Learnings for VL surveillance and monitoring systems

CARE India

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(Member of CARE International)

Background: CARE's support to VL in Bihar

- CARE started work in VL in early 2013 with BMGF, aiming to provide technical and operational support to the elimination program; also to help bring together different partners working on VL

- 2014: Expanded from 8 districts to all 33 of Bihar

- 2015: Expanded to include Jharkhand

- Deployed District Program Officers, and Block Coordinators – 300-500 personnel

- Support to:
  - All IRS-related operations (fund flows, preparation, training, supervision, monitoring)
  - Improving early detection, follow up until completion of treatment
  - KA-MIS – offline and online
  - Strengthening surveillance – several aspects

1. What is the true incidence of VL?

2. Where are new cases coming from?

3. What are the antecedents of VL?

4. How is the vector responding to insecticides/IRS?

Understanding the true incidence of VL 1/2

Methods:
- Index case tracing / snowballing / key informant interviews
- Surveillance through private labs, pharmacists, doctors

Assessment in 2013: (6000+ cases)
- 8 districts of Bihar (Ref period – Jan 2012 to Jun 2013)
- **8-17% of all cases not reported by the program**
- **15% of reported cases were untraceable**
- Substantial misclassification of affected blocks
- Substantial numbers of villages missed in IRS microplans

Assessment in 2015: (12000+ cases)
- Bihar (33 districts): (Ref period: July 2013 to December 2014)
- Jharkhand (4 districts): (Ref period: January 2014 to August 2015)

Understanding the true incidence 2/2

Summary:

Parameters	Bihar	Jharkhand
Proportion of the cases identified that are reported in government line listing	**91%**	**82%**
Proportion of KA cases who were never been reported by nor sought treatment in the government system	7%	16%
Proportion of cases who got all their treatments (after diagnosis) only from private facilities	12%	6%
Mean number of days between onset of symptoms and getting diagnosed with KA	35.5	54.0
Proportion of cases visiting government facilities as first point of contact for treatment after KA diagnosis	78%	82%

New occurrence of cases in 2016 (no case in 2015)

