



# Disease Alert

## प्रकोप चेतावनी

A monthly Surveillance Report from Integrated Disease Surveillance Programme  
National Health Mission

January 2017

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**Investigation Report of Measles Outbreak at Manguria S/C under Hura Block of Purulia, West Bengal**

### Background

Fever with Rash along with Cough/Coryza/Conjunctivitis was started in Kamarpara hamlet of Manguria village in the last week of December 2016 and were spread over another seven (7) hamlets. But the sub-center was unable to capture. In 1st week of January, 3 cases were reported in 'S' Form which were telephonically verified by District Surveillance Unit member and were found to be scattered. On 5th week (from 30 January to 5 February 2017), 6 cases were reported by the Sub-center from Raherdih village and Early Warning Signal was generated. As per IDSP records, there were no reported cases of 'fever with maculopapular rash with either of cough/coryza/conjunctivities' in previous 5 weeks and corresponding period of last 3 years. Hence, the increase number of cases in the area was considered as an outbreak.

DSU- Purulia Team (Dr. Gurudas Patra, Dy. CMOH II & DSO, IDSP; Mr. Satinath Bhuniya, District Epidemiologist, IDSP; Mr. Samrat Sen, District Data Manager, IDSP) & Block RRT along with NPSP team at Purulia investigated the outbreak on 14<sup>th</sup> February 2016 with following objectives:

- To prepare line list of all cases and confirm the Outbreak.
- Descriptive analysis with Time-place-person details.
- Determine the cause of outbreak by sending appropriate samples.
- Initiate control measures

### Affected area

Village- Raherdih, Manguria (East & Majhipara), Kamarpara, Ansarydih, Kachakuli, Sabarpara  
Sub Centre- Manguria  
Block- Hura  
District – Purulia

### Duration

From December 24, 2016 to February 20, 2017.

**Population at Risk:** 1855 (approx.)

**No. of Measles cases:** 34

**Hospitalization:** 0

**Death:** 0

**Epidemiological observation**

Population at Risk: 1855 (approx.)

No. of Measles cases: 34

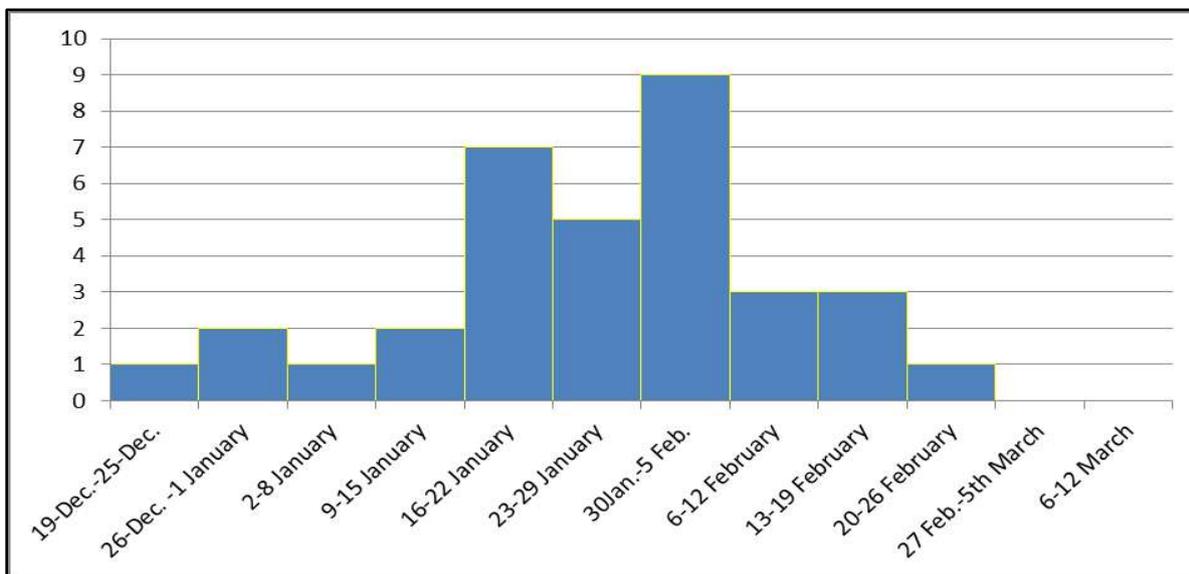
Hospitalization: 0

Death: 0

During investigation, it was noted that Primary case occurred on 24<sup>th</sup> December 2016 and Index case occurred on 3<sup>rd</sup> January, 2017 (reported to the sub-center). Both primary case and index case belonged to Kamarpara hamlet. A total of 34 persons were affected since last week of December 2016. Both genders were affected. Maximum cases were from the age group of 10-20 years. Only 4 cases were below 10 years and one case above 20 years. Maximum cases were from Raherdih village (18 cases). Last case was reported on 20<sup>th</sup> February, 2017.

**Epi-curve:**

First case was on 24 December, 2016. Primary peak was observed during the week 16 -22 January and Secondary peak was observed during the week 30 Jan to 5 February. The outbreak was reported late. Last case was on 20 February, 2017. The outbreak was declared as 'controlled' on 11 March, 2017 (i.e. after 2 incubation period).



**Fig. 1: Epi-curve showing the onset of disease (n=34)**

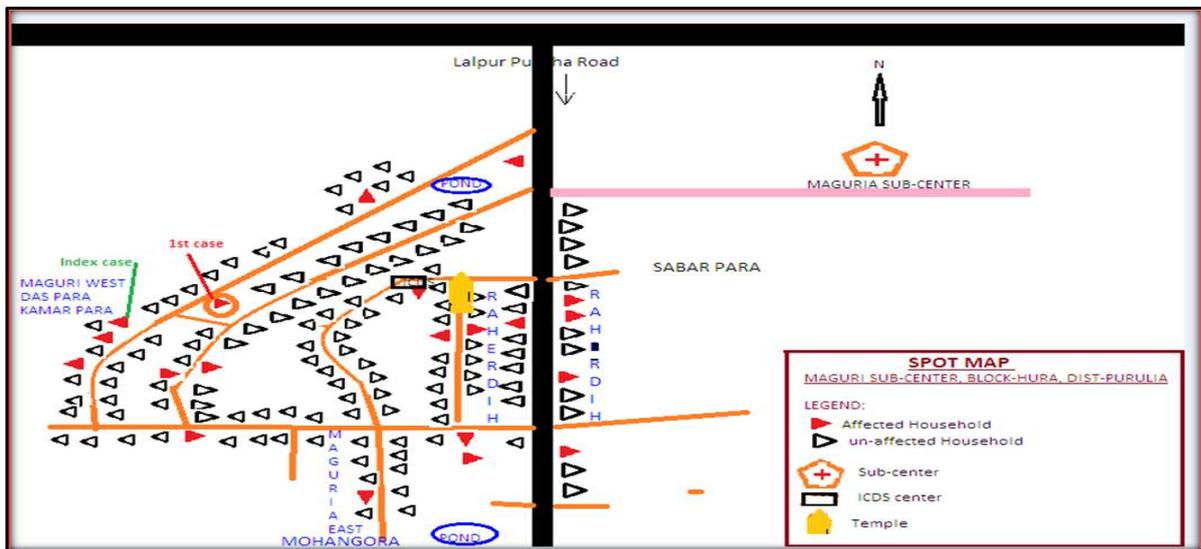
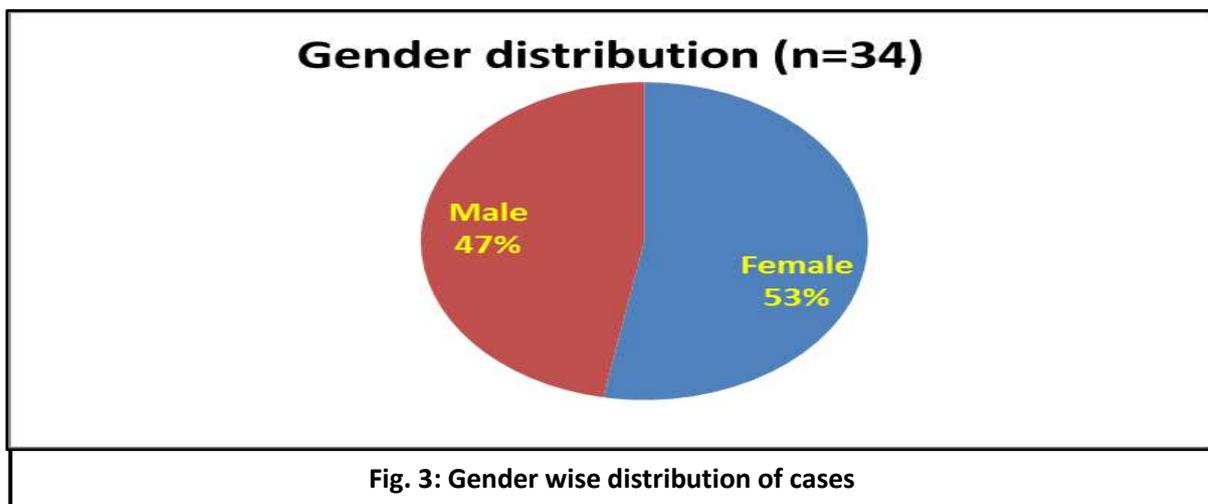


Fig. 2: Site Map of the location

Table 1: Hamlet wise distribution of cases and attack rate

Name of Hamlet	Population at Risk	No. of cases (%)	Attack Rate (%)
RAHERDIH, Sabarpara	482	18 (53)	3.73
MAGURIA East, Mohangora	473	4 (12)	0.85
MaguriaMajhi Para, Kochakuli	430	4 (12)	0.93
Kamarpara, ramanigora, daspara, Ansaridih	470	8 (23)	1.70
<b>TOTAL</b>	<b>1855</b>	<b>34</b>	<b>1.83</b>

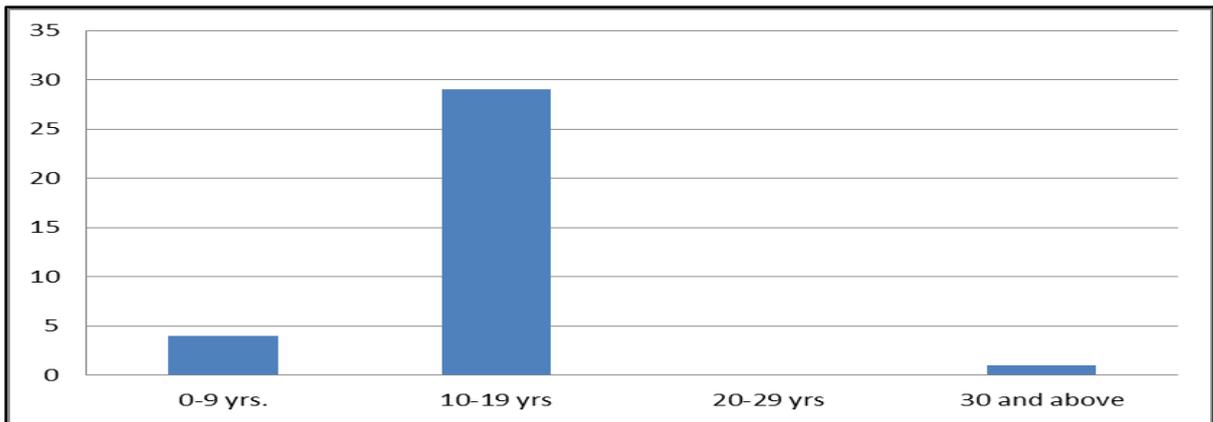
Overall Attack Rate is 1.83 (%). Attack Rate is highest at Raherdih village (3.73%) followed by Kamarpara-



As seen in the figure, amongst the affected persons, female are 53% and remaining 47% are male.

