Issue - 3 Vol. 2

Disease Alert
प्रकोप चेतावनी

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

March 2017

Inside

Outbreak investigation of Scabies in Village Bartalli, Dumka, Jharkhand, March 2017

Introduction

Scabies is one of the commonest dermatological conditions, accounting for a substantial proportion of skin disease in developing countries. Globally, it affects more than 130 million people at any time. Rates of scabies occurrence vary in the recent literature from 0.3% to 46%. The highest rates occur in countries with hot, tropical climates, where infestation is endemic, especially in communities where overcrowding and poverty coexist. The annual years of healthy life lost per 100,000 people from scabies in India has decreased by 11.6% since 1990, an average of 0.5% a year. For men, the health burden of scabies in India, as measured in years of healthy life lost per 100,000 men, peaks at age 10-14. An outbreak of suspected measles is reported on 17/03/2017 from the Health sub-centre of Bartalli village of Dumka district, Jharkhand. Bartalli village caters a population of about 1600 and have about 230 houses. Two EIS officers from National Centre for Disease Control, Delhi were deployed on 28/03/2017 to investigate the outbreak along with the District surveillance officer, District Epidemiologist, Lab technician and Data entry operator.

Objectives

1. To describe the epidemiology of current outbreak of skin rash in Bartalli village
2. To identify risk factors for the skin rash
3. To propose control & preventive measures for the same

Method

Outbreak confirmation: In order to confirm the outbreak and obtain line list of cases , all stakeholders were interviewed including ANM, informers network of NPSP-WHO, already identified cases and neighbouring houses. Review of records of IDSP was done. Visits to sub centre of affected area and attached PHC was conducted.

Case finding

Case definition*:* (Skin lesion) Rash with Itching in a resident of Bartali Village of Dumka district from 15 January 2017 to 3 April 2017.

Case search*:* Search for cases from Middle, Primary school and Aganwadi centre. Further house to house search in the affected village Bartaliwas conducted by total 6 teams constituting 2 members in each team (including one local member from the same village). Data was collected in the semi-structured questionnaire by the EIS officers and District Epidemiologist.

Hypothesis generation: Based on the interview, reports available, clinical examination and history of cases reported, it was hypothesised that the outbreak reported could be due to skin disease with rash and itching.

Case – Control Study

- **Study Design**: Unmatched 1 : 2 Case control Study
- **Study population**: Bartalli village located under in sub-centre Bartalli, PHC- Gando, Urban Block in Dumka district.
- **Sample size**: Using Epi info version 7.2, with 95% confidence interval two sides, 80% power, 1: 2 case control ratio and assuming 30% exposure of controls with odds ratio 3, sample size of 41 cases and 82 controls was generated. The cases selected for analytic study was one case from each house hold.
- **Case definition for the study**: (Skin lesion) Rash with Itching in a resident of Bartalli Village of Dumka district from 15 January 2017 to 3 April 2017
- **Selection criteria for case**: We enrolled single case from a house. For houses having > 1 cases, we selected a case by randomization formula in excel before visiting field from the list of identified cases.
- **Control definition for the study**: Resident with no history of rash with itching since 15th Jan 2017 to 11th April 2017 in the village Bartalli, Dumka district in Jharkhand.
- **Selection criteria for control**: For each case, two controls were enrolled from the neighbourhood. With one control residing in a nearest house on the right side and one from nearest house on left side from the main entrance. In case, control was not found, then control was searched from the next adjacent house and so on. If no control was found in one direction till end, then two controls from same side were chosen. For house having more than one control, then control was picked by lottery.
- **Consent**: Informed consent was taken for the purpose of the study.
- **Data collection**: To find out the risk factors like lack of personal, environmental hygiene, overcrowding, poverty and low education, a semi structured interview questionnaire was administered. Questionnaire was converted to vernacular language with the help of local staff and was screened for correctness and completeness.

Laboratory investigation: Blood samples were already taken from the 4 cases of < 15 year age within 28 days of onset of rash by the district lab technician on 17-03-2017; serum was separated and sent under cold chain to Kolkata reference lab by the NPSP office Dumka. Sample reached the lab on 20-03-2017 and test for measles IgM performed on 21-03-2017 and for Rubella IgM on 23-03-2017.

Environmental investigation: We searched for any scarcity and type of water supply, housing condition, availability of sunlight, personal hygiene and bathing habits.

Data Entry and analysis: Data Entry and analysis was done in epi info to calculate proportions for demographics, attack rate, overcrowding, clinical features, treatment, outcome and personal hygiene. Also odds ratio, 95% confidence interval and P value is calculated for associated risk factors.

Results

Outbreak confirmation:

In 2014 out of total 14 suspected Measles outbreak reported, 10 were tested for Measles and Rubella and 4 (40%) were negative for both. 1n 2015 out of total 33 outbreak reported, 9 were tested for Measles & Rubella, and 3 (33%) were negative for both. In 2016 out of total 11 suspected Measles outbreak reported, 3 were tested for Measles and Rubella and 1 (33%) were negative for both. In 2017 total 2 suspected Measles outbreak reported, 2 were tested for Measles and Rubella and 1 (50%) current outbreak was negative for both.

Table 1. Number of outbreak reported in district Dumka, Jharkhand 2014-2017

Year	Total No. Outbreak reported	Lab confirmed Outbreaks
2014	14	3 Measles positive 3 Rubella positive 4 Negative
2015	33	5 Measles positive 1 Rubella positive 3 Negative
2016	11	2 Measles positive 1 Negative
2017*	2	1 Rubella positive 1 Negative (current outbreak)

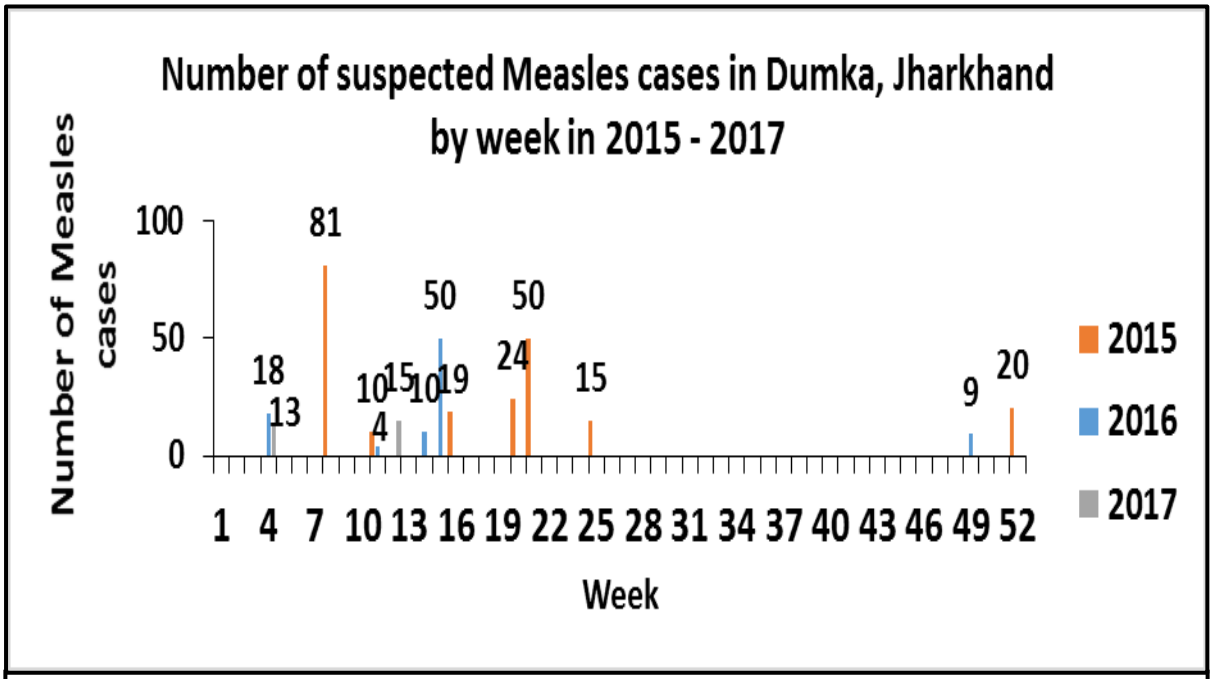


Fig. 1: Number of suspected Measles cases reported in district Dumka, Jharkhand 2015-2017

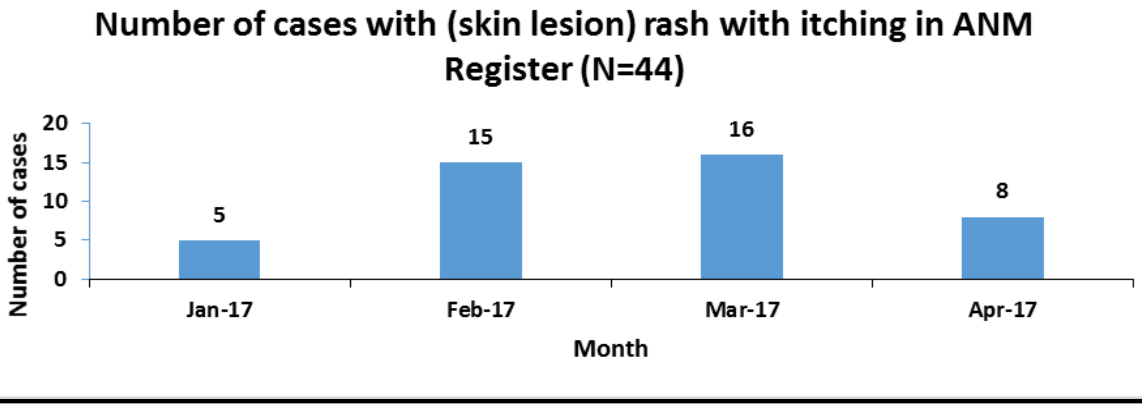


Fig. 2: Number of skin disease cases with rash in ANM register, village Bartalli, district Dumka, Jharkhand -2017

Since, no new case was observed from the OPD register of nearby PHC Ganda as well as from the informer from Bartali village, previous OPD reports were reviewed, in depth interview of cases was done and a decision to do active house to house survey to find out more cases to describe the epidemiology of current disease in Bartalli village of Dumka district was taken.

