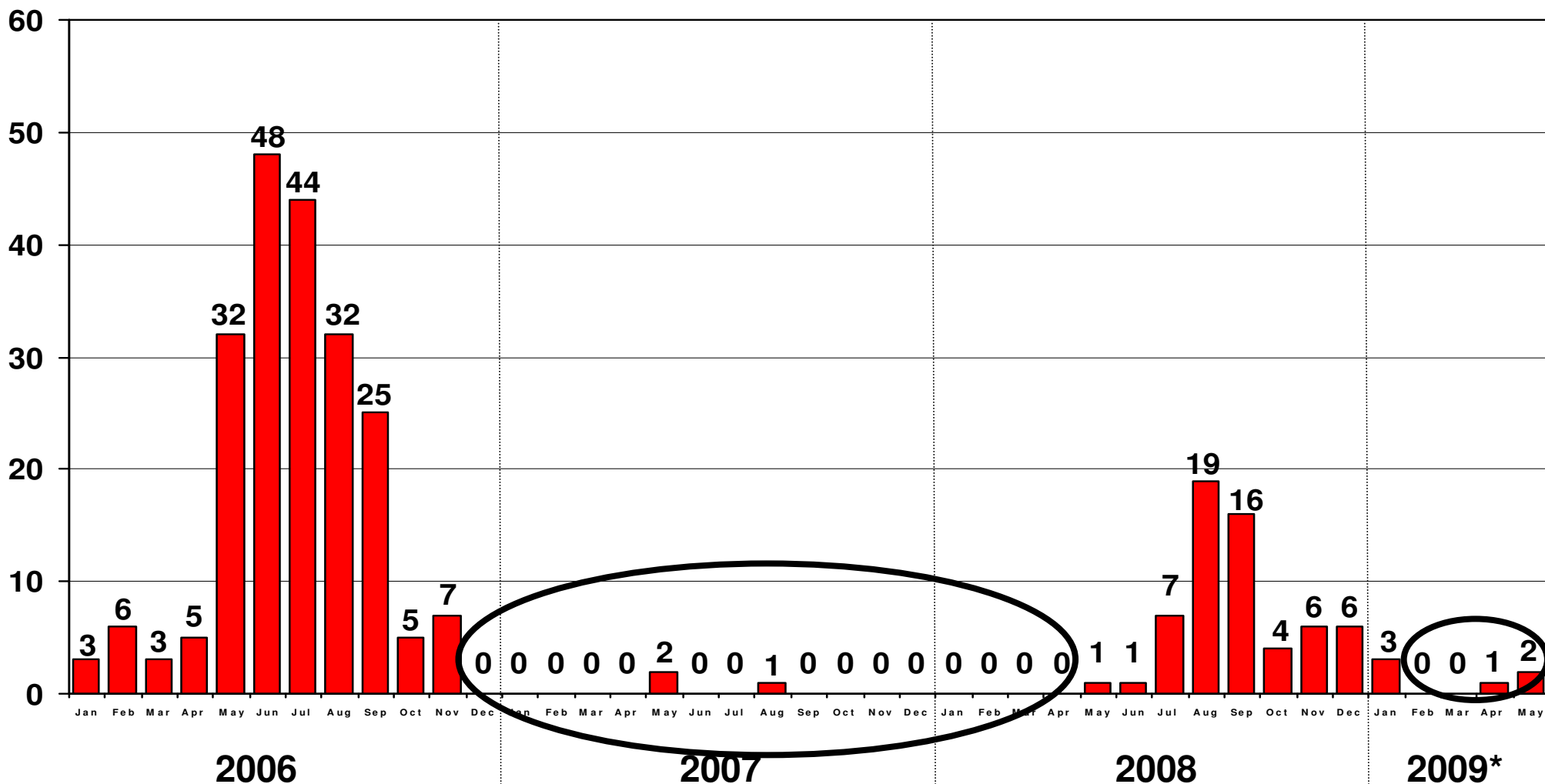
Seroconversion after 2nd bOPV, India, 2008-9