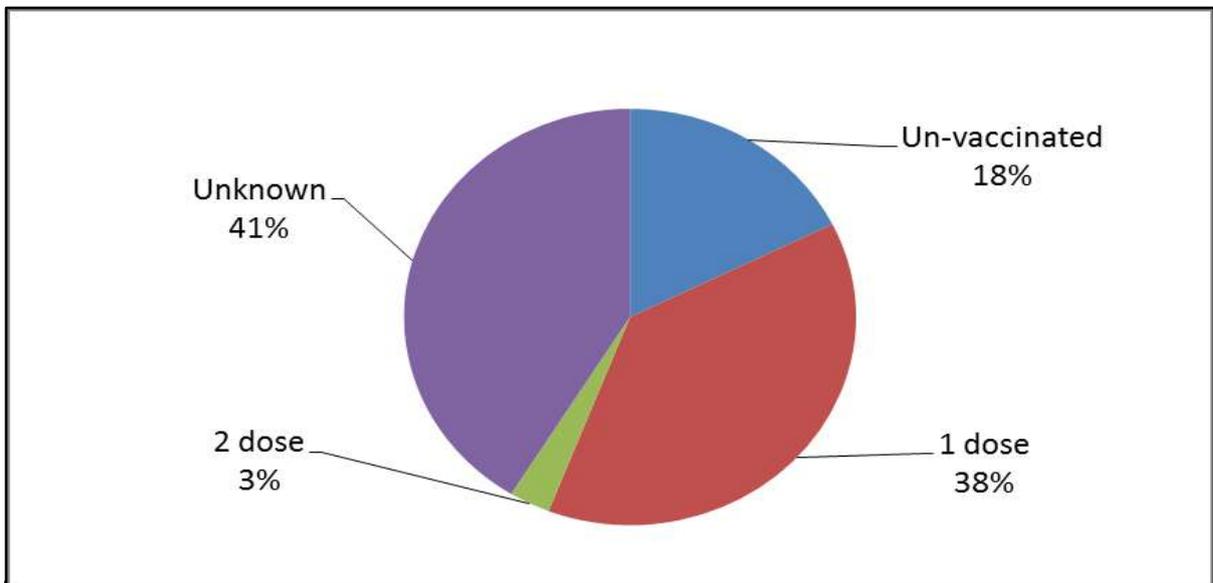
**Lab investigation:**

Five (5) serum sample were collected on 14<sup>th</sup> February, 2017. Four (4) sample tested measles IgM positive out of five (5) serum sample



**Fig. 4: Age-group wise distribution of cases (n=34)**

Majority of the measles cases were from the age group of 10-19 years (85.3%).



**Fig. 5: Measles Vaccination Status among cases**

**Vaccination Status**

Amongst the cases, only 3% (one case) received two doses of vaccine and 35% received single dose of vaccine. 18% were unvaccinated and for majority of cases i.e. 41%, vaccination status was unknown. As per record of the Sub-center, all the children (<=5 years) received measles vaccine. As a result, measles among the children of that age group is not so high.

**Action Taken**

- Symptomatic treatment of all cases was done and cases were provide with Vitamin A prophylaxis.
- Home isolation of affected cases was done.
- Health education and IEC were provided.

**Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue  
Leptospirosis and Chikungunya During January 2015-2017\***

\* Data extracted from IDSP Portal ([www.idsp.nic.in](http://www.idsp.nic.in)) as on 17 April, 2017.

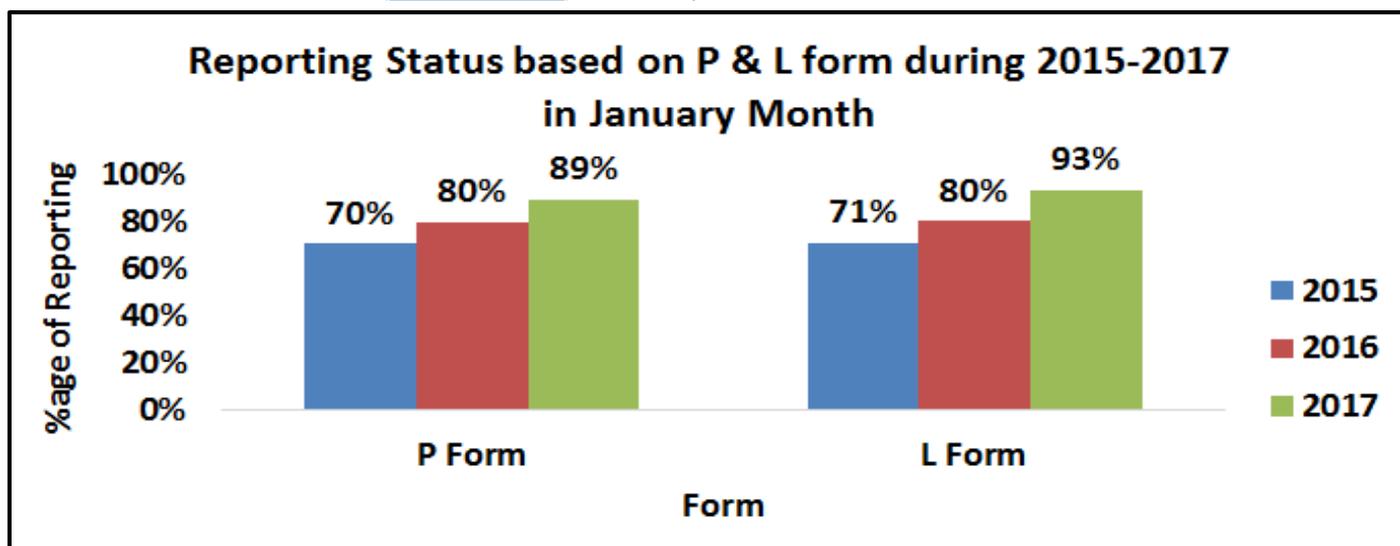


Fig. 6: Reporting Status based on P & L form during January 2015 - 2017

As shown in fig 6, in January 2015, 2016 and 2017, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 70 %, 80% and 89% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 71%, 80% and 93% respectively across India for all disease conditions, during the same month for all disease conditions reported under IDSP in L form. The completeness of reporting has significantly increased over the years in both P and L form, thereby improving the quality of surveillance data.

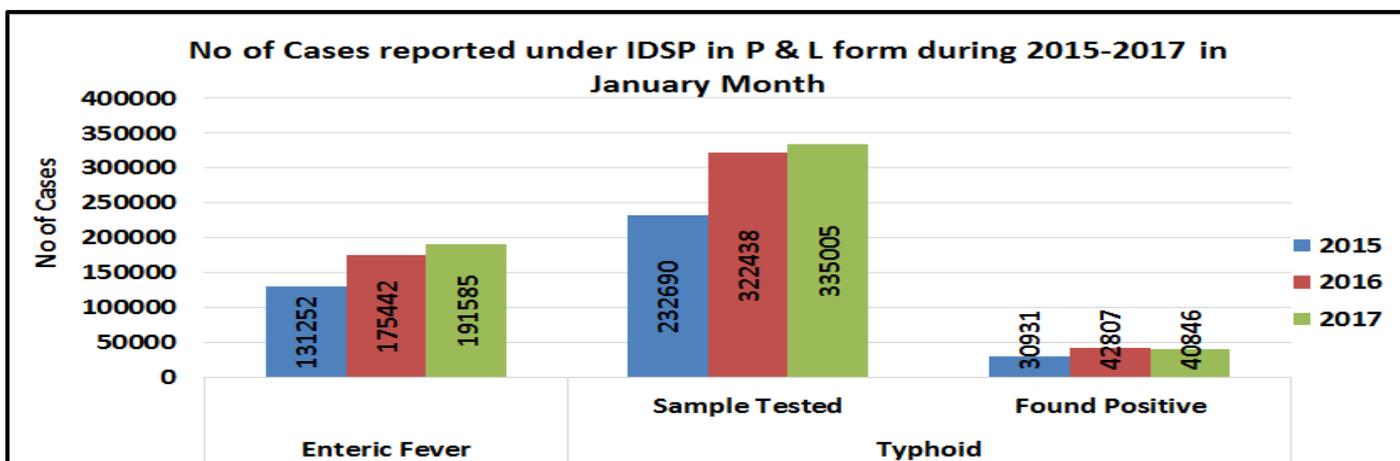


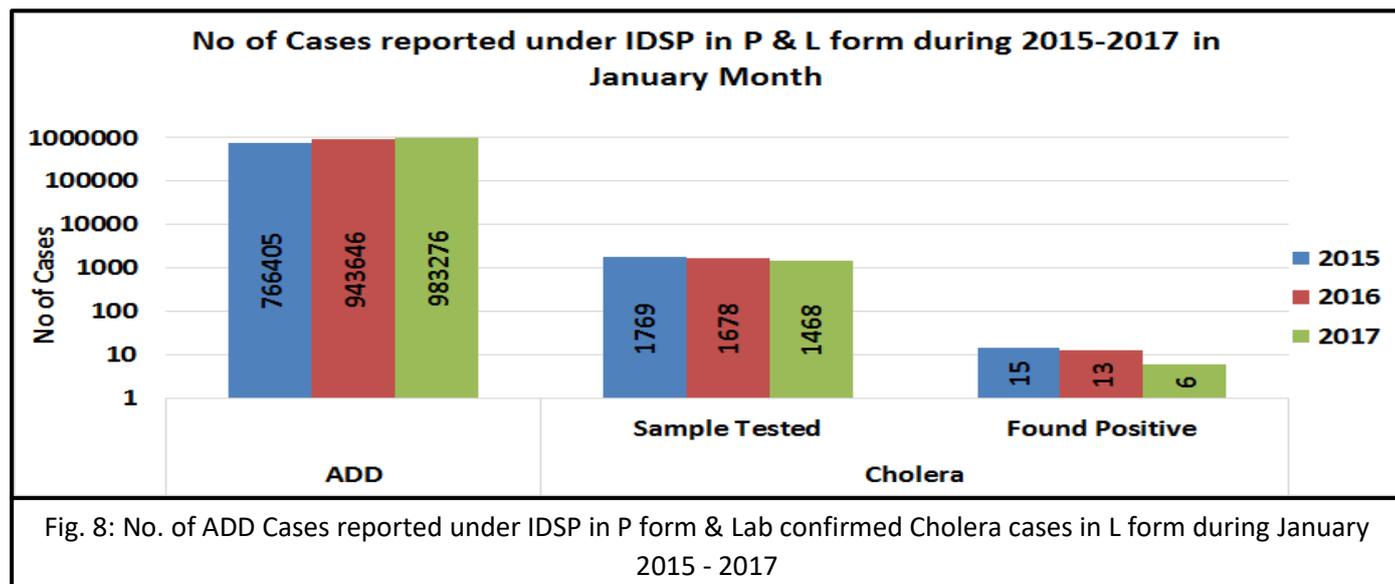
Fig. 7 No. of Enteric Fever Cases reported under P & L form during January 2015 - 2017

As shown in fig 7, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 131252 in January 2015; 175442 in January 2016 and 191585 in January 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2015; 267768 samples were tested for Enteric fever, out of which 30931 were found positive. In January 2016; out of 322438 samples, 42807 were found to be positive and in January 2017, out of 335005 samples, 40846 were found to be positive.