Descriptive Epidemiology

Total 268 Houses were covered, in which 64 Cases were identified. Total Population covered was 1229. Household attack rate was 16.4% and Population attack rate was 5.2%.

Person distribution

Out of total 64 cases found in Bartalli village 35 were male (55%) and rest females. The Median age was 25 years (Range 1 to 85). Attack rate in 0-5 year was 8.4% and 7.7% in above 50 years age group.

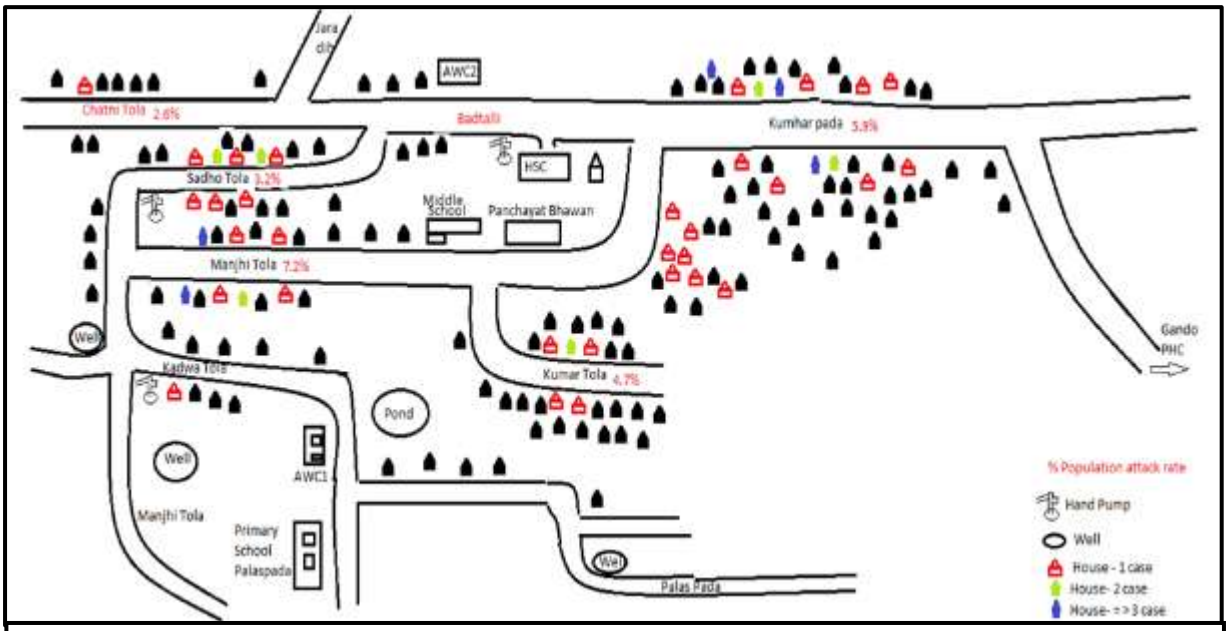


Fig. 3: Spot Map Village Bartalli, district Dumka, Jharkhand

Place Distribution

Total 32 cases were found in Kumhar pada, 15 cases in Manjhi tola, 10 cases in Sadho tola, 6 cases in Kamar tola and one case in Chotni tola of Bartalli village. House attack rate was maximum (20.8%) in Kamartola followed by Kumharpada (18.2%). Population attack rate was maximum (7.2%) in Manjhitola, followed by Kumharpada (5.9%). In Middle School of village Bartalli, total 179 children were present in school. Only one case was found. No case found in Anganwadi Centre of village Bartalli.

Time distribution

Cases were distributed intermittently from 16 January - 03 April 2017. 12 cases were reported in the month of January, 13 cases in February, 37 cases in March and 2 were having onset in April.

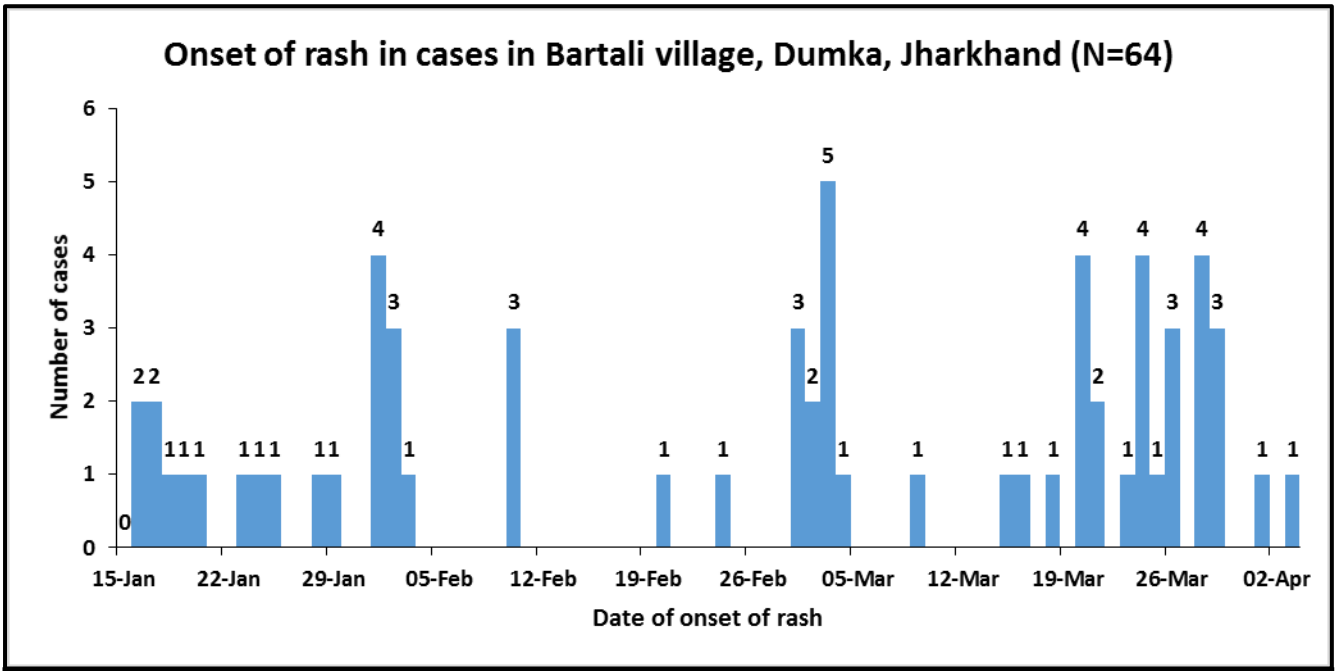


Fig. 4: Onset of rash in cases in Bartali village, Dumka, Jharkhand (N=64)

Clinical Profile of cases

Out of total 64 cases of rash and itching, 12.3 % were having cough, fever present in 7.7% cases, coryza in 3% and conjunctivitis in 1.5% cases. Maximum (75%) rashes were of 'Papular' type. Median duration of rash was 31 days (range 1-76 days). Mostly rashes started from Chest abdomen, Back and Genitals. Most of the lesions were found over Abdomen, Back, Hand, Feet, ankle, genitals, wrist and finger webs. Itching in night was present in 23%. Out of total 64 cases of rash of which none case needed hospitalization. Maximum cases were treated at private setup followed by Primary Health centre. There was 100% cure rate seen in 7 cases that had used Scabiol Lotion as treatment. But instruction for treatment of scabies as per guidelines were not informed to cases by the ANM and local practitioners.

Laboratory Results:

All four blood samples were negative for Measles and Rubella.

Environmental Finding

Generally the houses were mud lined with mud floor and terracotta tiles. The cattle were generally kept close to the house and often tied to the outer room or covered veranda in the night. Behind this covered veranda there were rooms with little or no ventilation. Thus the inside of the house receives very less sunlight and was poorly ventilated. However it remains cool even in the warmest of season. Apart from occasional houses the source of water

was mostly common hand pump or well. Thus water had to be drawn/ filled from the source and carried to the house and stored for daily chores. This limited the free availability of the water. The bathrooms were not properly covered; hence as per respondents, they took bath hurriedly with some clothes on. Due to paucity of space, the beddings were folded and piled over each other during the daytime as told by the respondents. Similarly clothing were also kept close together. Two or more than 2 persons were living in 68% of affected houses.

Analytical Epidemiology

Table 2 depicts case - control distribution of exposure to risk factors associated with scabies. The area of the windows and doors together was less than 50% of the floor area in houses of 41 cases interviewed during case control study. All the cases responded that they used soap and water for taking baths. Towels used after bathing as well as for wiping hands after hand washing were shared in 100% cases. All the cases responded that clothes of all family members were washed together and 19 cases informed that they shared bed with other members of the family. Positive response to sharing of clothes among the family members was present in 3 cases and 10 non-cases respondents. Clothes of all family members were washed together in all (41) cases interviewed. Travel history shows that 4 (9.6%) cases and 12 (14.6%) controls travelled outside the village since 15th January 17. Within the specified period 2 cases and 6 controls had visitors at their houses.