bOPV: superior to tOPV & almost as good as mOPVs

***The epidemiologic, virologic,
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technical evidence all suggest
that India is firmly on the right
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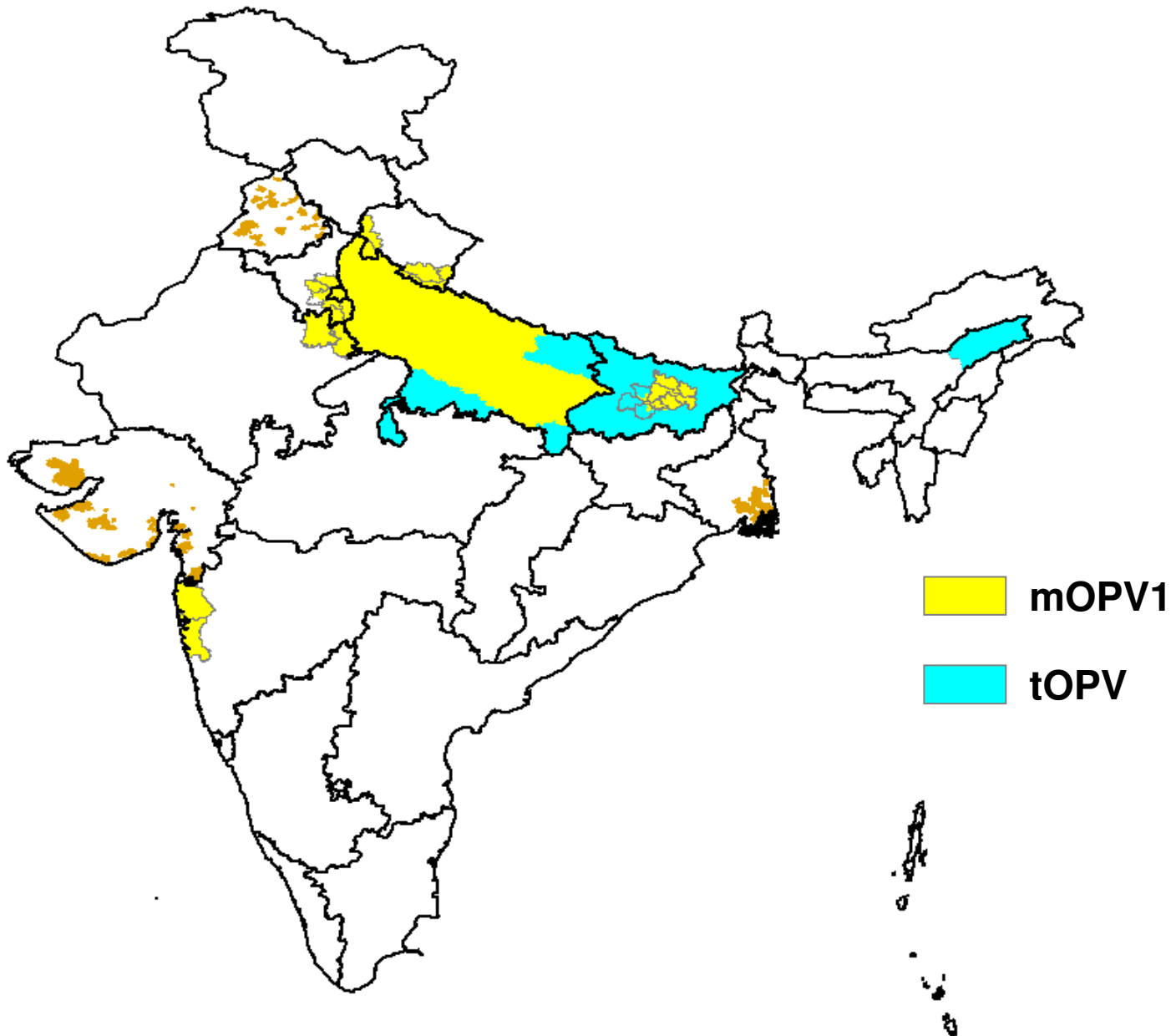
And finally...in 2007 UP went into the high season with worse virus genetics and weaker tools but still stopped type 1 polio then!