Blocks with villages which reported new cases in 2016 but there was no cases in 2015. The number in each block is the number of such villages
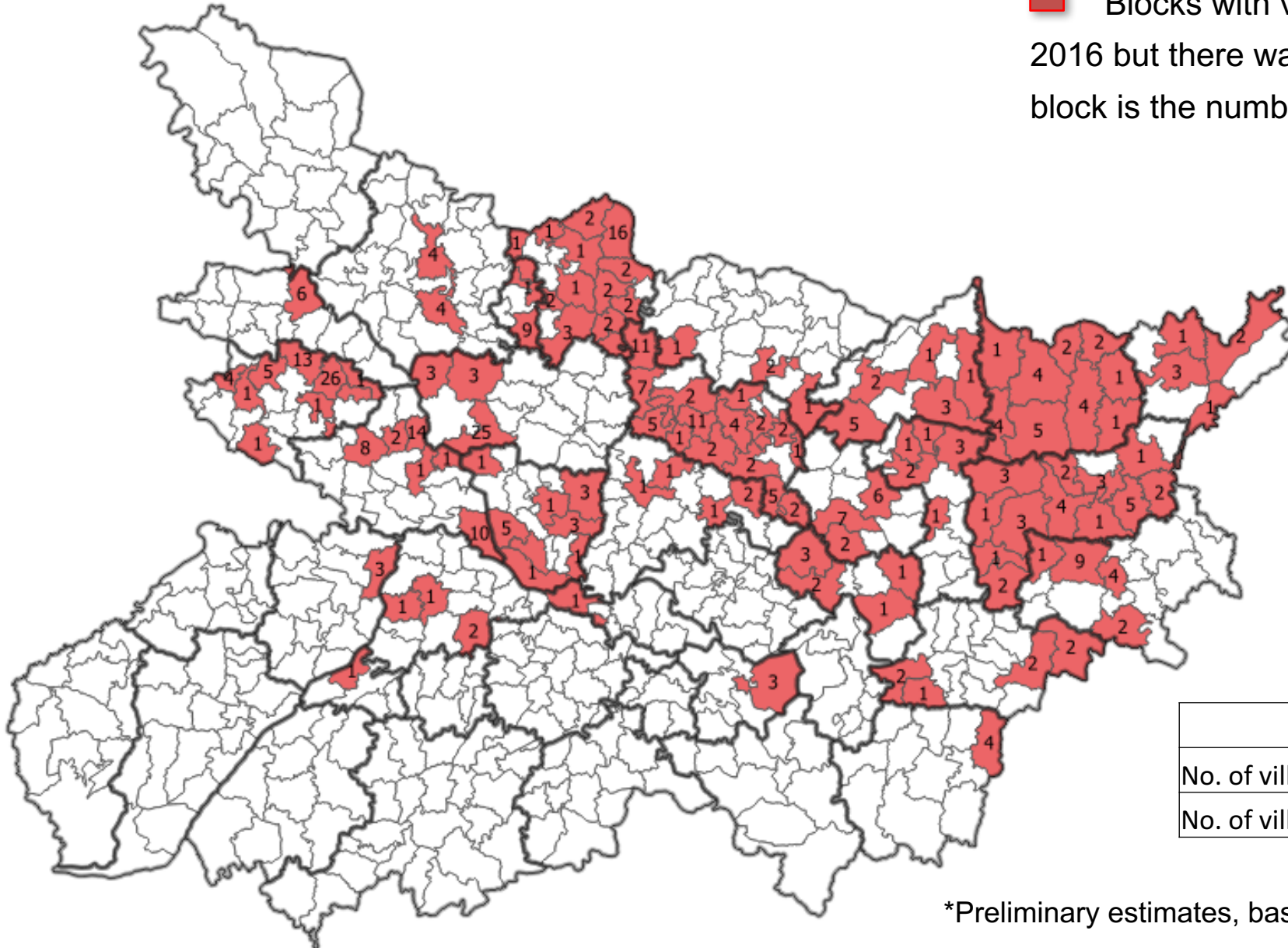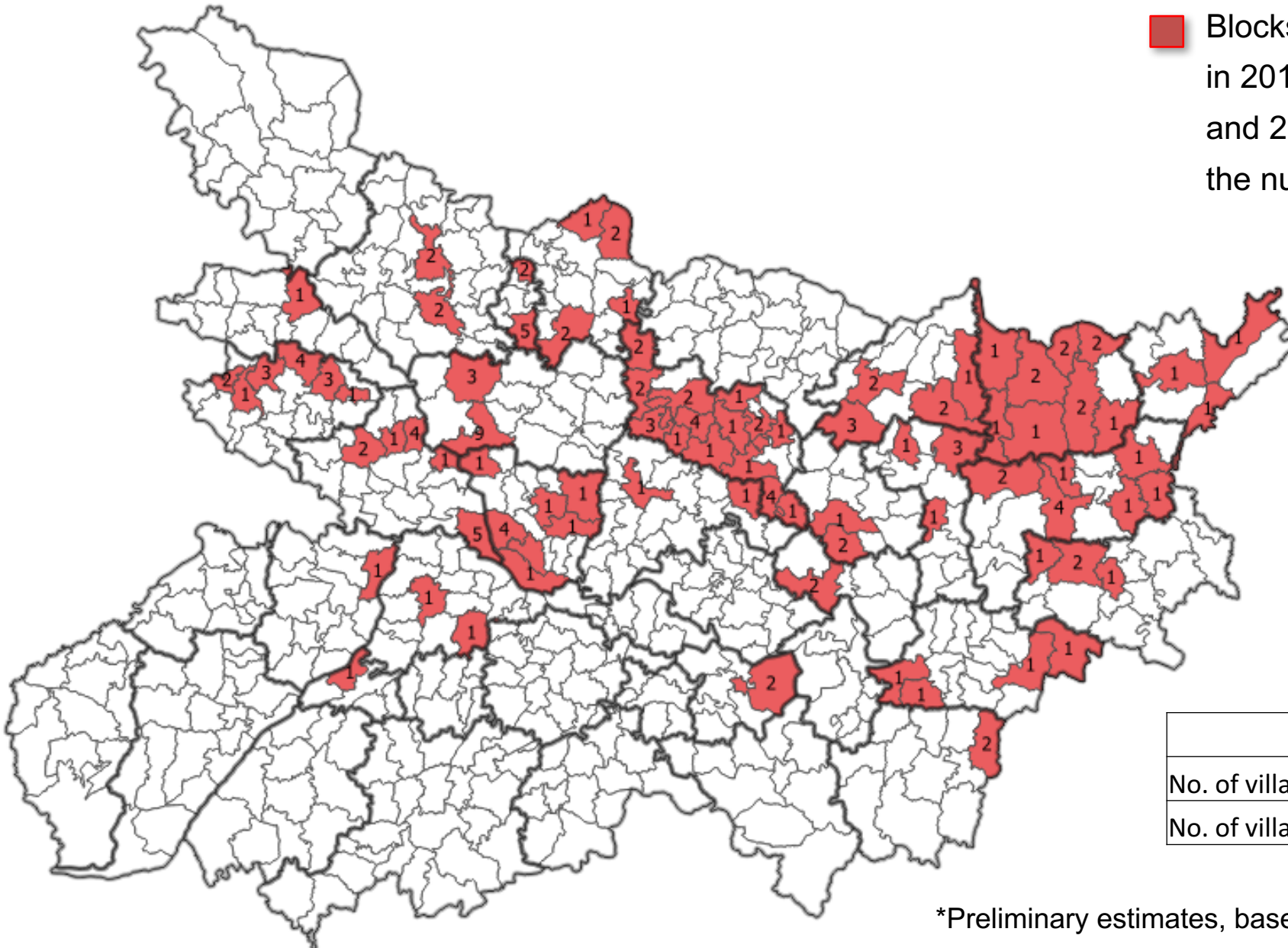
Total villages=317*	
No. of villages in 'endemic' blocks	141
No. of villages in non-'endemic' blocks	176