Table 2. Depicts case - control distribution of exposure to risk factors associated with scabies

Risk factors	Cases (%)	Control (%)	Odds Ratio	P value
Combined area of doors and windows less than 50% of floor area of the room	41 (100)	72 (87.8)	5.6 (0.7– 46.0)	0.0964
Do not use soap and water	1 (2.4)	19 (23.2)	0.08 (0.01 – 0.6)	0.003
Do not take daily bath	13 (31.7)	19 (23.2)	1.5 (0.6 – 3.5)	0.3
Sharing of clothes among family members	3 (7.3)	10 (12.2)	0.5 (0.1 – 2.1)	0.4
Share towels after hand wash	41 (100)	44 (53.7)	35.4 (4.6 - 269.7)	<0.001
Share towels after bath	41 (100)	44 (53.7)	35.4 (4.6 - 269.7)	<0.001
Share bed with other household	19 (48.7)	51 (63.8)	0.5 (0.2 -1.1)	0.118
Washing of clothes of all members together	41 (100)	59 (72.8)	15.2 (1.9 – 117.9)	<0.001
Travel outside village since 15th Jan 2017	4 (10)	12 (15.2)	0.5 (0.1 – 1.8)	0.320
Visitors since 15th Jan 2017	2 (5.1)	6 (7.4)	0.6 (0.1 – 3.5)	0.639

Note: For analytical purposes one was used in the cells, which had zero values

Conclusion: Outbreak in village Bartalli, District Dumkain March 2017 was not due to Measles. It was due to Sacbies which is a parasitic infestation. Attack rate was found to be more in children below 5 year and cases above 50 years. Cases were scattered in whole village especially in Manjhi Tola, KumharPada, KamarTola, Sadhotola and ChotniTola. Maximum cases were reported from KumharPada and Manjhi Tola. Overcrowding was seen in mostly affected houses. We found significant association in cases for sharing of towel and washing of cloths together as compare to control.

Recommendations:

- Treatment of affected cases: Treatment of all scabies affected cases and their household members with simultaneous three application of Benzyl Benzoate 25% Lotion 12 hours apart after taking bath and scrub, below chin over whole body on day 1 in night, then in day 2 mornings and in night, without changing cloth in between. Then it is advised to take bath with hot water and wash all clothes wore and bedding with boiling water and detergent. Maintain contact isolation in school and AWC till the completion of treatment.
- Capacity Building of frontline workers: Training of the health staff for treatment guideline for the scabies. ANM, ASHA and Anganwadi worker are recommended to raise awareness for personal hygiene, to avoid sharing of towel among household members and wash cloths separately for the affected member.
- In Long Term, continued surveillance for two month after mass treatment is recommended, to find any new case of rash with itching in night and follow up for completing treatment of new case.

Patients with the lesions of Scabies on body parts.

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

* Data extracted from IDSP Portal (www.idsp.nic.in) as on 27 June, 2017.

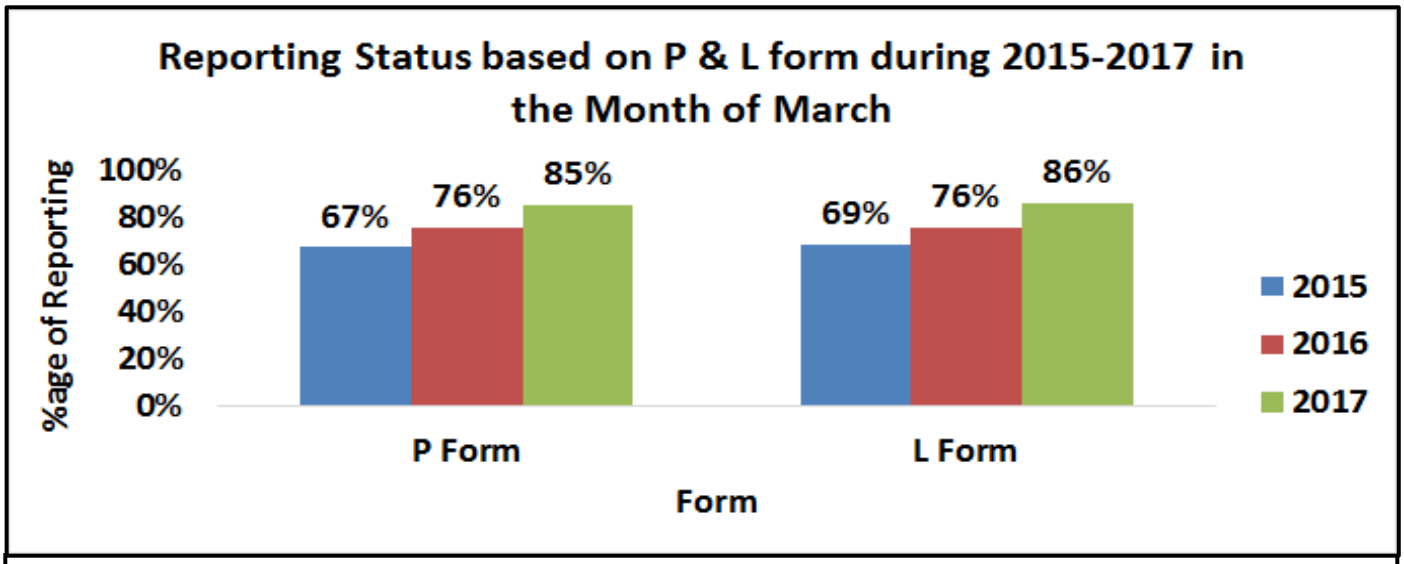


Fig. 5: Reporting Status based on P & L form during March2015 - 2017

As shown in fig 5, in March 2015, 2016 and 2017, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 67 %, 76% and 85% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 69%, 76% and 86% 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.

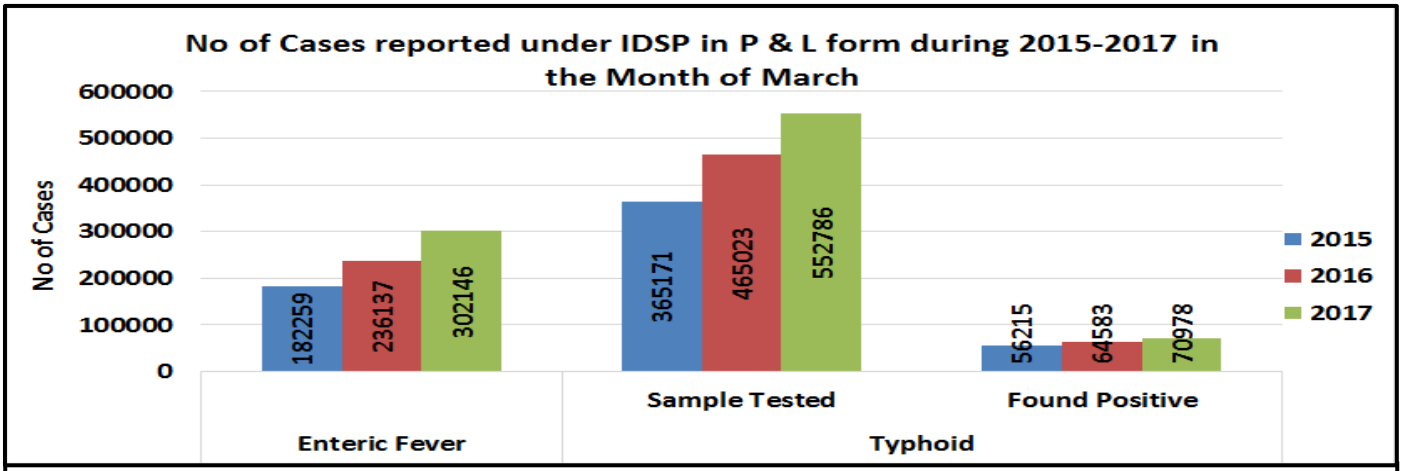


Fig. 6 No. of Enteric Fever Cases reported under P & L form during March 2015 - 2017

As shown in fig 6, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 182259 in March 2015; 236137 in March 2016 and 302146 in March 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2015; 365171 samples were tested for Enteric fever, out of which 56215 were found positive. In March 2016; out of 465023 samples, 64583 were found to be positive and in March 2017, out of 552786 samples, 70978 were found to be positive.

Sample positivity has been 15.3%, 13.8% and 12.8% in March 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.

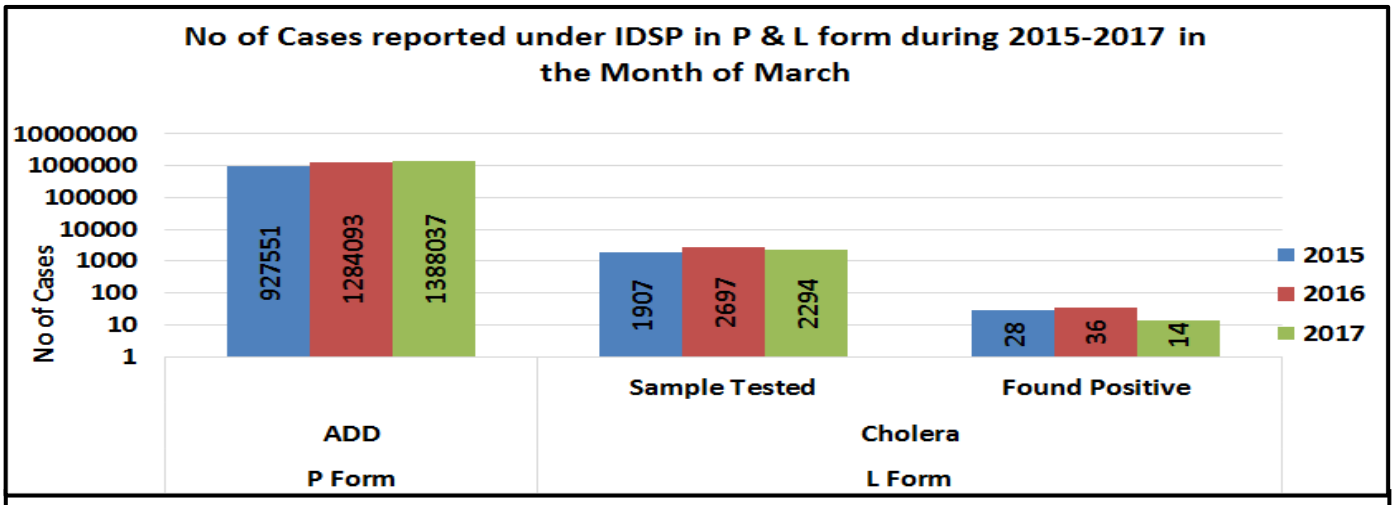


Fig. 7: No. of ADD Cases reported under IDSP in P form & Lab confirmed Cholera cases in L form during March 2015 - 2017

As shown in fig 3, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 927551 in March 2015; 1284093 in March 2016 and 1388037 in March 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2015, 1907 samples were tested for Cholera out of which 28 tested positive; in March 2016, out of 2697 samples, 36 tested positive for Cholera and in March 2017, out of 2294 samples, 14 tested positive.