* data as on 19th Jun 2009

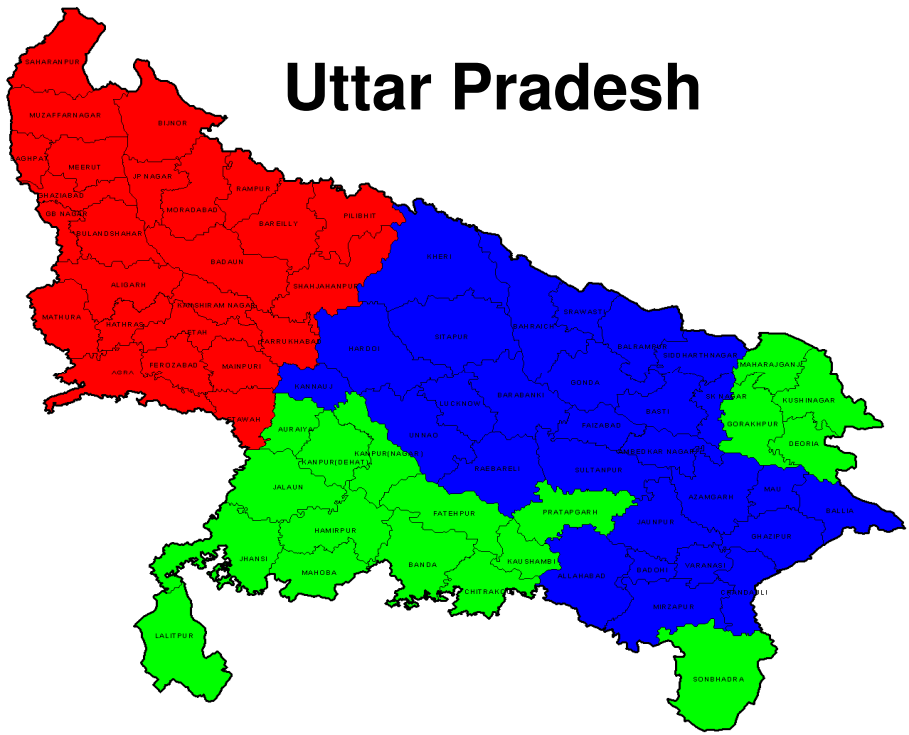
Recommendations

IEAG Reaffirms 28 June-5 July SIA Plan

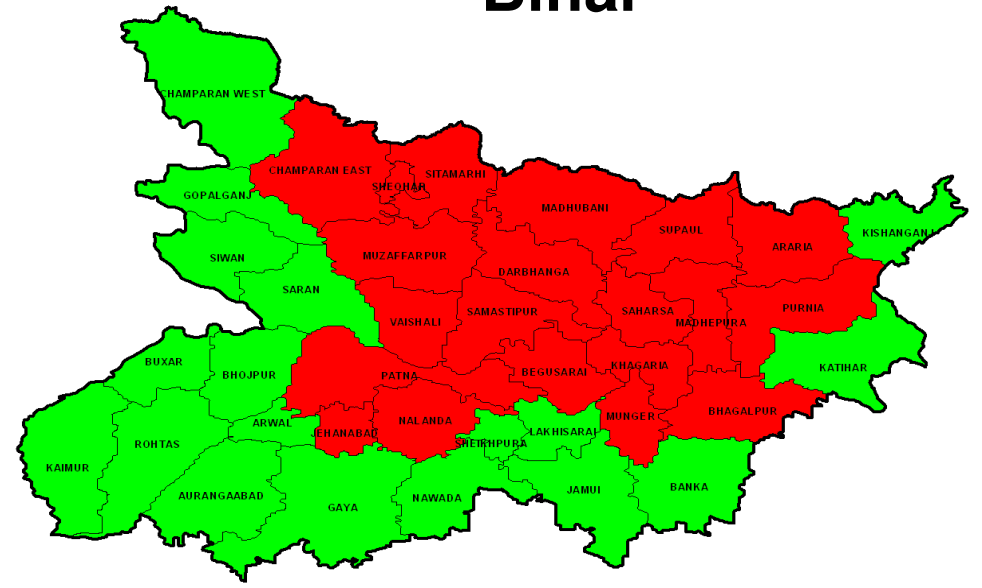


The epidemiologic progress & availability of bOPV allow refining of SIA strategy & areas covered in each round.