*Preliminary estimates, based on positively identified villages

New occurrence of cases in 2016 (no case in last 3 years)

Blocks with villages which reported new cases in 2016 but there was no cases in 2013, 2014 and 2015. The number in each block reflects the number of such villages

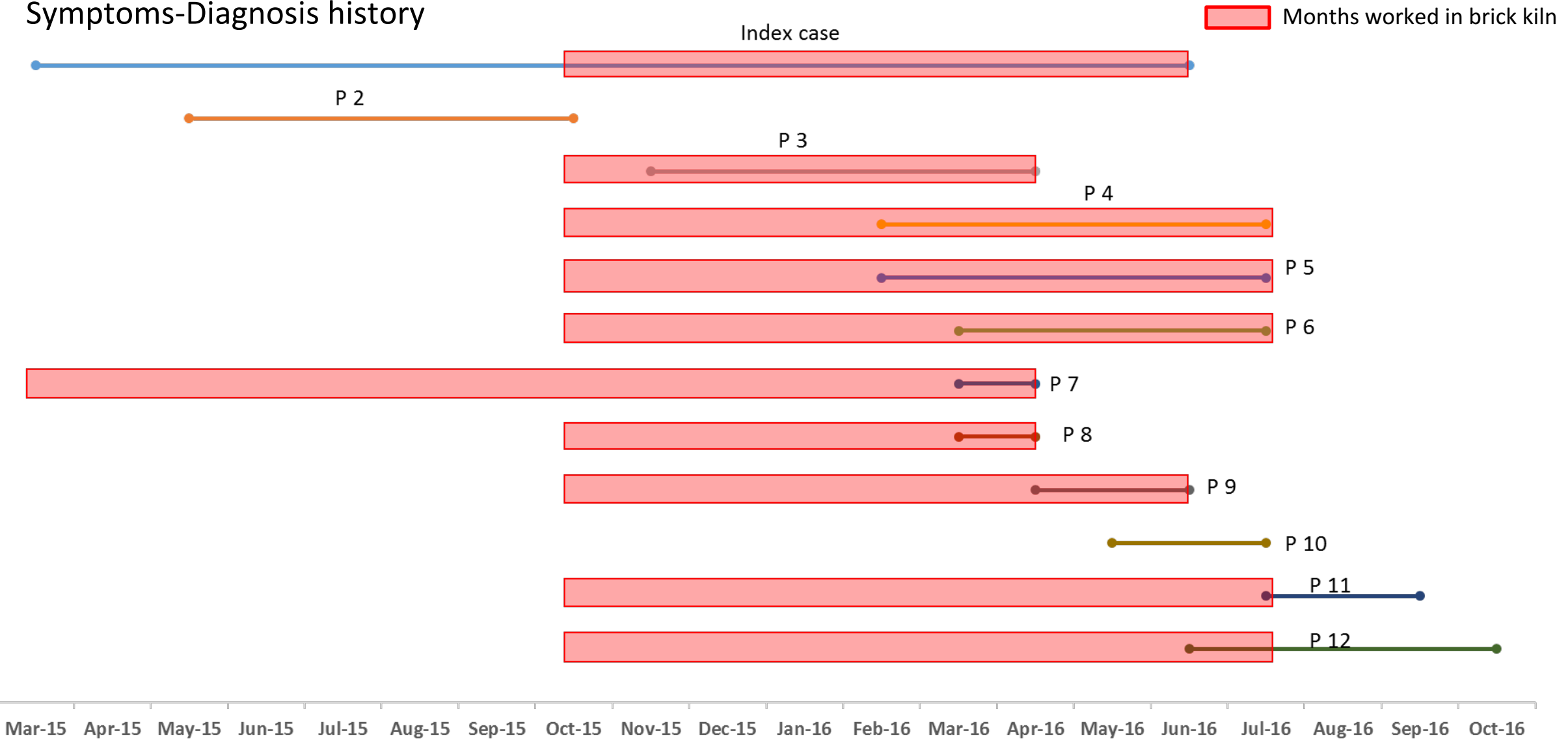| Total villages=155*	
No. of villages in 'endemic' blocks	60
No. of villages in non-'endemic' blocks	95