Sample positivity of samples tested for Cholera has been 1.4%, 1.3% and 0.6% in March month of 2015, 2016 & 2017 respectively.

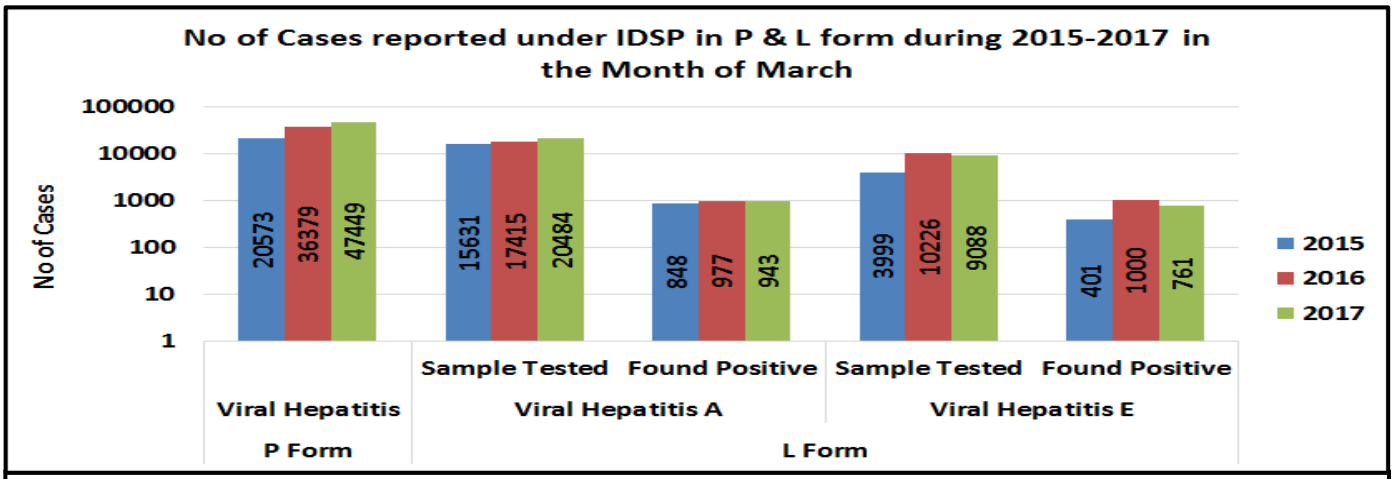


Fig. 8: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during March 2015 - 2017

As shown in fig 8, the number of presumptive Viral Hepatitis cases was 20573 in March 2015, 36379 in March 2016 and 47449 in March 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 March 2015; 15631 samples were tested out of which 848 were found positive. In March 2016 out of 17415 samples, 977 were found to be positive and in March 2017, out of 20484 samples, 943 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 5.4%, 5.6% and 4.6% in March month of 2015, 2016 & 2017 respectively.

As reported in L form for Viral Hepatitis E, in March 2015; 3999 samples were tested out of which 401 were found positive. In March 2016; out of 10226 samples, 1000 were found to be positive and in March 2017, out of 9088 samples, 761 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 10.0 %, 9.7% and 8.3% in March month of 2015, 2016 & 2017 respectively.

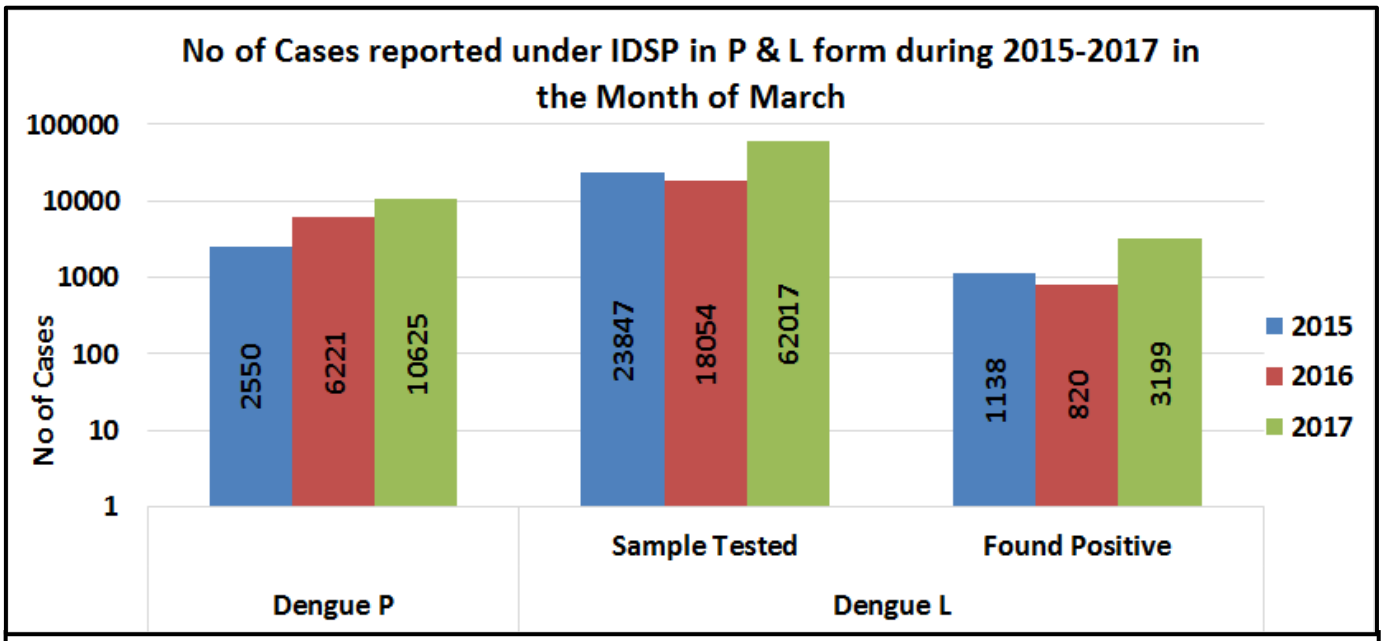


Fig. 9: No. of Dengue Cases reported under IDSP in P & L form during March 2015 - 2017

As shown in fig 9, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 20573 in March 2015; 6221 in March 2016 and 10625in March 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2015; 23847 samples were tested for Dengue, out of which 1138 were found positive. In March 2016; out of 18054 samples, 820 were found to be positive and in March 2017, out of 62017 samples, 3199 were found to be positive.

Sample positivity of samples tested for Dengue has been 4.7%, 4.5% and 5.1% in March month of 2015, 2016 & 2017 respectively.

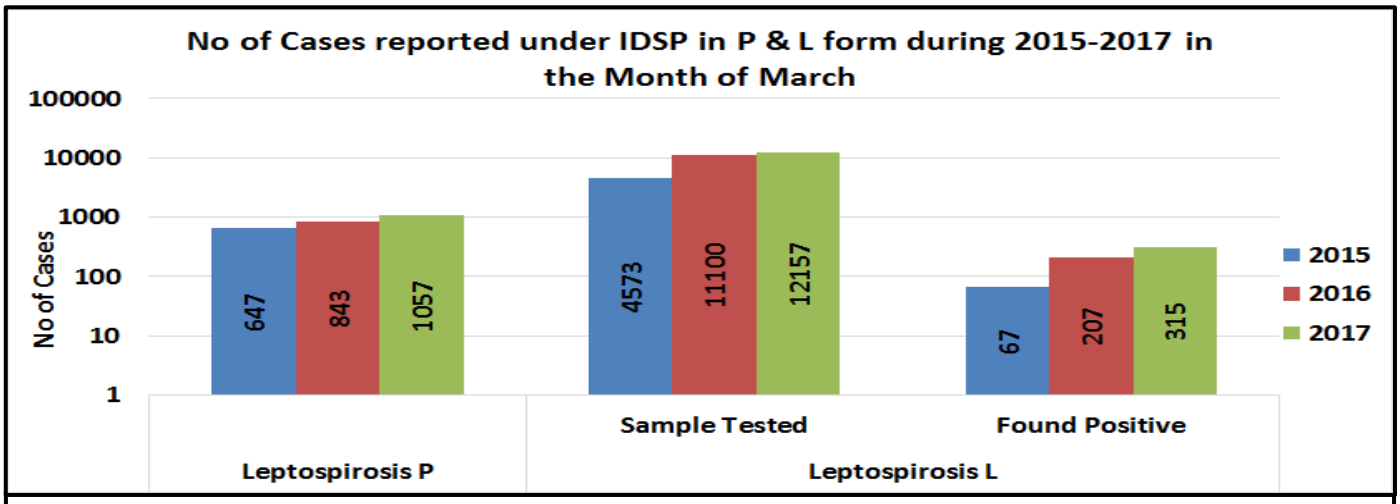


Fig. 10: No. of Leptospirosis Cases reported under IDSP in P & L form during March 2015 - 2017

As shown in fig 10, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 647 in March 2015; 843 in March 2016 and 1057 in March 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2015; 4573 samples were tested for Leptospirosis, out of which 67 were found positive. In March 2016; out of 11100 samples, 207 were found to be positive and in March 2017, out of 12157 samples, 315 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 1.4%, 1.8% and 2.5% in March month of 2015, 2016 & 2017 respectively.