IEAG Recommendation: differentiation of risk zones in UP & Bihar for SIA planning



Uttar Pradesh



Bihar

- Zone 1 – 25 districts
- Zone 2 – 28 districts
- Zone 3 – 18 districts

- Zone 1&2 – 20 districts
- Zone 3 – 18 districts

IEAG Recommendation: bOPV (part 1)

Areas of Compromised OPV Efficacy (UP/Bihar)

- **mOPVs:** remain key tool for interrupting wild poliovirus (+ two tOPV campaigns per year)
- **bOPV:**
 - to complement aggressive use of mOPV1 by maintaining immunity against WPV3 (vs. mOPV3)
 - after WPV1 eradication, bOPV can maintain type 1 immunity while interrupting WPV3 with mOPV3

IEAG Recommendation: bOPV (part 2)

High-risk areas bordering areas of indigenous WPV1 & 3 transmission (incl. migrants/Mumbai)

- bOPV campaigns should complement tOPV campaigns to optimize immunity against all 3 types

Re-infected & Outbreak Areas (outside UP & Bihar)

- mOPV mop-ups remain primary tool to interrupt WPV
- in areas of concurrent WPV1 & WPV3 outbreaks bOPV campaigns/mop-ups should be primary strategy

IEAG Recommendation: SIAs, 2009

Uttar Pradesh, Bihar, Delhi, Mumbai & Migrants

↓ Bihar: mix of tOPV & mOPV1
↓ UP: mix of mOPV1 & mOPV3

↓ mOPV1

↓ bOPV (1&3)
↓ mOPV1

SNID
Statewide



Early Aug

SNID
Statewide



Early Sept

mOPV MOP-UPs
Infected Districts



Oct

SNID
Infected &
HR Zones



Nov

SNID
Infected



Dec

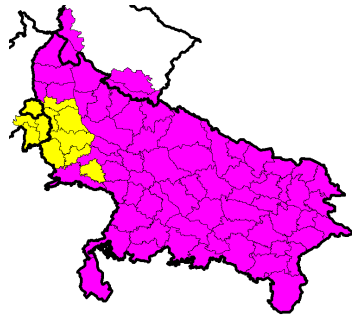