Sample positivity has been 13.2%, 13.2% and 12.2% in January month of 2015, 2016 & 2017 respectively.

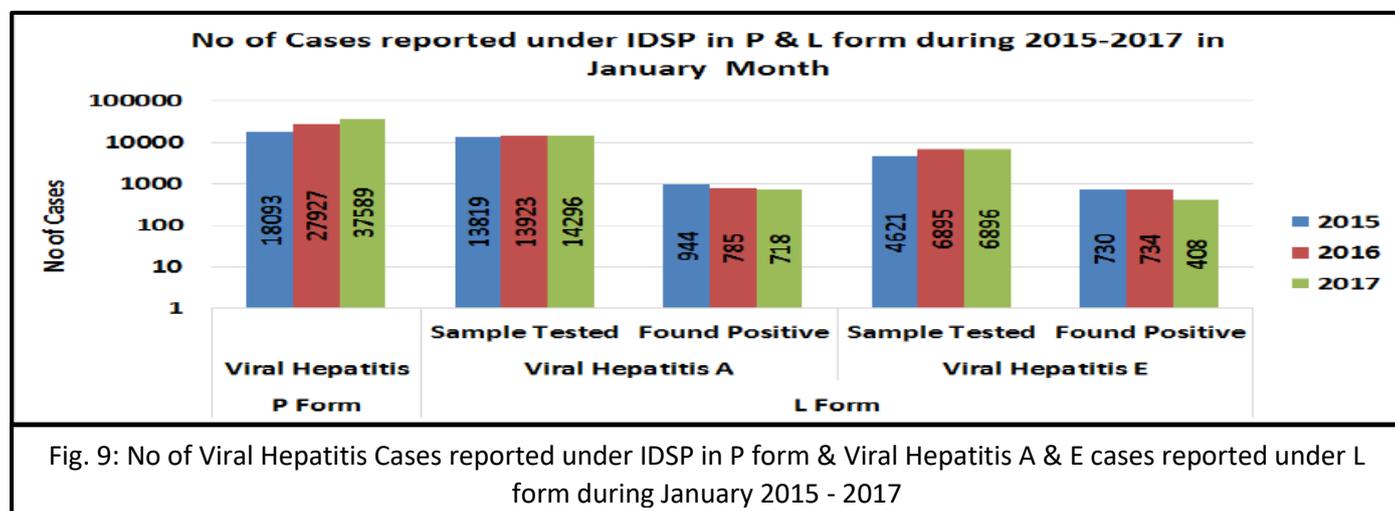
**Limitation:** The test by which above mentioned samples were tested could not be ascertained, as currently there is no such provision in L form.



As shown in fig 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 766405 in January 2015; 943646 in January 2016 and 983276 in January 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2015, 1769 samples were tested for Cholera out of which 15 tested positive; in January 2016, out of 1678 samples, 13 tested positive for Cholera and in January 2017, out of 1468 samples, 6 tested positive.

Sample positivity of samples tested for Cholera has been 0.84%, 0.77% and 0.40% in January month of 2015, 2016 & 2017 respectively.



As shown in fig 9, the number of presumptive Viral Hepatitis cases was 18093 in January 2015, 27927 in January 2016 and 37589 in January 2017. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in January 2015; 13819 samples were tested out of which 944 were found positive. In January 2016 out of 13923 samples, 785 were found to be positive and in January 2017, out of 14296 samples, 718 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6.8%, 5.6% and 5.0% in January month of 2015, 2016 & 2017 respectively.

As reported in L form for Viral Hepatitis E, in January 2015; 4621 samples were tested out of which 730 were found positive. In January 2016; out of 6895 samples, 734 were found to be positive and in January 2017, out of 6896 samples, 408 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 15.7%, 10.6% and 5.9% in January month of 2015, 2016 & 2017 respectively.

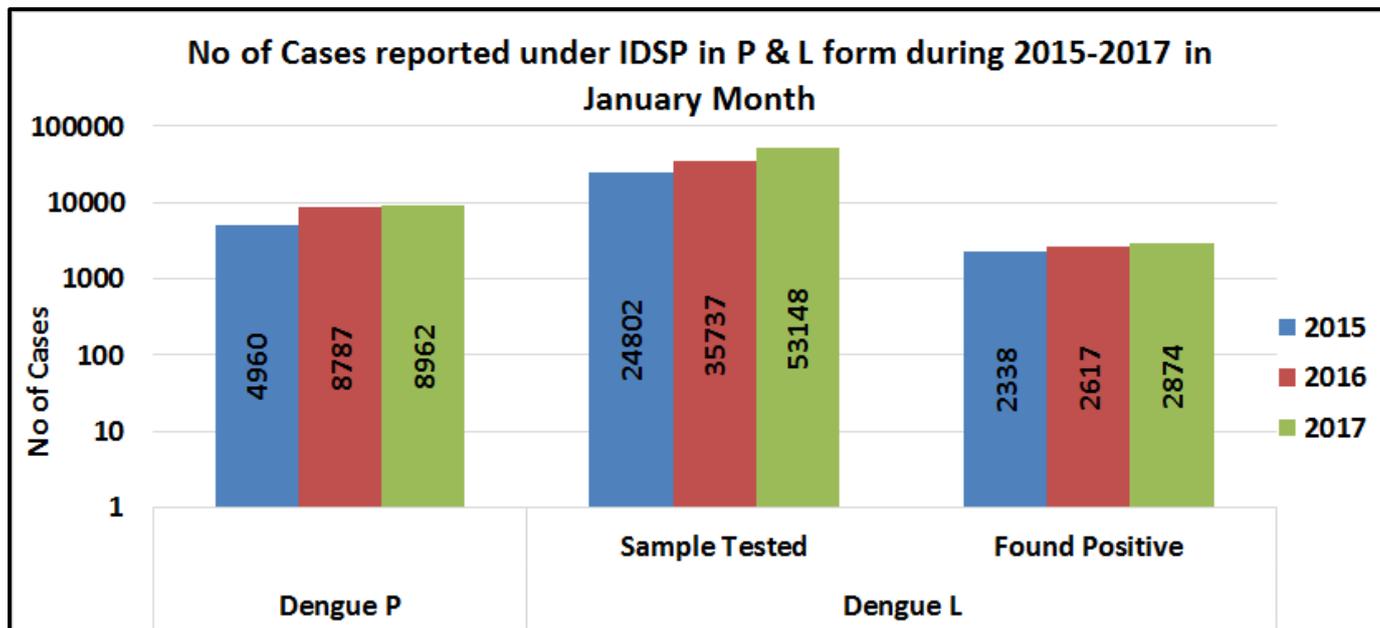


Fig. 10: No. of Dengue Cases reported under IDSP in P & L form during January 2015 - 2017

As shown in fig 10, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 4960 in January 2015; 8787 in January 2016 and 8962 in January 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2015; 24802 samples were tested for Dengue, out of which 2338 were found positive. In January 2016; out of 35737 samples, 2617 were found to be positive and in January 2017, out of 53148 samples, 2874 were found to be positive.

Sample positivity of samples tested for Dengue has been 9.4%, 7.3% and 5.4% in January month of 2015, 2016 & 2017 respectively.

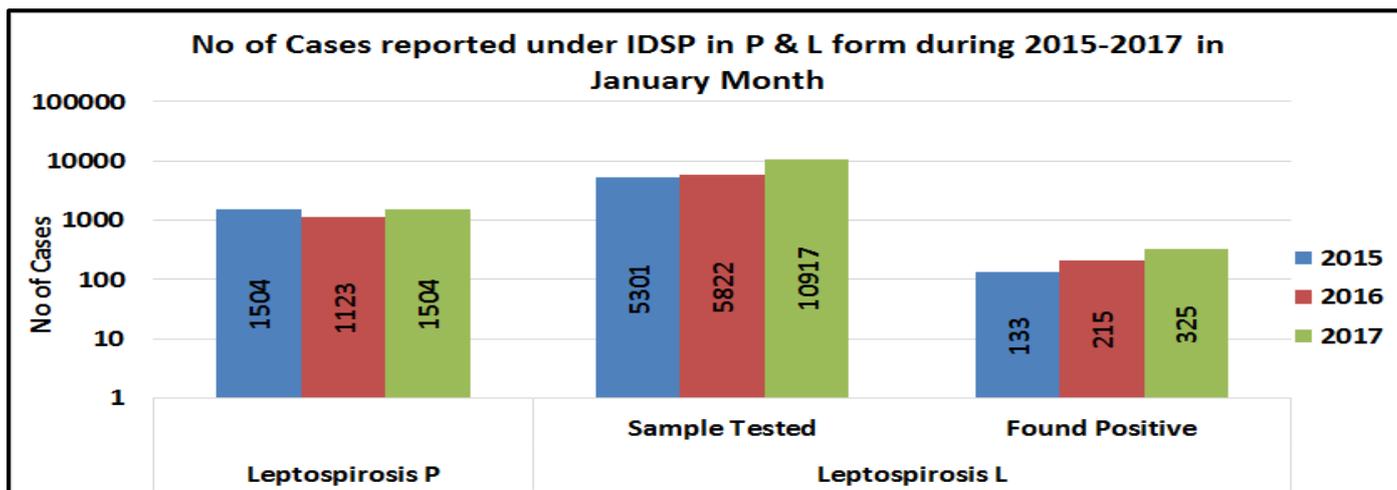
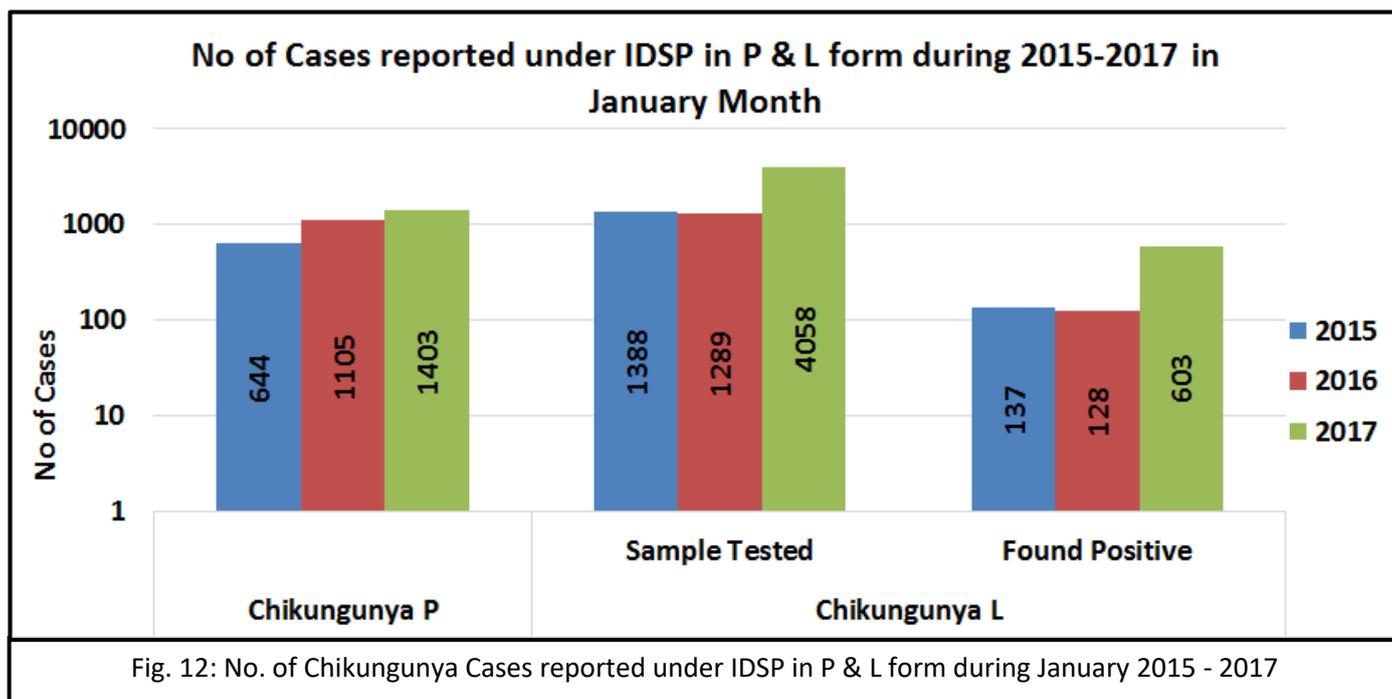