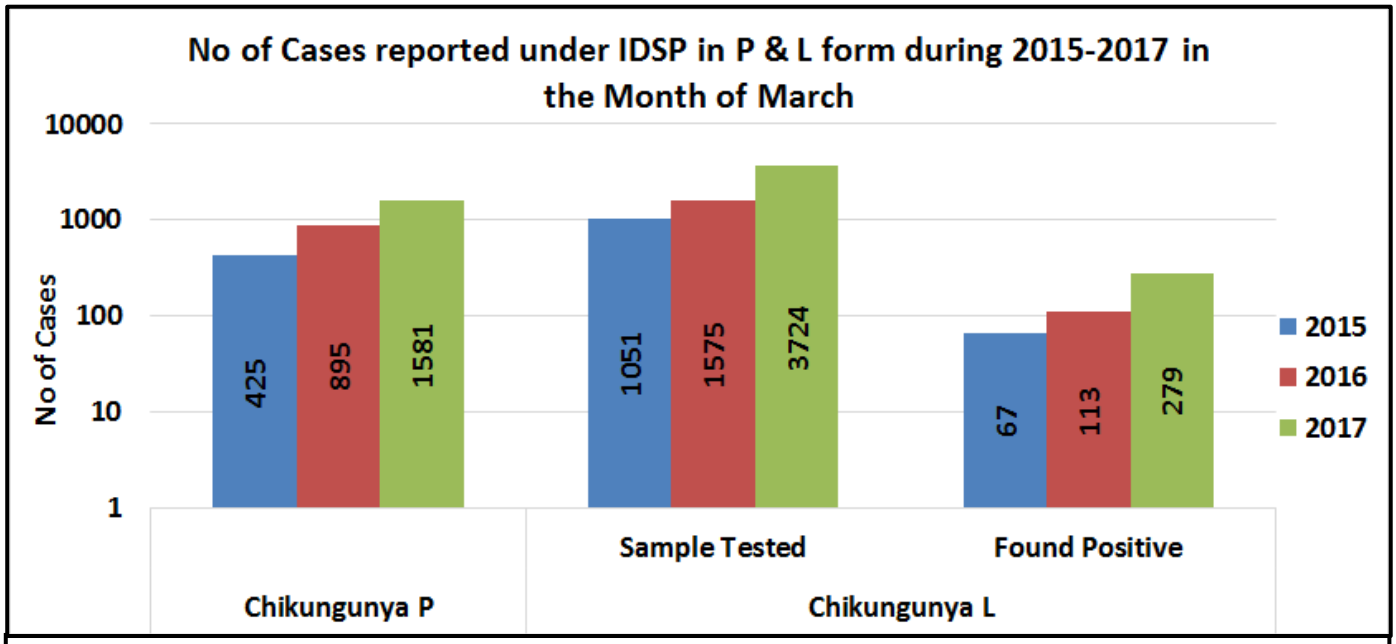


Fig. 11: No. of Chikungunya Cases reported under IDSP in P & L form during March 2015 - 2017

As shown in fig 11, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 425 in March 2015; 895 in March 2016 and 1581 in March 2017. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2015; 1051 samples were tested for Chikungunya, out of which 67 were found positive. In March 2016; out of 1575 samples, 113 were found to be positive and in March 2017, out of 3724 samples, 279 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 6.3%, 7.1% and 7.4 % in March month of 2015, 2016 & 2017 respectively.

Fig 12: State/UT wise P form completeness % for March 2017

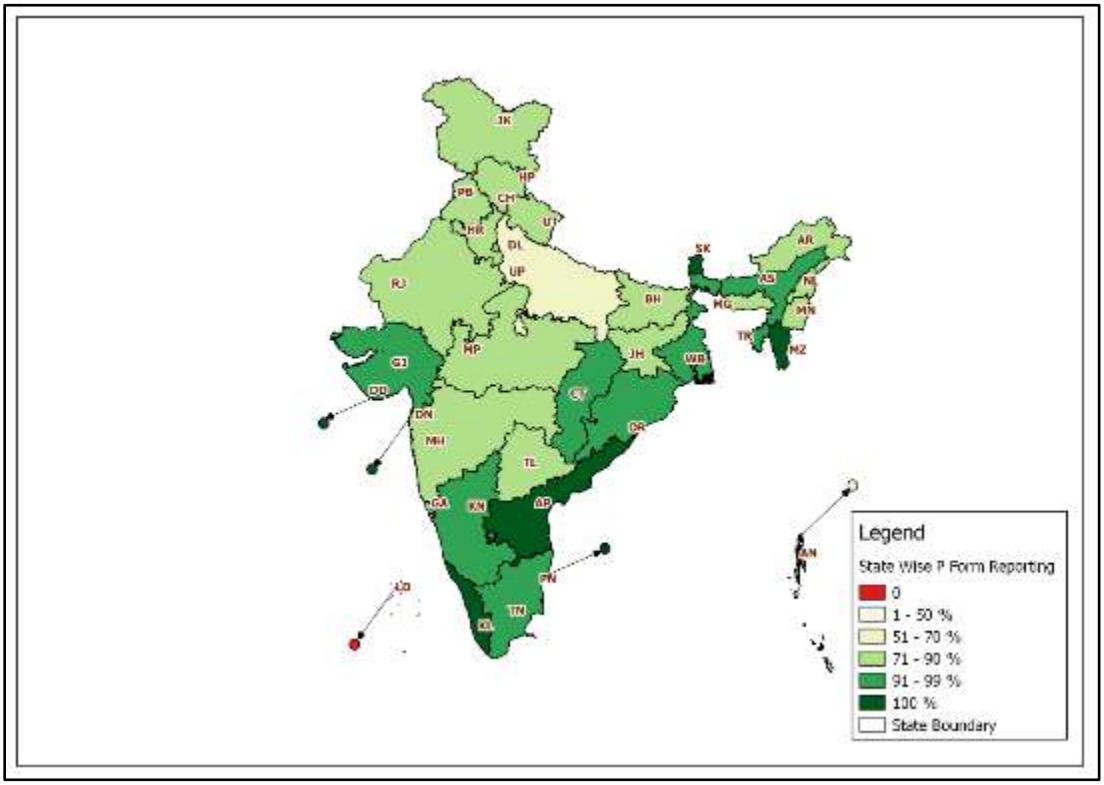


Fig 13: State/UT wise L form completeness % for March 2017

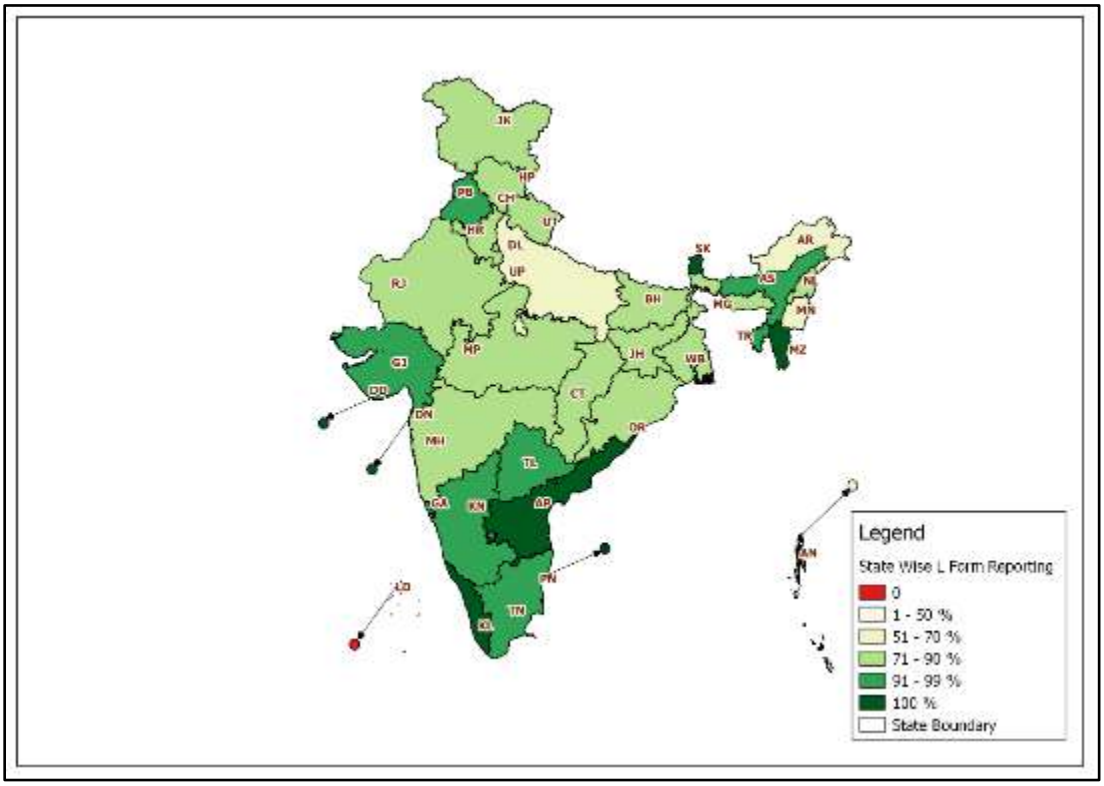


Fig 14: State/UT wise Presumptive Enteric fever cases and outbreaks for March 2017

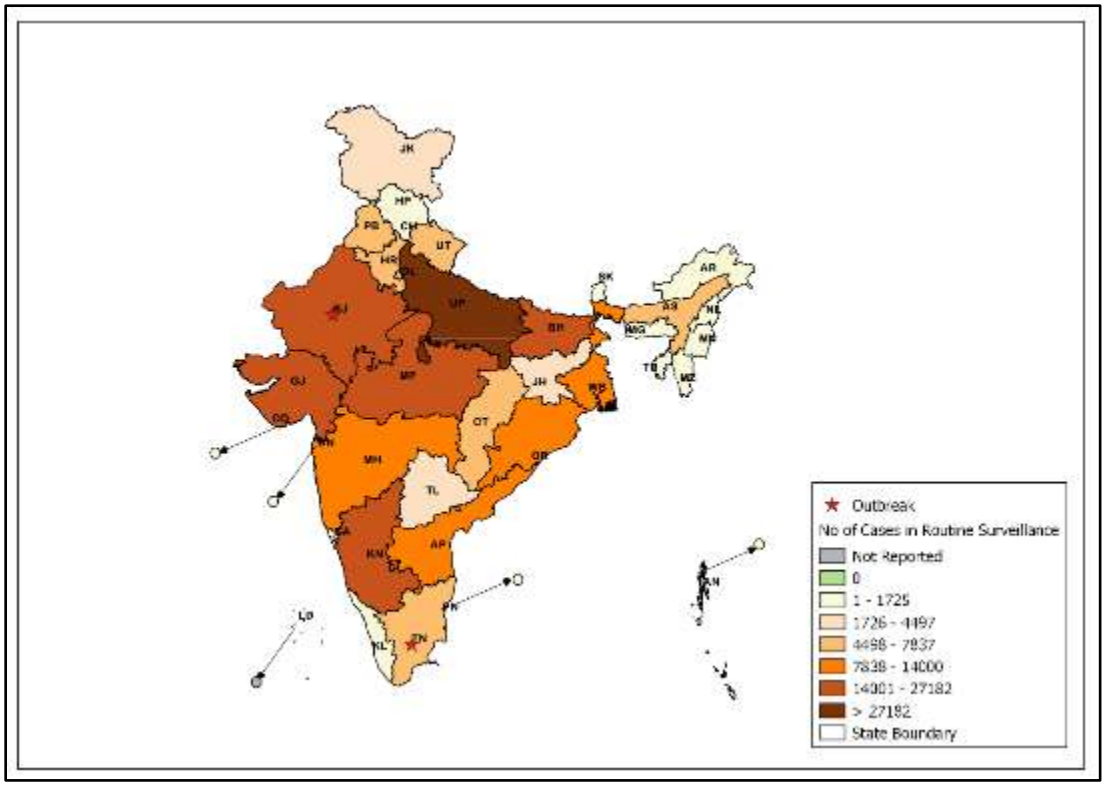


Fig 15: State/UT wise Lab Confirmed Enteric Fever cases and outbreaks for March 2017