IEAG Recommendation: SIAs, 2009

Uttar Pradesh, Bihar, Delhi, Mumbai & Migrants

Aug

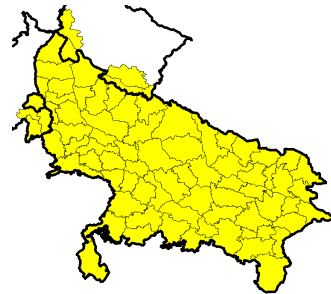
Statewide

UP, Delhi
& adjoining



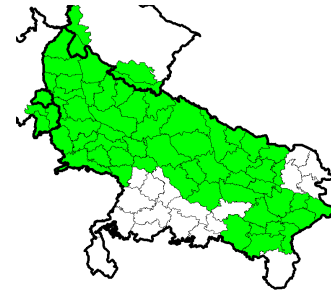
Sep

Statewide



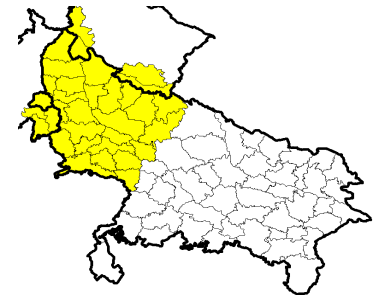
Nov

Zones 1&2

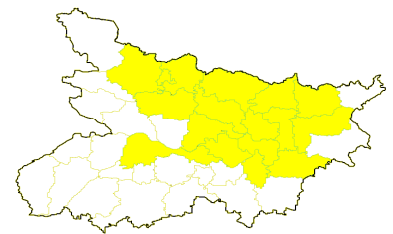
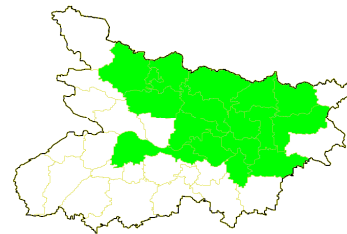
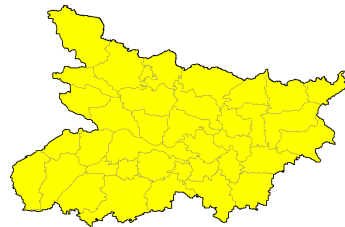
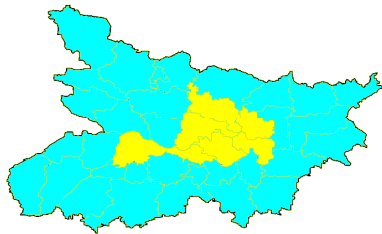


Dec

Infected &
HR Zones



Bihar



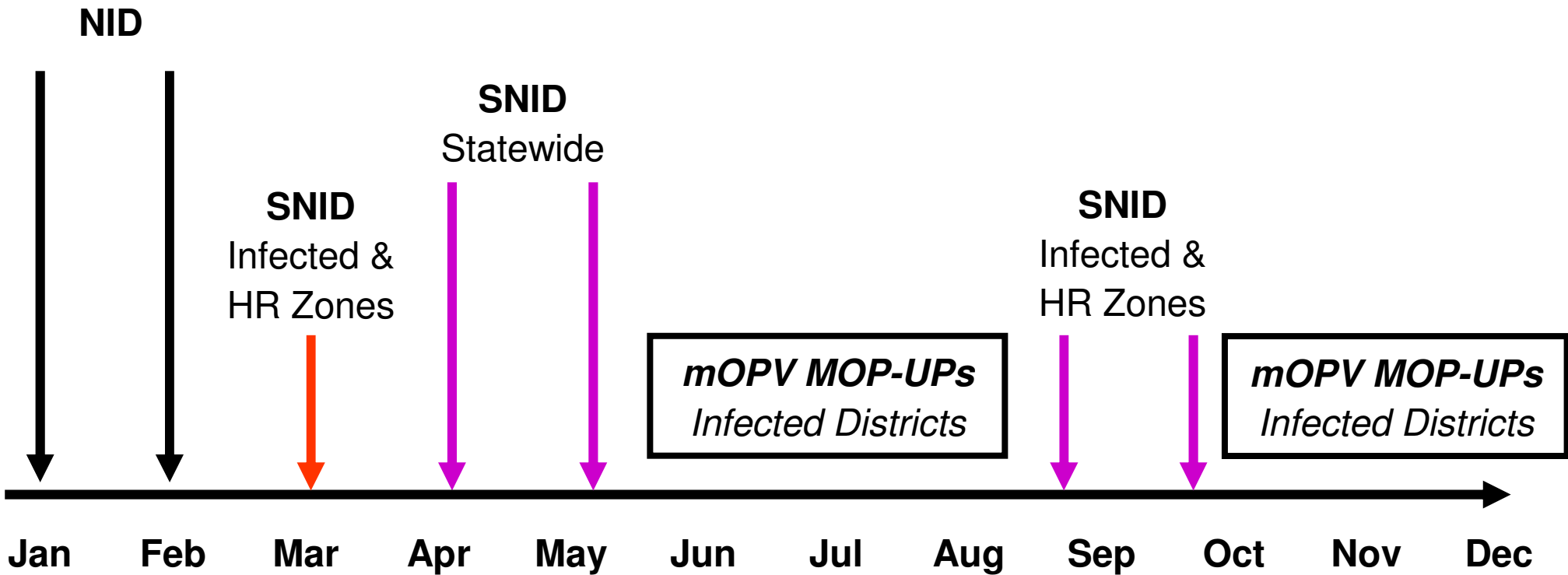
 mOPV1

 mOPV3

 tOPV

 bOPV

IEAG Recommendation: SIAs, 2010



IEAG Recommendation: Mop-ups

- **Objective:** to interrupt all remaining WPV in 2009-10

In next 6 months:

- any WPV 1 anywhere in India
- any WPV 3 outside of Zone 1&2 in UP or Bihar

In subsequent 6 months (if no type 1 after Dec):

- any WPV 3 anywhere in India

- **mOPVs remain vaccine of choice for mop-ups.**
- **mgnt, speed of response & extent per IEAG recs.**

IEAG Recommendations: SIA Quality (part 1)

Improving Kosi River Vaccination

- Fully implement the Intensified Kosi River Plan.
- Ensure presence of government medical officers inside embankment area to review preparations & monitor implementation.
- Identify major transit areas in/out of the Kosi River area & establish continuous OPV vaccination posts at major/key ghats.
- Ensure OPV vaccination during Chaath & major melas.