Fig. 11: No. of Leptospirosis Cases reported under IDSP in P & L form during January 2015 - 2017

As shown in fig 11, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1504 in January 2015; 1123 in January 2016 and 1504 in January 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2015; 5301 samples were tested for Leptospirosis, out of which 133 were found positive. In January 2016; out of 5822 samples, 215 were found to be positive and in January 2017, out of 10917 samples, 325 were found to be positive.

Sample positivity of samples tested for Dengue has been 2.5%, 3.7% and 2.9% in January month of 2015, 2016 & 2017 respectively.



As shown in fig 12, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 644 in January 2015; 1105 in January 2016 and 1403 in January 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2015; 1388 samples were tested for Chikungunya, out of which 137 were found positive. In January 2016; out of 1289 samples, 128 were found to be positive and in January 2017, out of 4058 samples, 603 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 9.9%, 9.9% and 14.8% in January month of 2015, 2016 & 2017 respectively.

Fig 13: State/UT wise P form completeness % for January 2017

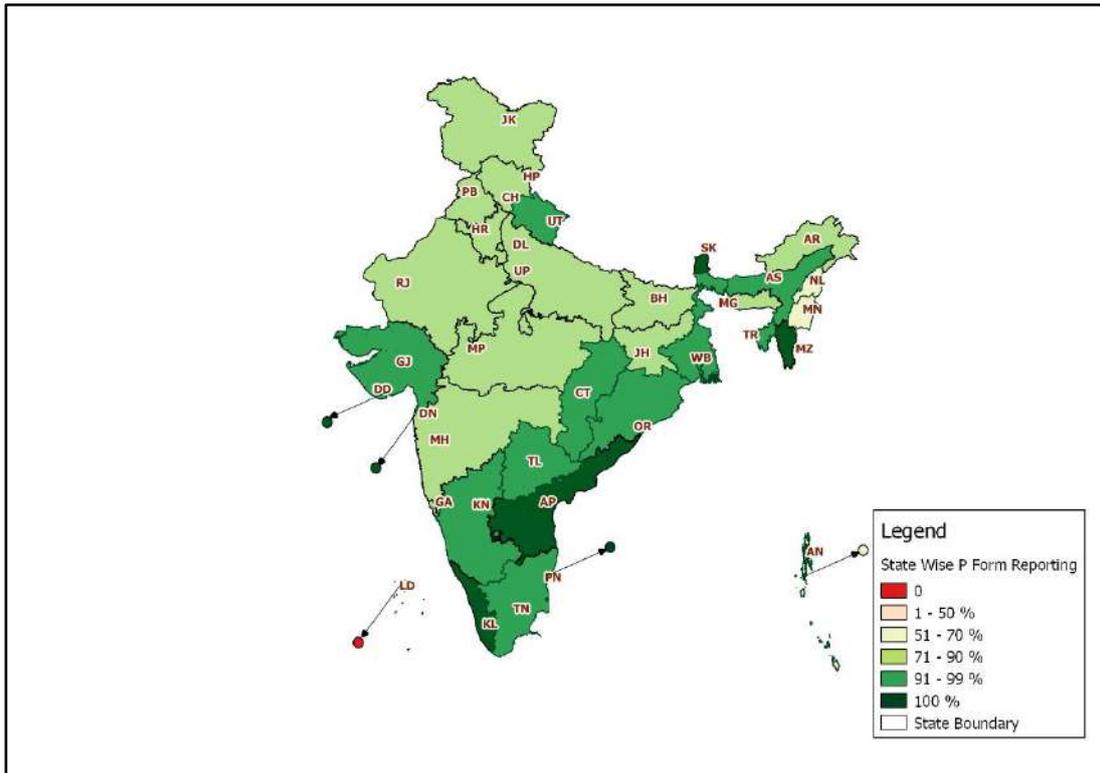
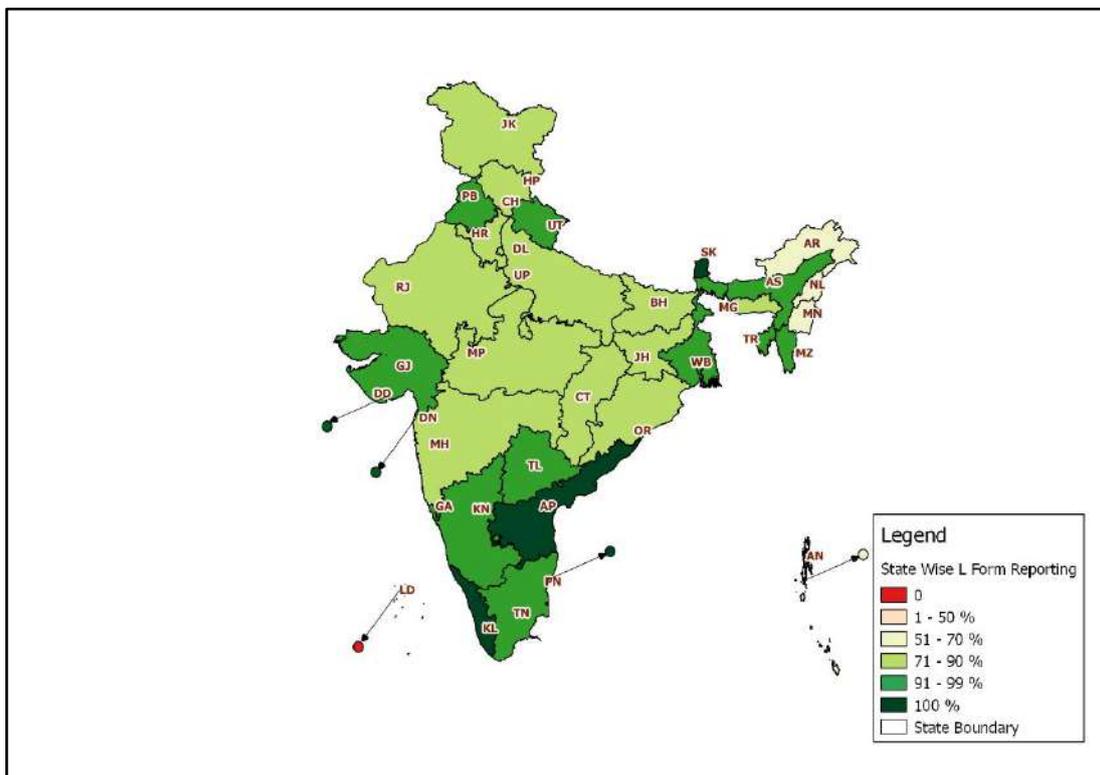
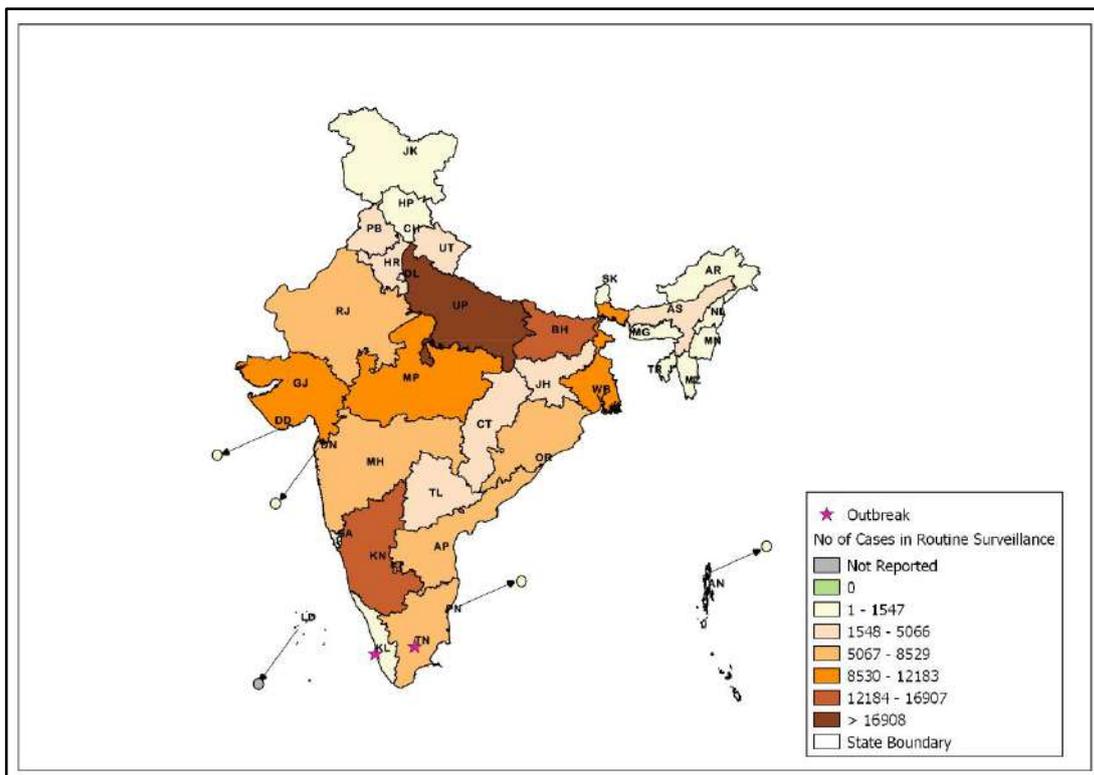