*Preliminary estimates, based on positively identified villages

Where are new cases coming from? Example of outbreak in South Bihar

Affected village:
< 100 HH
Almost all mahadalit
Very few cattle

Block PHC

Nagarnausa - Baldha Rd

Nasriganj - Chandi - Bihta - Piro Road

Google

Where are new cases coming from? Example of outbreak in South Bihar

Index Case

The 'outbreak': 10/12 cases linked to brick kilns

Symptoms-Diagnosis history

Months worked in brick kiln

Index case

P 2

P 3

P 4

P 5

P 6

P 7

P 8

P 9

P 10

P 11

P 12

Mar-15 Apr-15 May-15 Jun-15 Jul-15 Aug-15 Sep-15 Oct-15 Nov-15 Dec-15 Jan-16 Feb-16 Mar-16 Apr-16 May-16 Jun-16 Jul-16 Aug-16 Sep-16 Oct-16
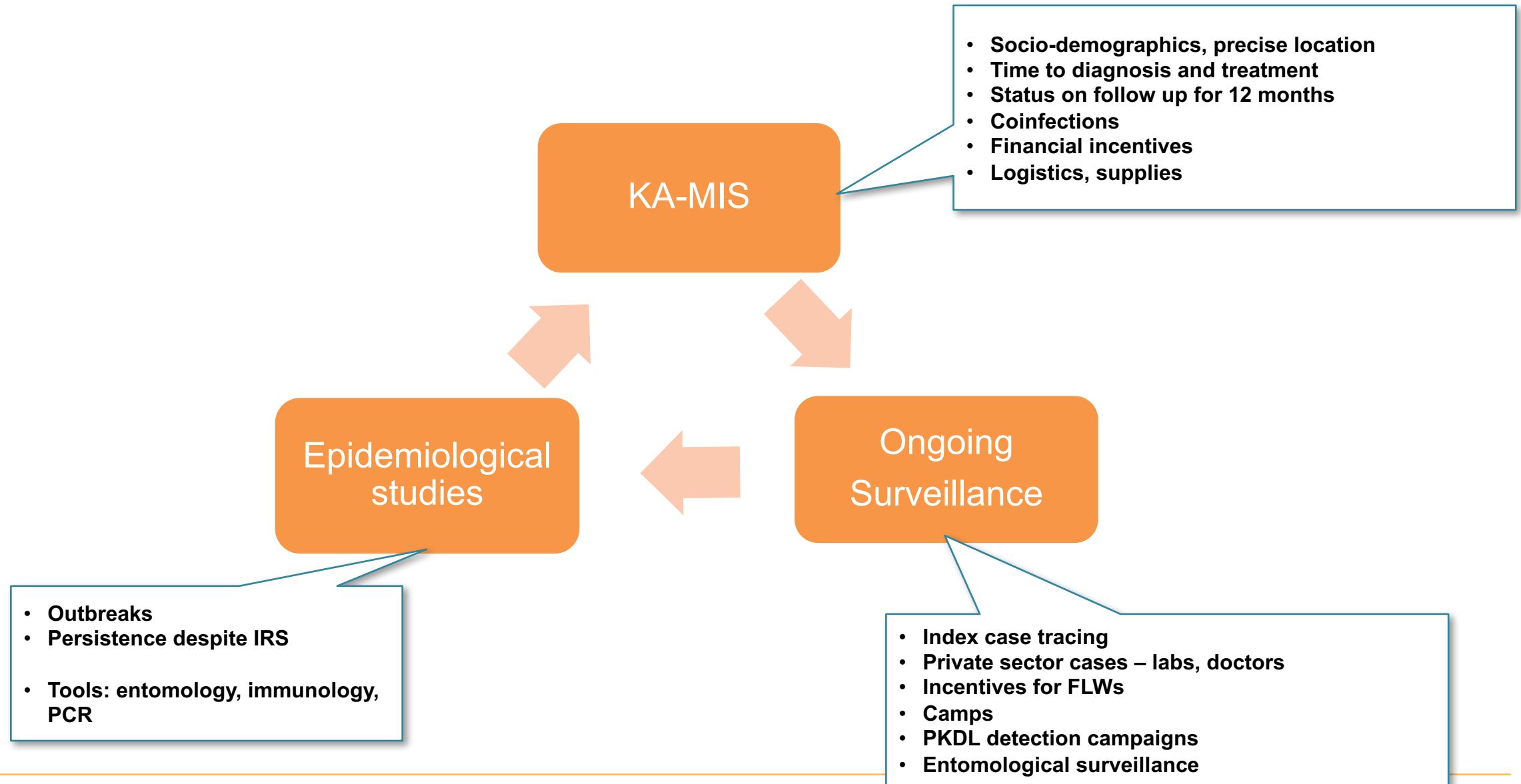
Questions to be explored

- Did they get infected locally or in the brick kilns?
  - Do people from other areas get infected at the brick kilns? (a few reports) If not, why not?
- Does working in brick kilns have any role to play in activation of symptoms?
  - Odd reference in literature to risk of hookworm infestation and anemia among brick kiln workers and in turn to activation of latent tuberculosis infections

- What other risk factors are we missing?

Systems for enabling methodical exploration:
Monitoring Tools Available

KA-MIS

- **Socio-demographics, precise location**
- **Time to diagnosis and treatment**
- **Status on follow up for 12 months**
- **Coinfections**
- **Financial incentives**
- **Logistics, supplies**

Epidemiological studies

Ongoing Surveillance

- **Outbreaks**
- **Persistence despite IRS**

- **Tools: entomology, immunology, PCR**

- **Index case tracing**
- **Private sector cases – labs, doctors**
- **Incentives for FLWs**
- **Camps**
- **PKDL detection campaigns**
- **Entomological surveillance**

THANKS

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CARE Bihar staff