IEAG Recommendations: SIA Quality (part 2)

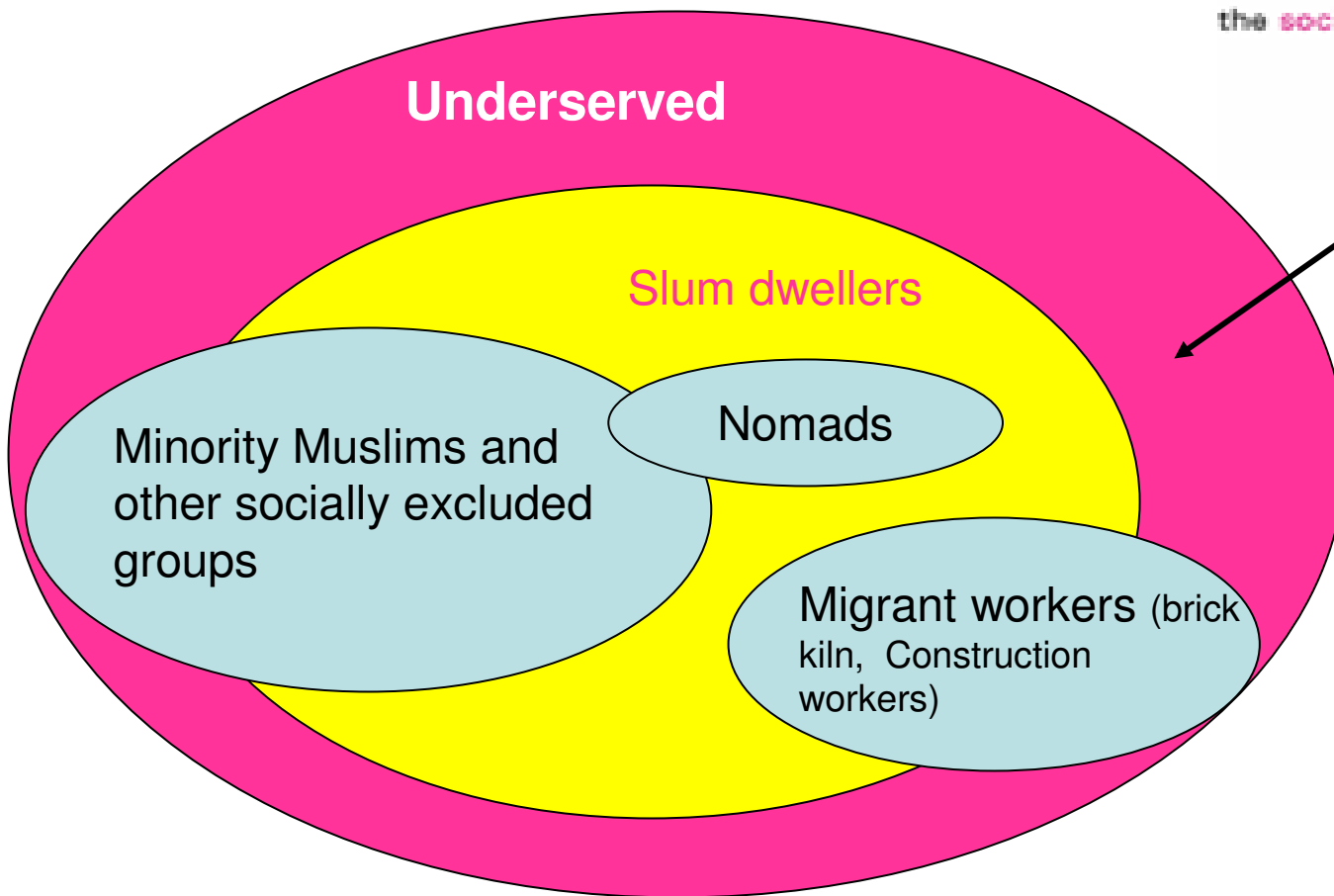
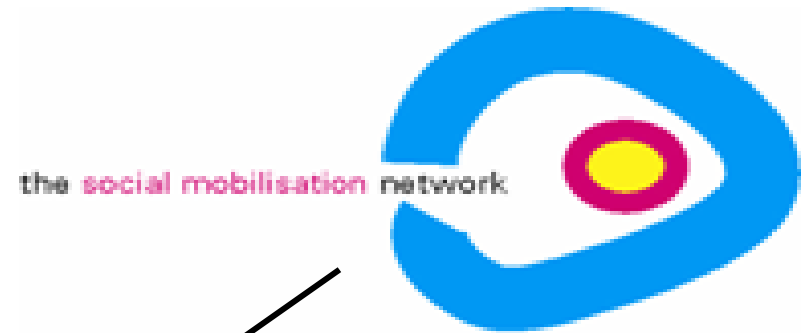
Reaching migrant & mobile populations