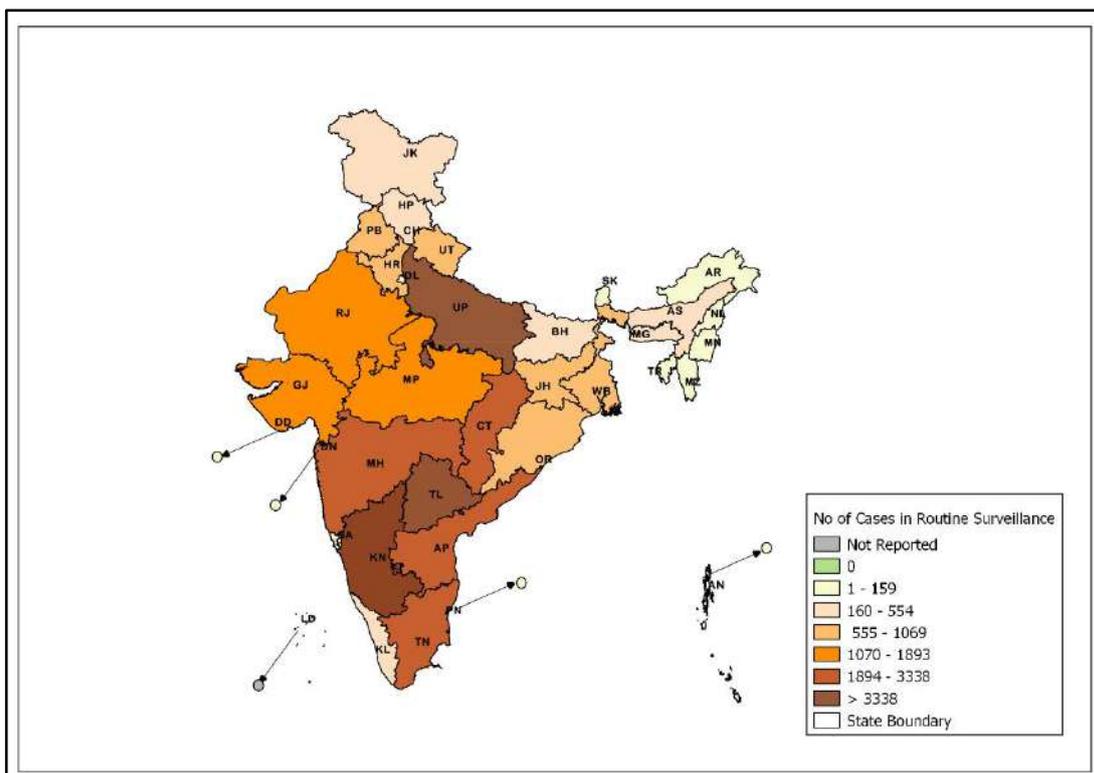
Fig 14: State/UT wise L form completeness % for January 2017



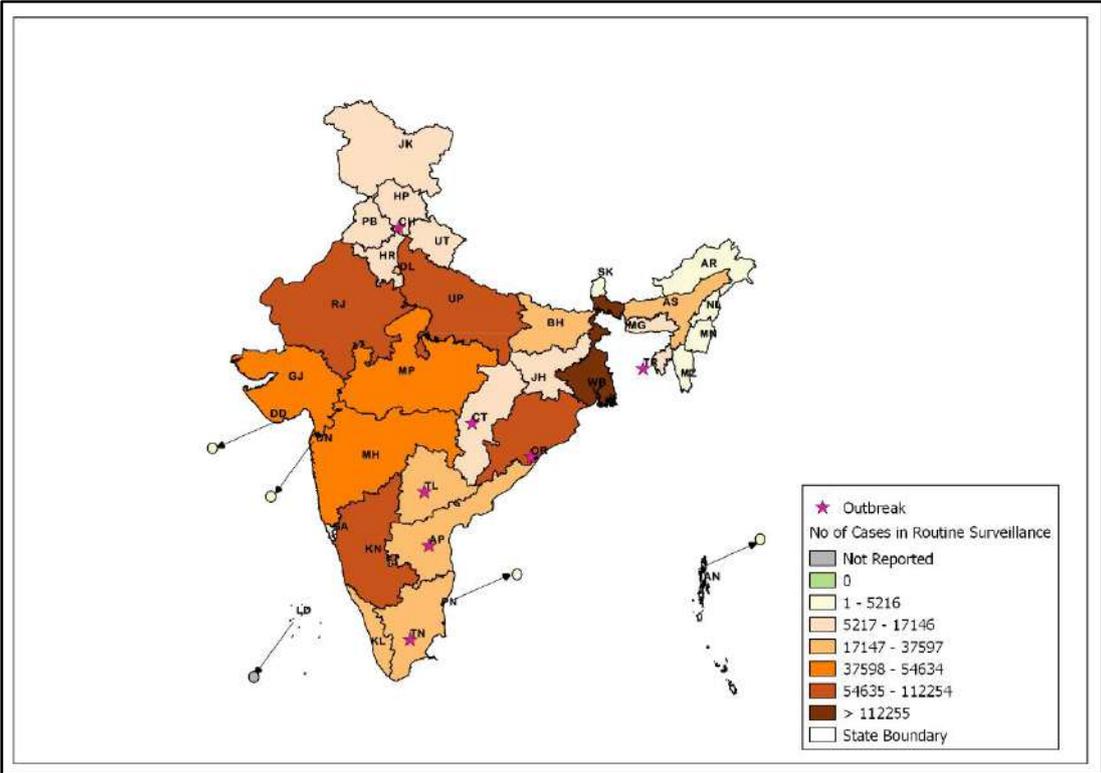
**Fig 15: State/UT wise Presumptive Enteric fever cases and outbreaks for January 2017**



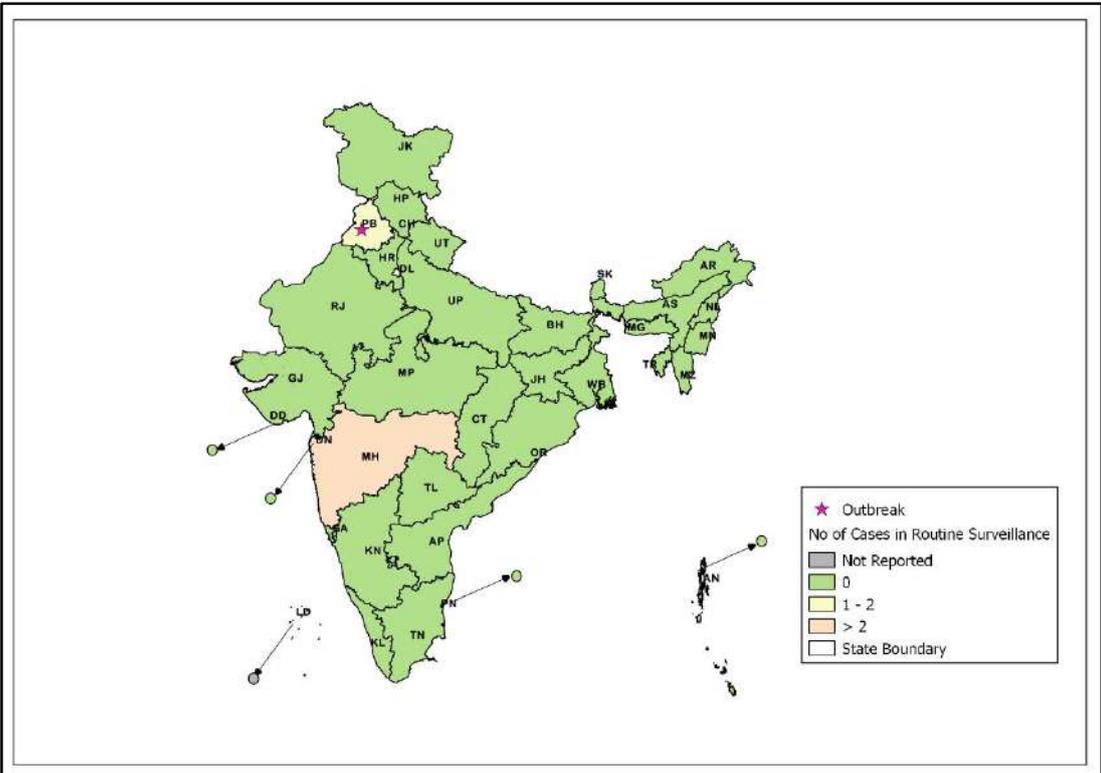
**Fig 16: State/UT wise Lab Confirmed Enteric Fever cases and outbreaks for January 2017**



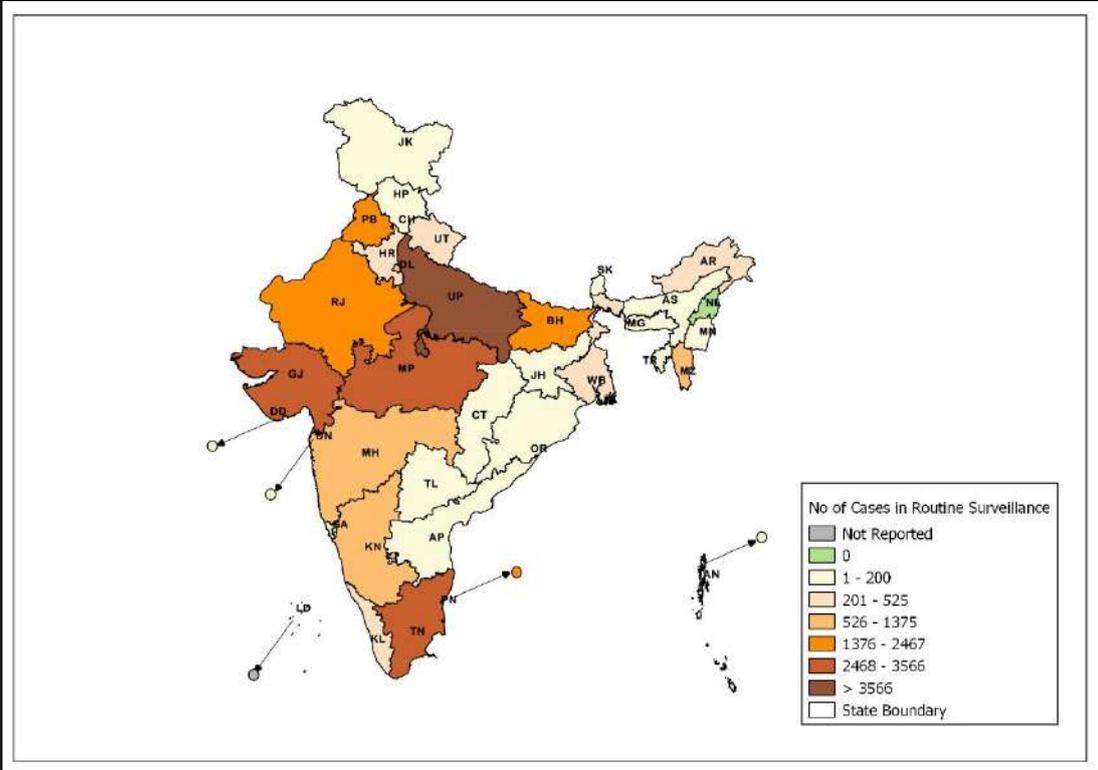
**Fig 17: State/UT wise Presumptive ADD cases and outbreaks for January 2017**