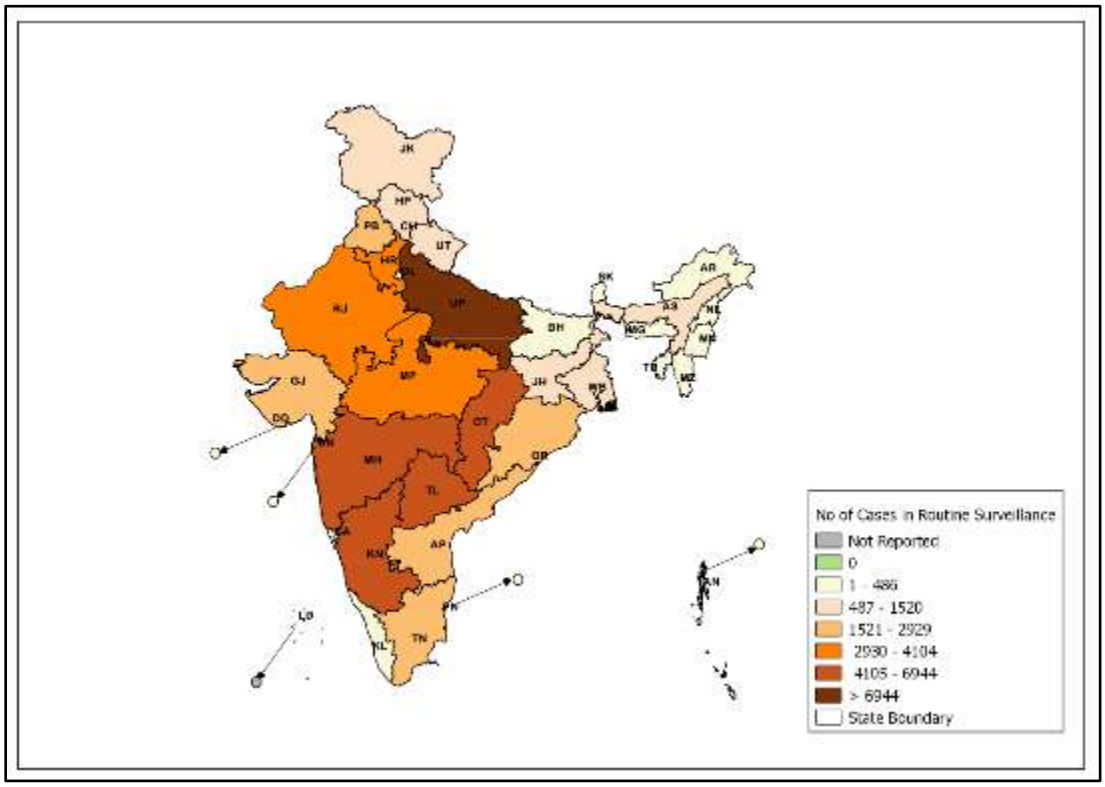


Fig 16: State/UT wise Presumptive ADD cases and outbreaks for March 2017

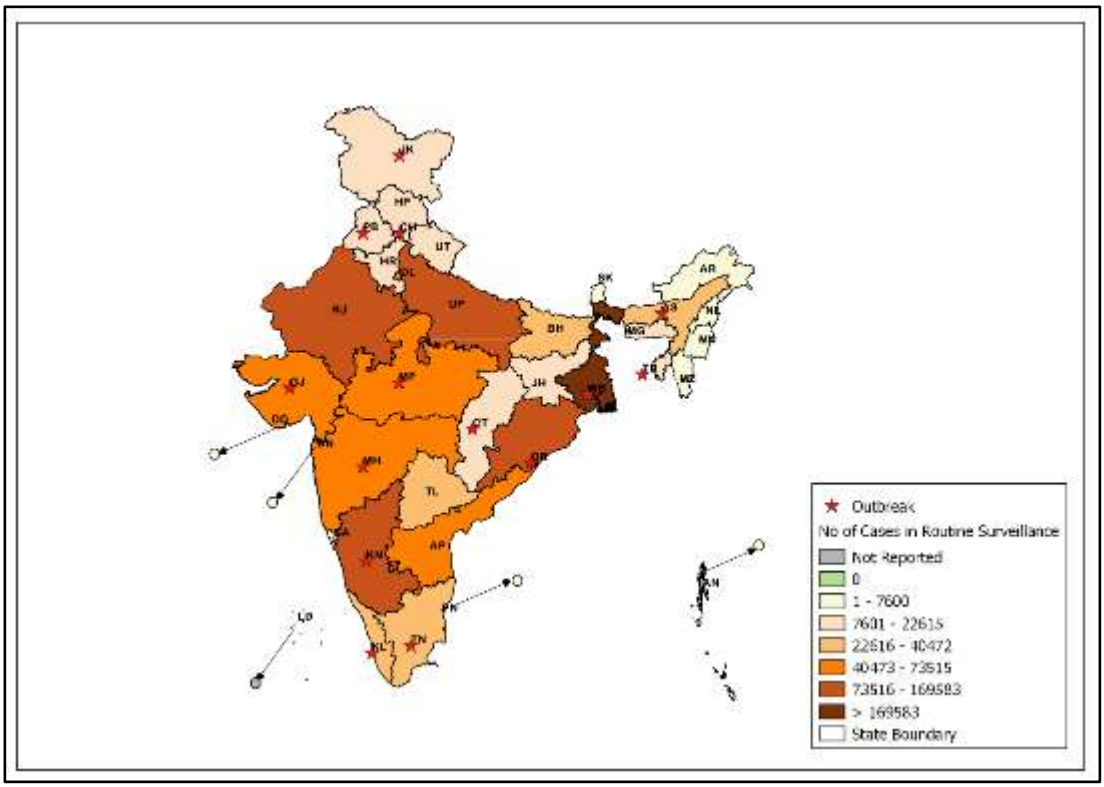


Fig 17: State/UT wise Lab Confirmed Cholera cases and outbreaks for March 2017

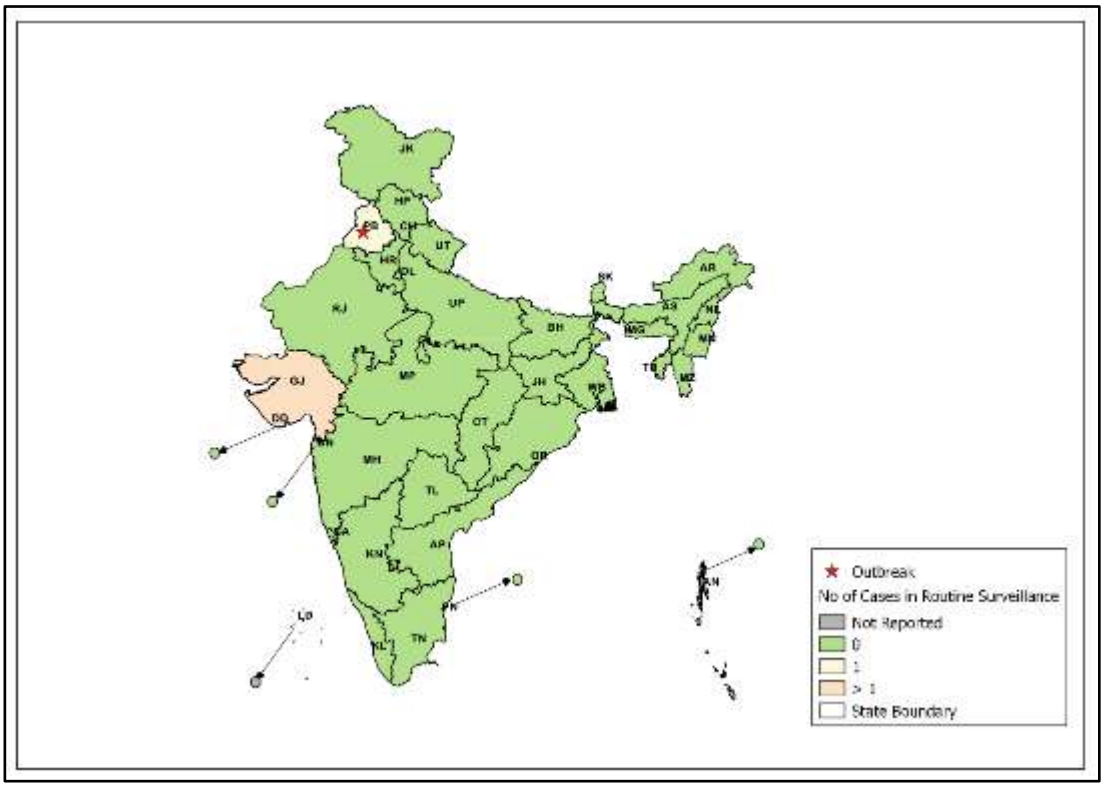


Fig 18: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for March 2017

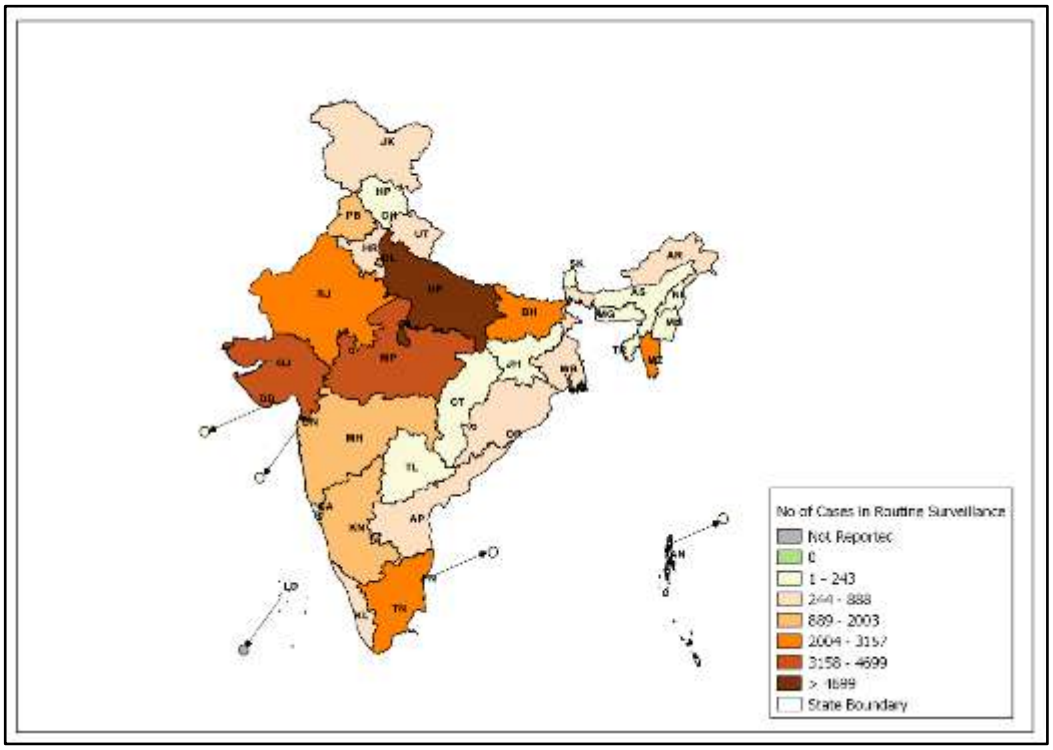


Fig 19: State/UT wise Lab confirmed Viral Hepatitis A cases and outbreaks for March 2017