- In non-endemic states, systematically identify migrant populations & ensure their full immunization when UP & Bihar conduct SNIDs (*esp. Punjab, Haryana, Gujarat, West Bengal, Delhi & Mumbai*).
- Identify selected trains that play an important role in migrant movement & establish continuous polio immunization.

IEAG Recommendations

Communications & Social Mobilization

Expanded Underserved strategy



- Standard definitions now exist between all partners to identify, list, map and vaccinate these groups during every SIA
- SMNet will expand in U.P. to put more emphasis on ensuring these groups are identified and covered during each SIA
- 40 “high risk BMCs” to begin work in Western U.P. by July

IEAG Recommendations

Communications & Social Mobilization

While endorsing Comms/SocMob priorities as presented:

- 1st priority should be the planned, rapid scale-up of SM-Net in Kosi Riverine Grid area,
- 2nd priority should be implementing the migrant population strategy

IEAG Recommendation: IPV

- Laboratory work on the 5-arm IPV containing trial in Moradabad should be completed by end-Aug at latest.
- Results of the ongoing study on global supply of IPV-containing combination vaccines should be available by Sept 2009 to facilitate Gov't decision-making on IPV.
- IEAG should review the findings of the Moradabad IPV trial & global supply study in mid/late-Sept to guide next steps on potential IPV use to accelerate eradication.

IEAG Recommendations: Research

- Complete western UP AFP seroprevalence study to define current population immunity by age group.
- Initiate enhanced surveillance among household contacts to investigate potential role of older children in transmission.
- Zinc: (a) initiate pilot to investigate operational feasibility in a west UP district during OPV campaign, (b) consider small seroconversion study with co-administration of OPV and zinc.
- Consider bOPV seroconversion study in west UP.

IEAG Recommendation: Surveillance

- **Bihar:** endorses plan to enhance surveillance in Kosi Riverine area & requests NPSP differentiate AFP cases by reporting site (e.g. quack, consultant doctor, etc) to guide further refining of strategy.
- **Delhi:** introduce environmental surveillance to supplement AFP surveillance to detect circulation in UP/Bihar/migrant population.
- **Elsewhere:** continue regular state-level reviews, prioritizing areas at highest risk of importations.

IEAG Recommendations

Vaccine-derived Polioviruses (VDPVs)

- Ensure full investigation of any VDPV to facilitate categorization (i.e. iVDPV, cVDPV or a VDPV).
- Implement follow-up or control activities as per ACPE recommendations for each type of VDPV, *only once the nature of the VDPV is clear.*
- Continue to implement planned SIA strategy with tOPV, bOPV & mOPVs to optimize coverage against all 3 serotypes.

Conclusion

***The epidemiologic, virologic,
genetic, operational &
technical evidence all suggest
that India is firmly on the right
path to finish eradication.***

...the continued, extraordinary efforts of State Governments & Union Government of India are absolutely critical to exploit this unprecedented opportunity.