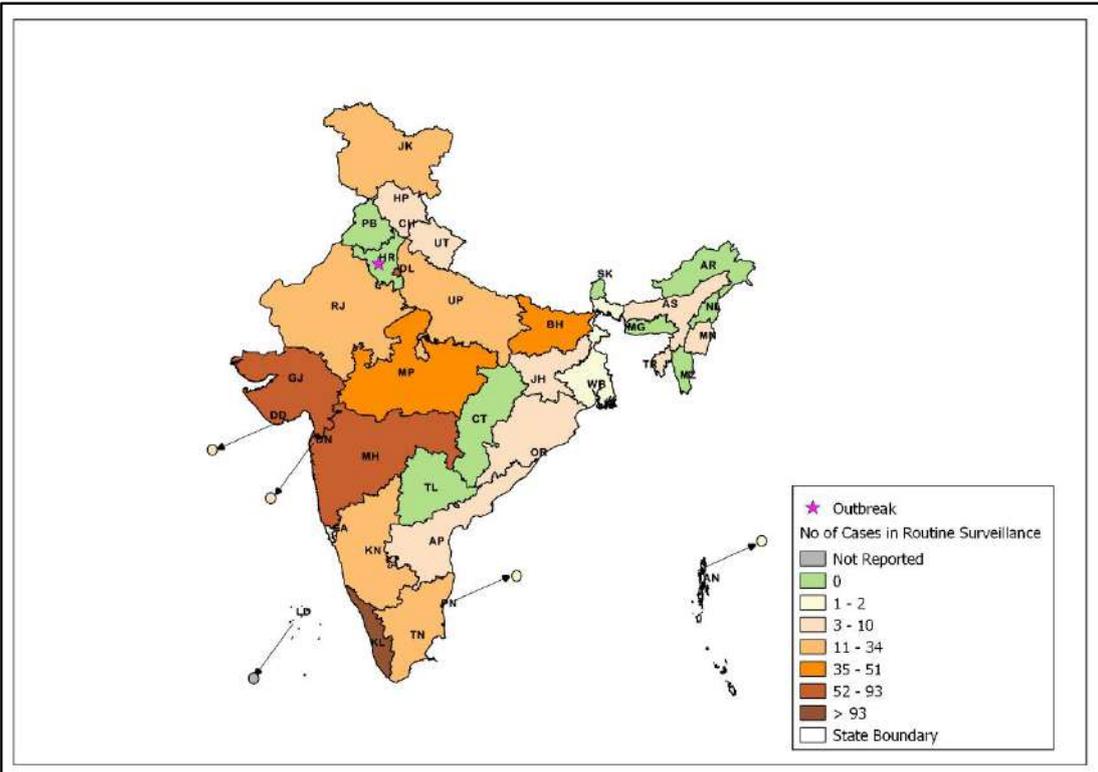
**Fig 18: State/UT wise Lab Confirmed Cholera cases and outbreaks for January 2017**



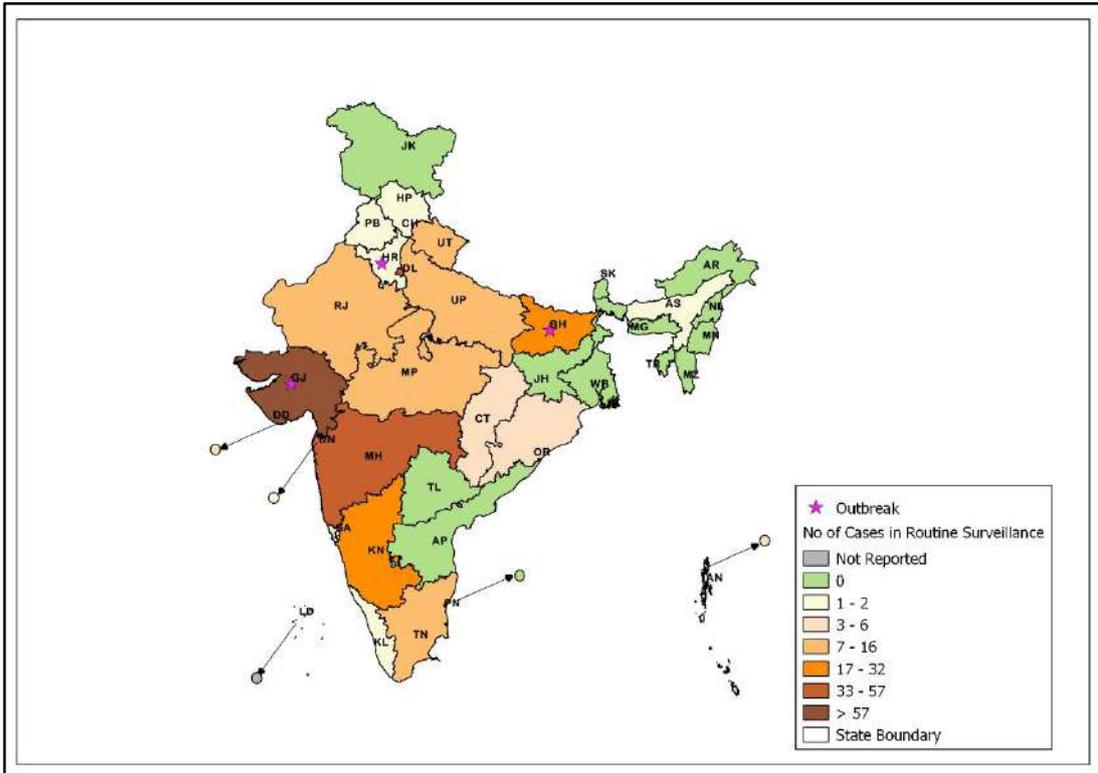
**Fig 19: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for January 2017**



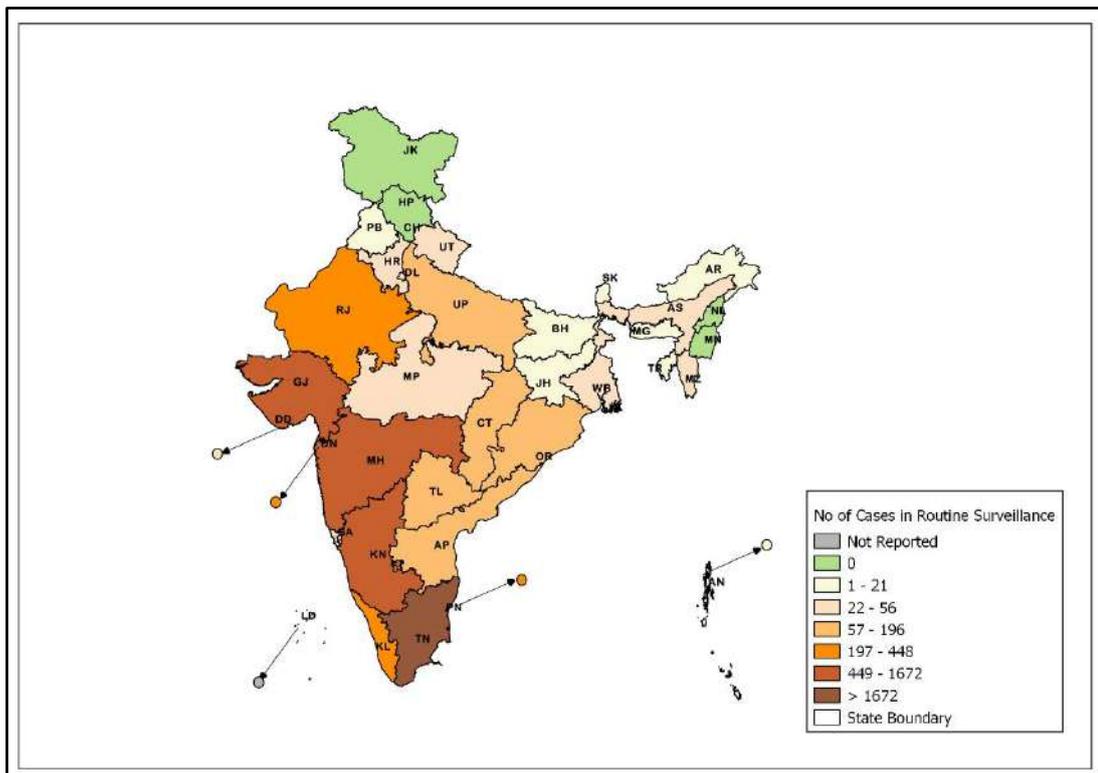
**Fig 20: State/UT wise Lab confirmed Viral Hepatitis A cases and outbreaks for January 2017**



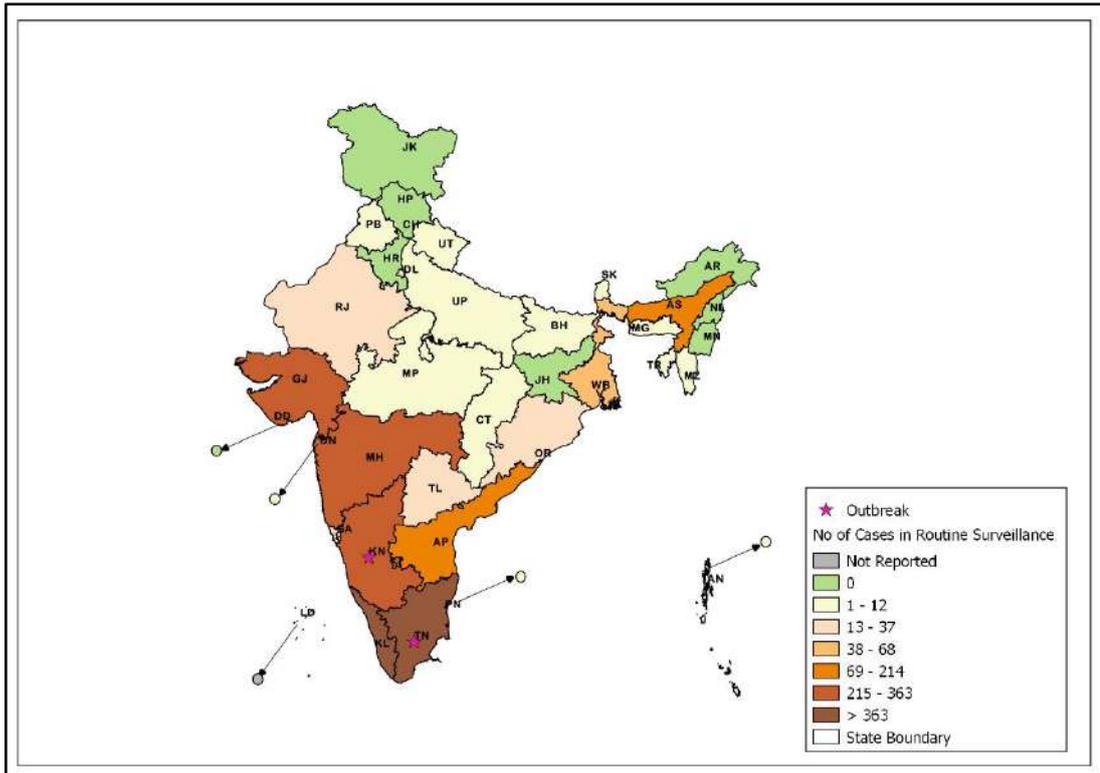
**Fig 21: State/UT wise Lab confirmed Viral Hepatitis E cases for January 2017**