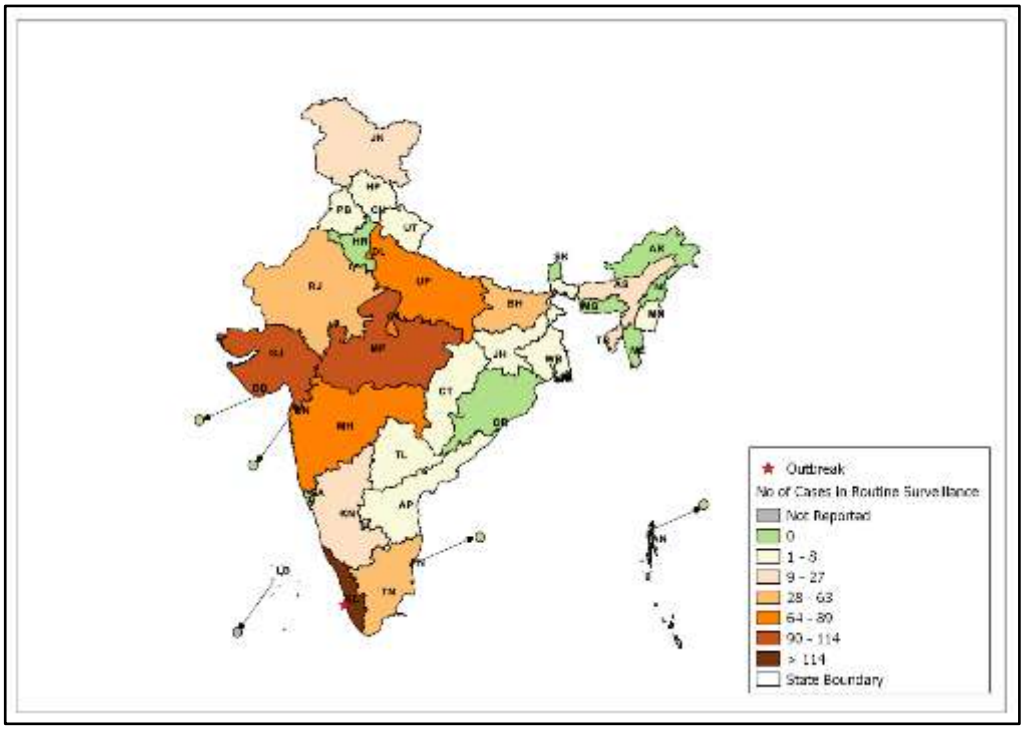


Fig 20: State/UT wise Lab confirmed Viral Hepatitis E cases for March 2017

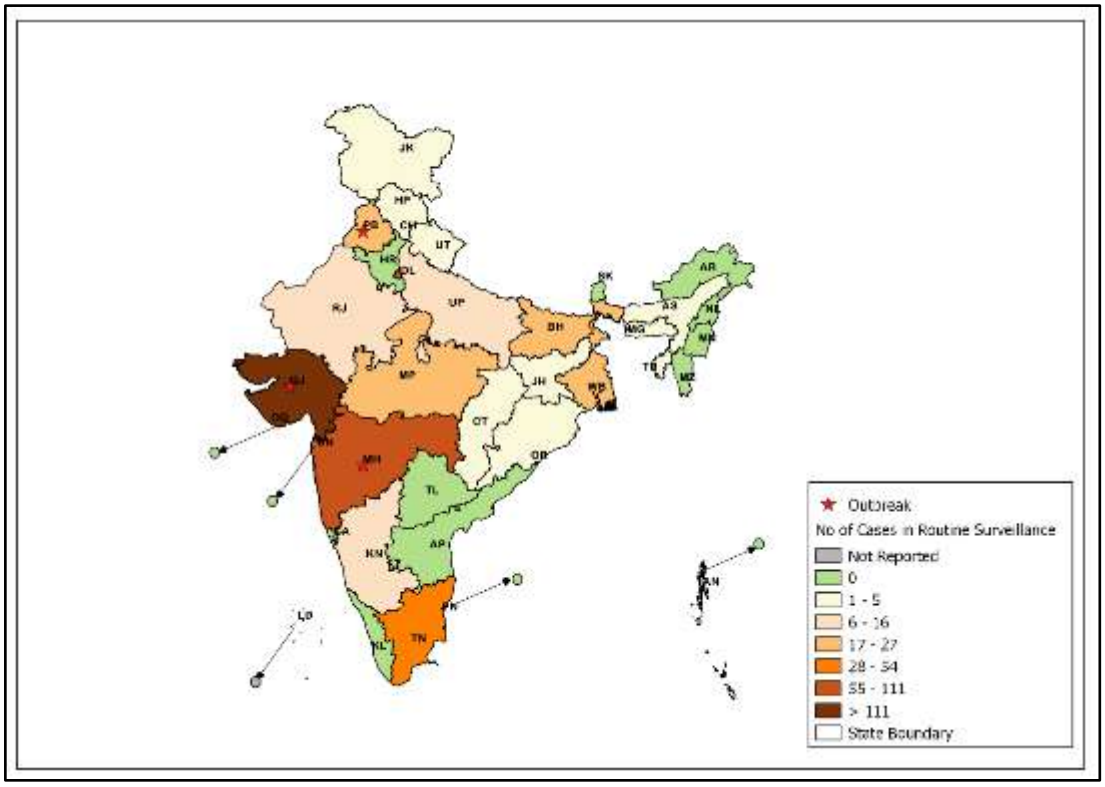


Fig 21: State/UT wise Presumptive Dengue cases & outbreaks for March 2017

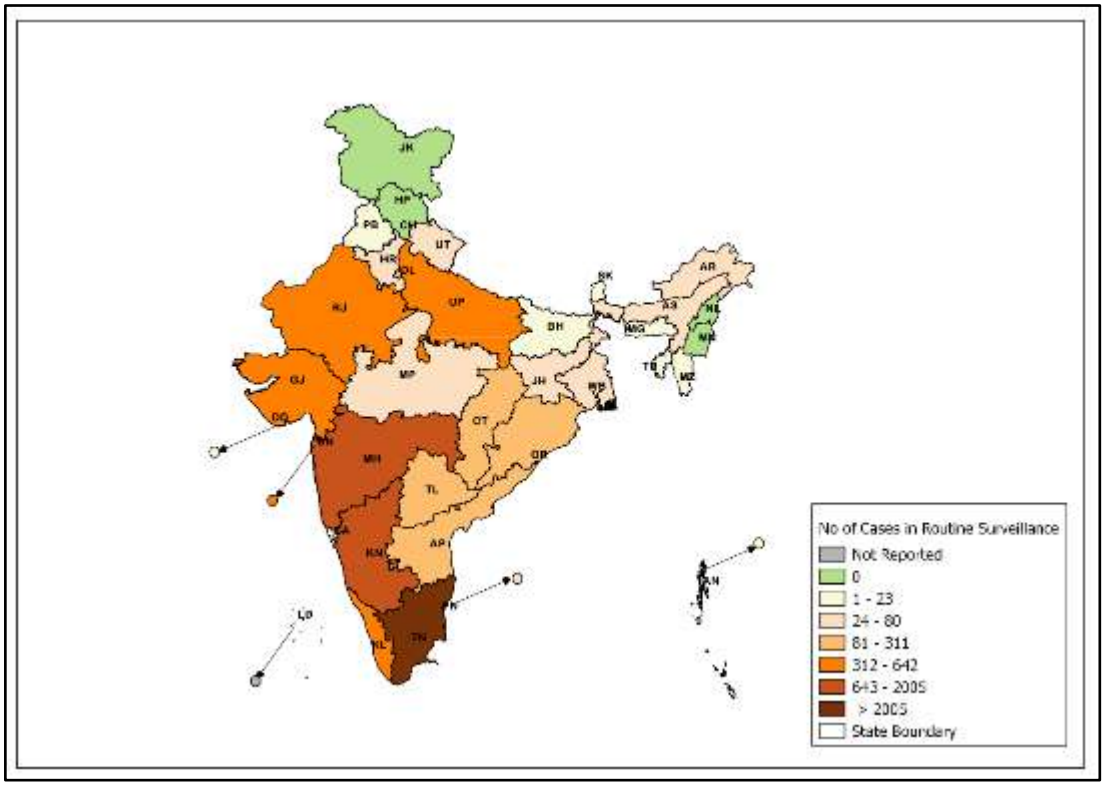


Fig 22: State/UT wise Lab confirmed Dengue cases & outbreaks for March 2017