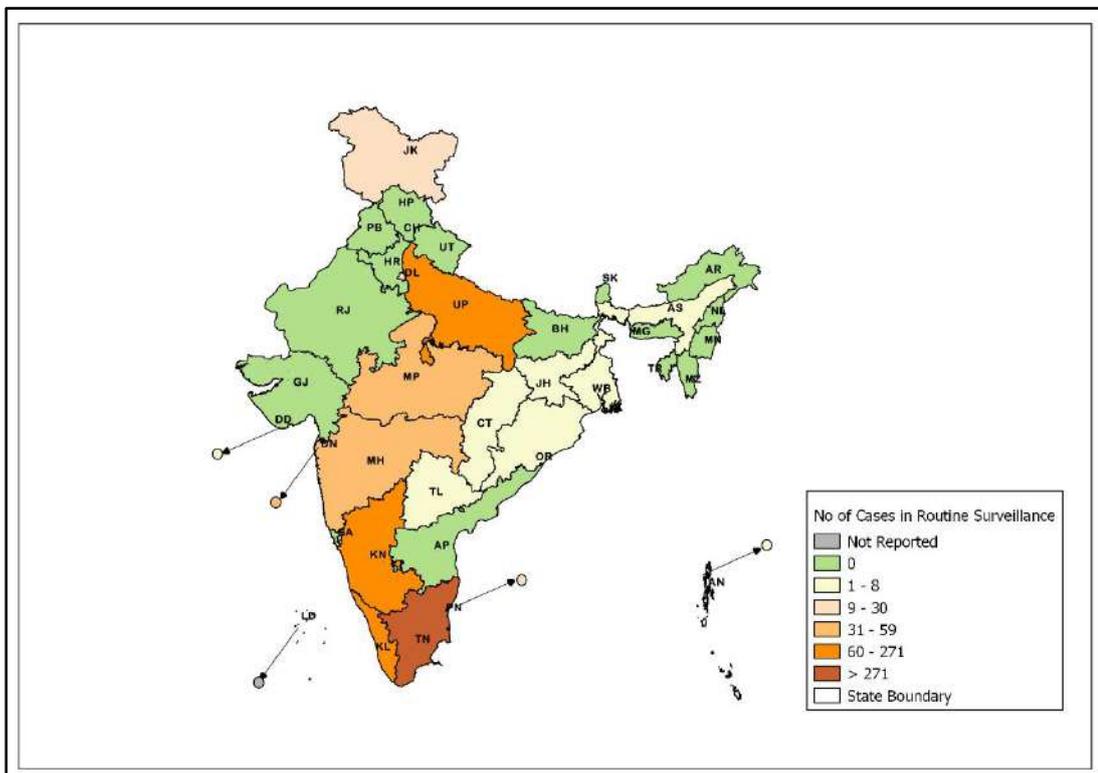
**Fig 22: State/UT wise Presumptive Dengue cases & outbreaks for January 2017**



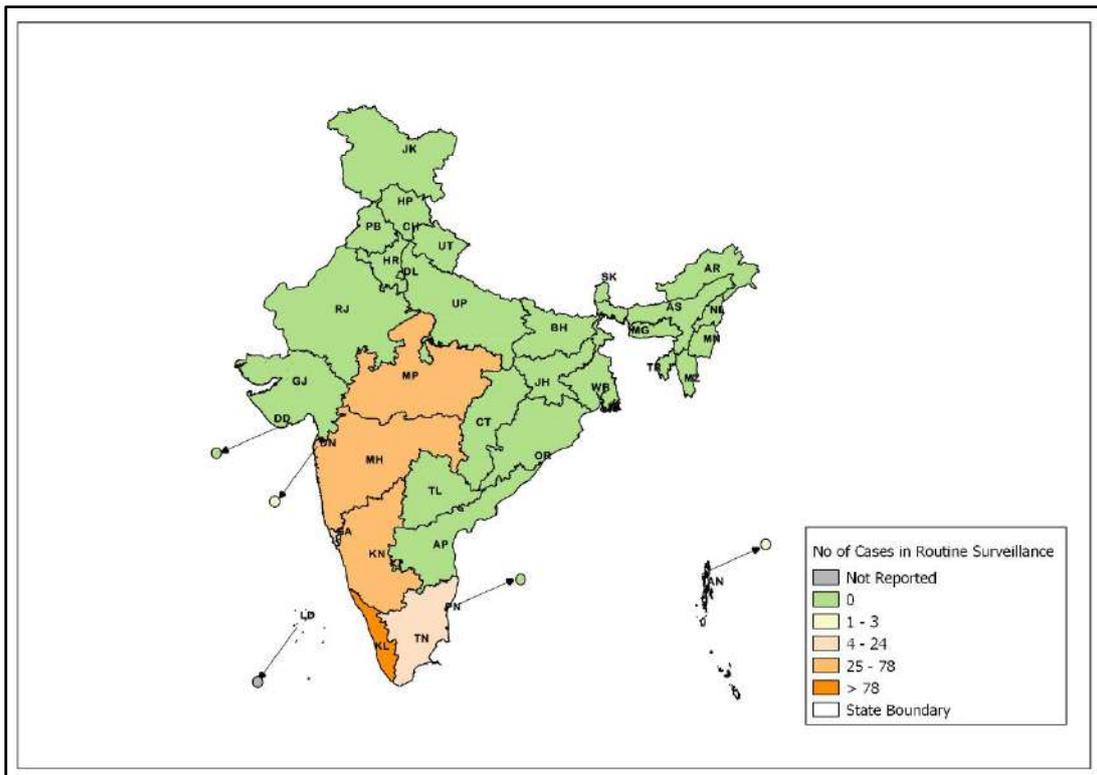
**Fig 23: State/UT wise Lab confirmed Dengue cases & outbreaks for January 2017**



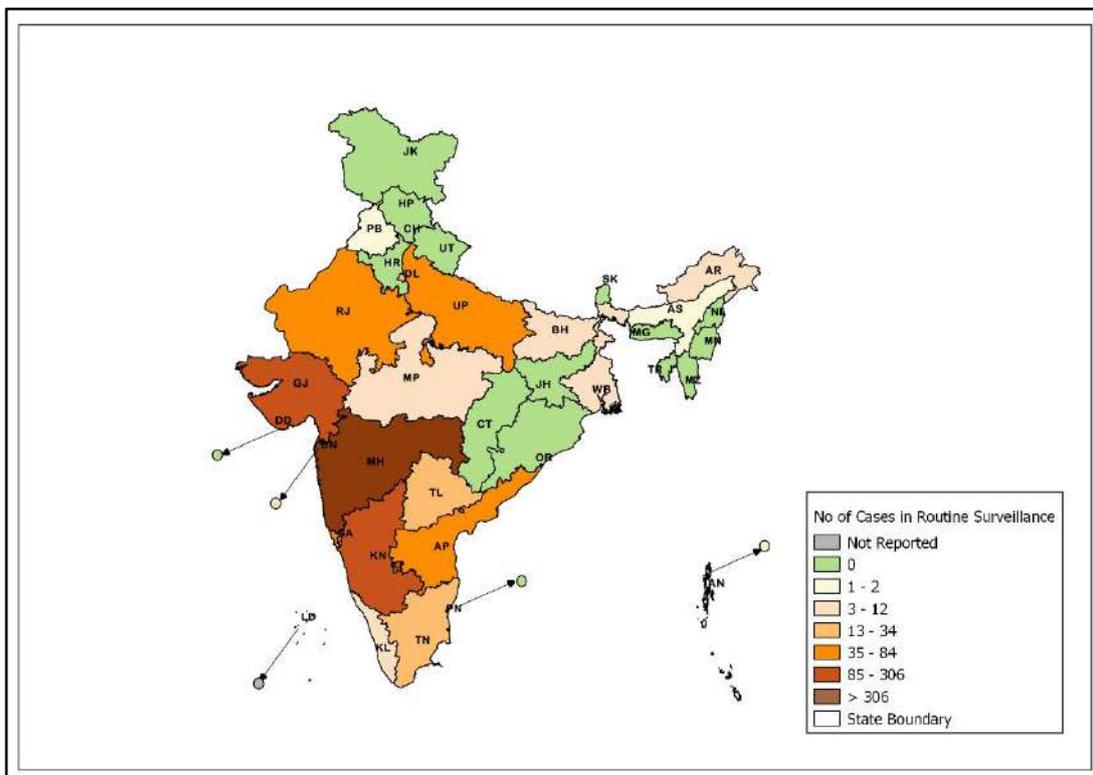
**Fig 24: State/UT wise Presumptive Leptospirosis cases for January 2017**



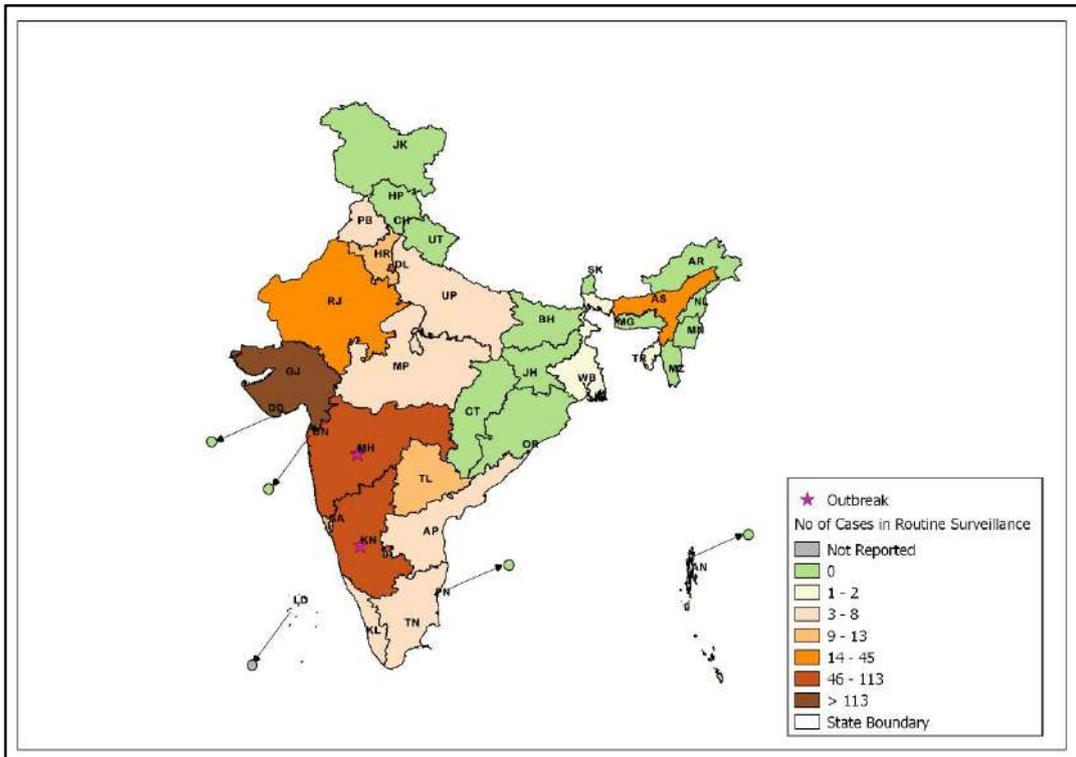
**Fig 25: State/UT wise Lab Confirmed Leptospirosis cases & outbreaks for January 2017**



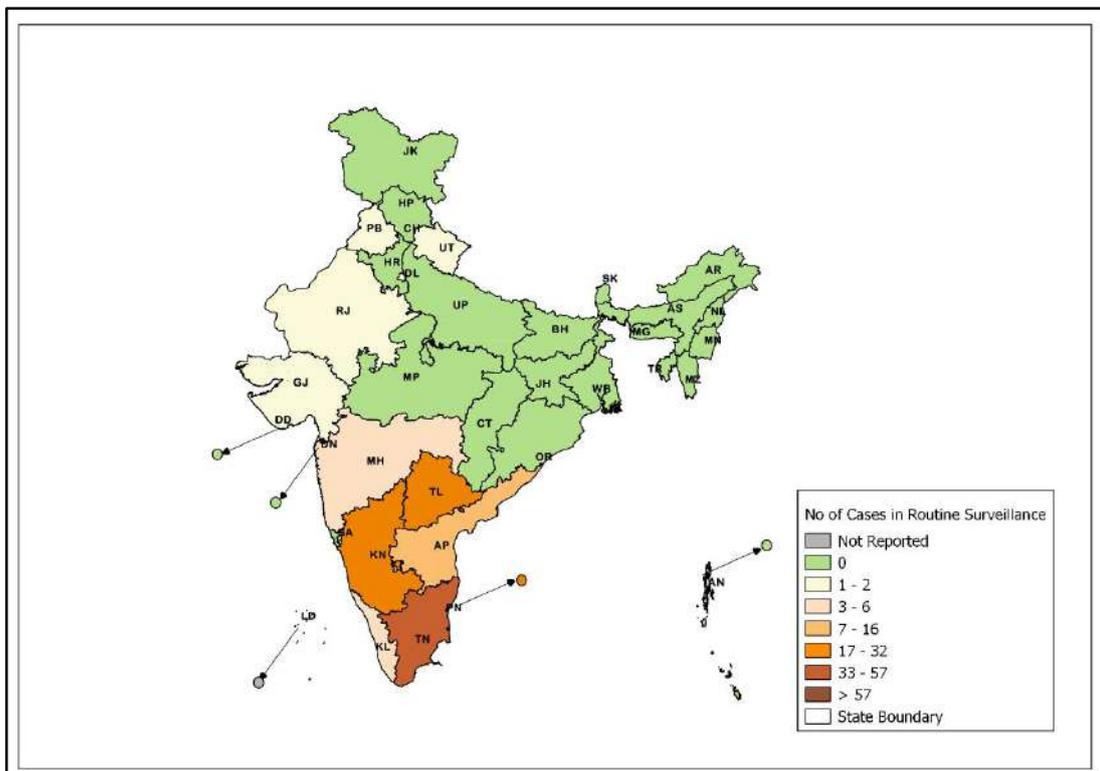
**Fig 26: State/UT wise Presumptive Chikungunya cases & outbreaks for January 2017**



**Fig 27: State/UT wise Lab Confirmed Chikungunya cases & outbreak for January 2017**



**Fig 28: State/UT wise Influenza A (H1N1) cases & outbreak for January 2017**



## Action from the field

- Mr. Praveen G, Consultant Epidemiology IDSP was in Hathijan, Gujarat to investigate Avian Influenza outbreak, from 6 to 18 January 2017.
- Dr Ruchi Jain Asstt. Director IDSP was in Kerala for Joint VBD-IDSP Review from 9 to 12 January 2017.
- Dr Jyoti Asstt. Director IDSP was in West Bengal for joint VBD-IDSP review from 9 – 12 January 2017.
- Dr Suneet Kaur Epidemiologist IDSP was in Haryana on 31 January 2017 for State IDSP Review.

### Glossary:

- **P form:** Presumptive cases form, in which cases are diagnosed and reported based on typical history and clinical examination by Medical Officers.
- **Reporting units under P form:** Additional PHC/ New PHC, CHC/ Rural Hospitals, Infectious Disease Hospital (IDH), Govt. Hospital / Medical College\*, Private Health Centre/ Private Practitioners, Private Hospitals\*
- **L form:** Lab confirmed form, in which clinical diagnosis is confirmed by an appropriate laboratory tests.
- **Reporting units under L form:** Private Labs, Government Laboratories, Private Hospitals(Lab.), CHC/Rural Hospitals(Lab.),
- HC/ Additional PHC/ New PHC(Lab.), Infectious Disease Hospital (IDH)(Lab.), Govt. Hospital/Medical College(Lab.), Private Health Centre/ Private Practitioners(Lab.)
- **Completeness %:** Completeness of reporting sites refers to the proportion of reporting sites that submitted the surveillance report (P & L Form) irrespective of the time when the report was submitted.

### Case definitions:

- **Enteric Fever: Presumptive:** Any patient with fever for more than one week and with any two of the following: Toxic look, Coated tongue, Relative bradycardia, Splenomegaly, Exposure to confirmed case, Clinical presentation with complications e.g. GI bleeding, perforation, etc. AND/OR Positive serodiagnosis (Widal test)  
**Confirmed:** A case compatible with the clinical description of typhoid fever with confirmed positive culture (blood, bone marrow, stool, urine) of *S. typhi*/ *S. paratyphi*.  
ARI/ ILI:-An acute respiratory infection with fever of more than or equal to 38° C and cough; with onset within the last 10 days.
- **Acute Diarrheal Disease: Presumptive Acute Diarrheal Disease (Including Acute Gastroenteritis):** Passage of 3 or more loose watery stools in the past 24 hours. (With or without vomiting).
- **Confirmed Cholera:** A case of acute diarrhoea with isolation and identification of *Vibrio cholera* serogroup O1 or O139 by culture of a stool specimen.
- **Viral Hepatitis: Presumptive:** Acute illness typically including acute jaundice, dark urine, anorexia, malaise, extreme fatigue, and right upper quadrant tenderness.  
**Confirmed:** Hepatitis A: A case compatible with the clinical description of acute hepatitis with demonstration of anti-HAV IgM in serum sample.  
**Confirmed:** Hepatitis E: A case compatible with the clinical description of acute hepatitis with demonstration of anti-HEV IgM in serum sample.
- **Dengue: Presumptive:** An acute febrile illness of 2-7 days duration with two or more of the mentioned manifestations:
  - Headache, Retro-orbital pain, Myalgia, Arthralgia, Rash, haemorrhagic manifestations, leukopenia, or Non-ELISA based NS1 antigen/IgM positive. (A positive test by RDT will be considered as probable due to poor sensitivity and specificity of currently available RDTs.)**Confirmed:** A case compatible with the clinical description of dengue fever with at least one of the following:
  - Demonstration of dengue virus NS-1 antigen in serum sample by ELISA.
  - Demonstration of IgM antibodies by IgM antibody capture ELISA in single serum sample.
  - IgG seroconversion in paired sera after 2 weeks with fourfold increase of IgG titre.

- Detection of viral nucleic acid by polymerase Chain reaction (PCR).
  - Isolation of the dengue virus (virus culture +ve) from serum, plasma, leucocytes.  
(Source – Dengue National guidelines, NVBDCP 2014)
- **Leptospirosis Case Definition: Presumptive Leptospirosis:** Acute febrile illness with headache, myalgia and prostration associated with a history of exposure to infected animals or an environment contaminated with animal urine With one or more of the following:
    - Calf muscle tenderness
    - Conjunctival suffusion
    - Oliguria or anuria and/or proteinuria
    - Jaundice
    - Haemorrhagic manifestations (intestines, lung)
    - Meningeal irritation
    - GI symptoms ( Nausea/ Vomiting/ Abdominal pain/Diarrhoea)
  - And/or one of the following:-
    - A positive result in IgM based immune- assays, slide agglutination test or latex agglutination test or immunochromatographic test.
    - A Microscopic Agglutination Test (MAT) titre of 100/200/400 or above in single sample based on endemicity.
    - Demonstration of leptospire directly or by staining methods

**Lab Confirmed Leptospirosis:** A case compatible with the clinical description of leptospirosis with at least one of the following:

- Isolation of leptospire from clinical specimen.
  - Four fold or greater rise in the MAT titre between acute and convalescent phase serum specimens run in parallel. (Source: -National Guidelines on Diagnosis, Case Management Prevention and Control of Leptospirosis NCDC 2015).
- **Chikungunya case definition: Presumptive Case Definition:** An acute illness characterised by sudden onset of fever with any of the following symptoms: headache, backache, photophobia, severe arthralgia and rash.
    - Lab confirmed: A case compatible with the clinical description of chikungunya fever with at least one of the following: Demonstration of IgM antibodies by IgM antibody capture ELISA in a single serum sample.
    - Detection of viral nucleic acid by PCR.
    - Isolation of chikungunya virus from clinical specimen. (Source – Mid Term Plan Guidelines, NVBDCP 2013.

#### **Acknowledgement:**

This Disease Alert from IDSP acknowledges the contribution of Dr. S. Venkatesh Director NCDC, Dr. Pradeep Khasnobis NPO IDSP, and Dr. Jyoti Asstt. Director IDSP, Ms. Ritu Malik Consultant GIS IDSP, Mr. Priyank Pandya Communication Officer IDSP, Mr. Prasun Sharma Statistician-cum-Programmer IDSP & Ms. Sujata Malhotra Data Manager IDSP.

Data shown in this bulletin are provisional, based on weekly reports to IDSP by State Surveillance Unit. Inquiries, comments and feedback regarding the IDSP Surveillance Report, including material to be considered for publication, should be directed to: Director, NCDC 22, Sham Nath Marg, Delhi 110054. Email: [dirnicd@nic.in](mailto:dirnicd@nic.in) & [idsp-npo@nic.in](mailto:idsp-npo@nic.in)

**Prepared by: Central Surveillance Unit, IDSP under guidance of Director, NCDC**