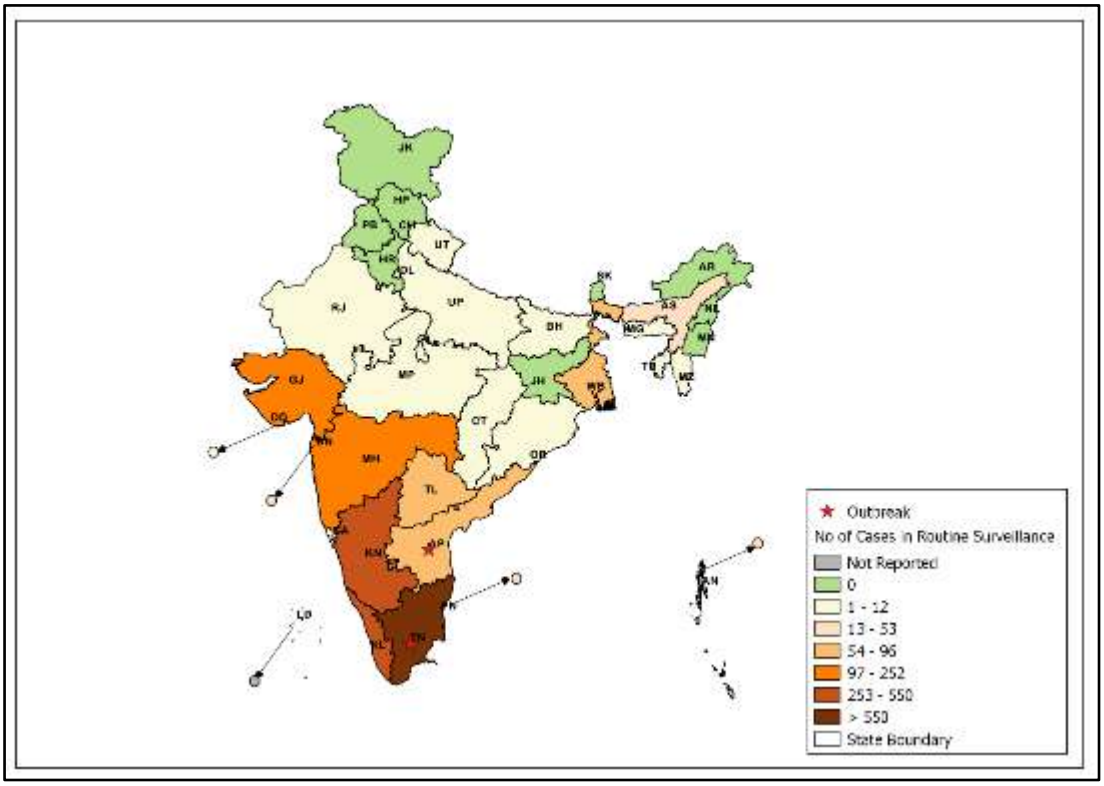


Fig 23: State/UT wise Presumptive Leptospirosis cases for March 2017

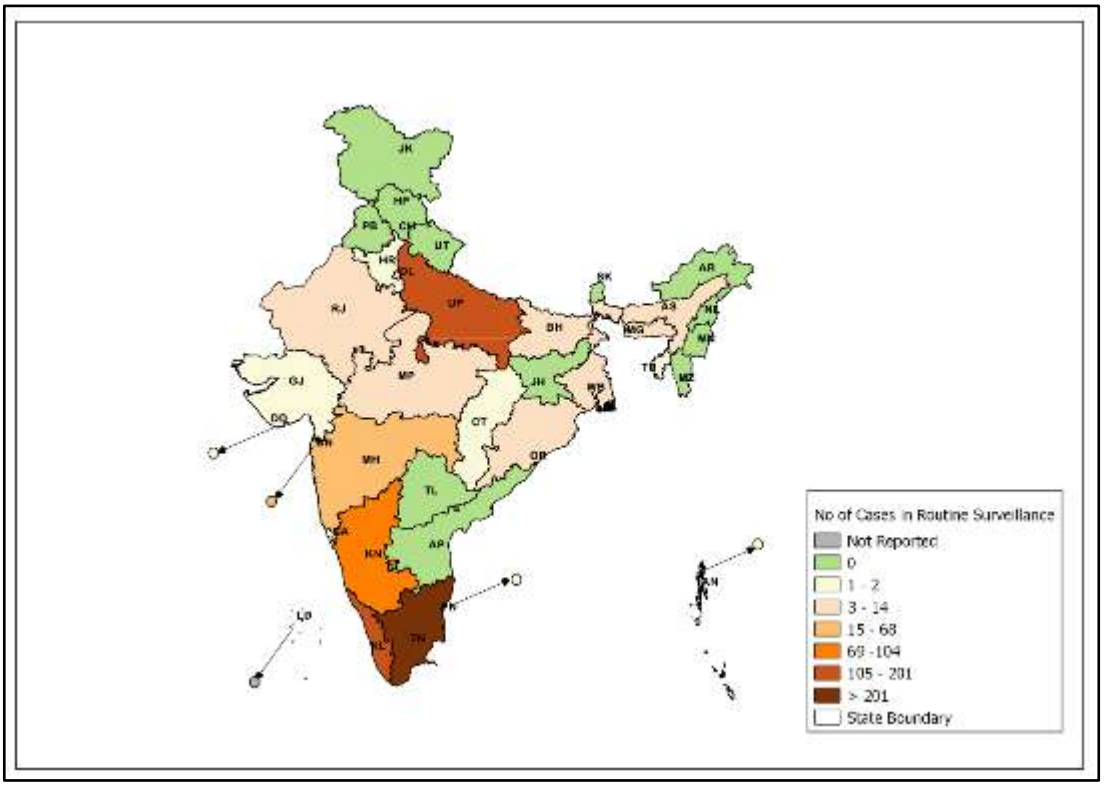


Fig 24: State/UT wise Lab Confirmed Leptospirosis cases & outbreaks for March 2017

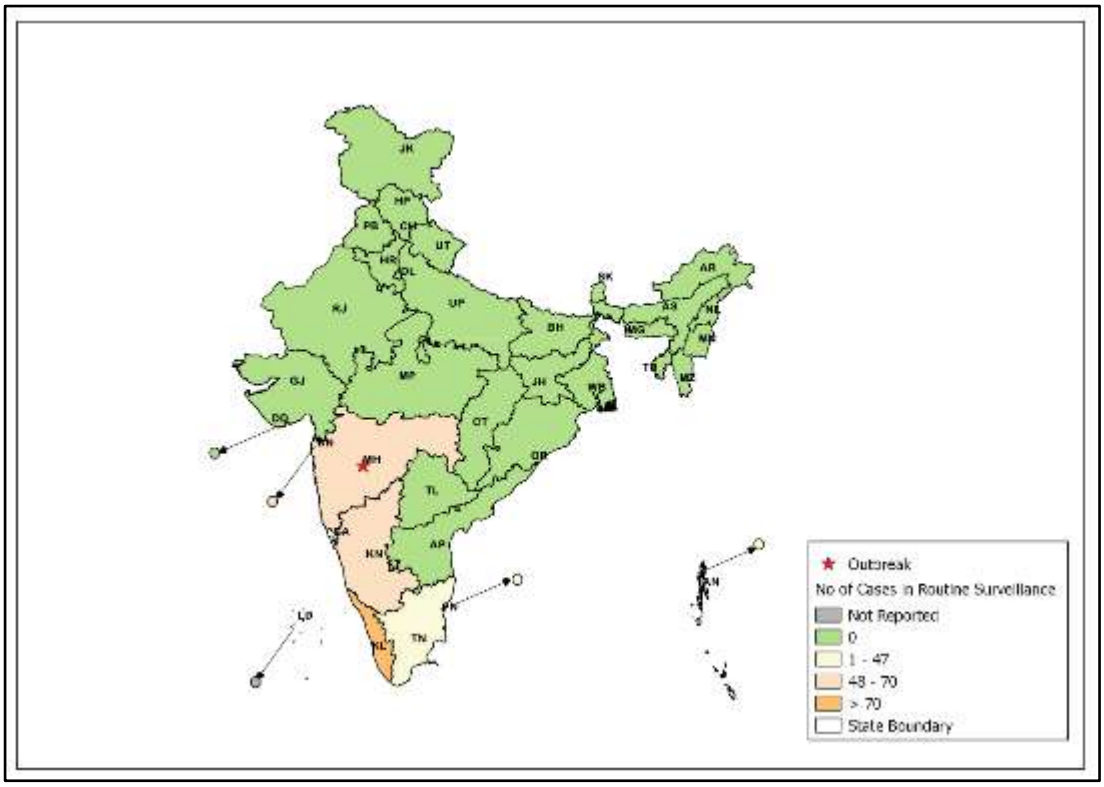


Fig 25: State/UT wise Presumptive Chikungunya cases & outbreaks for March 2017

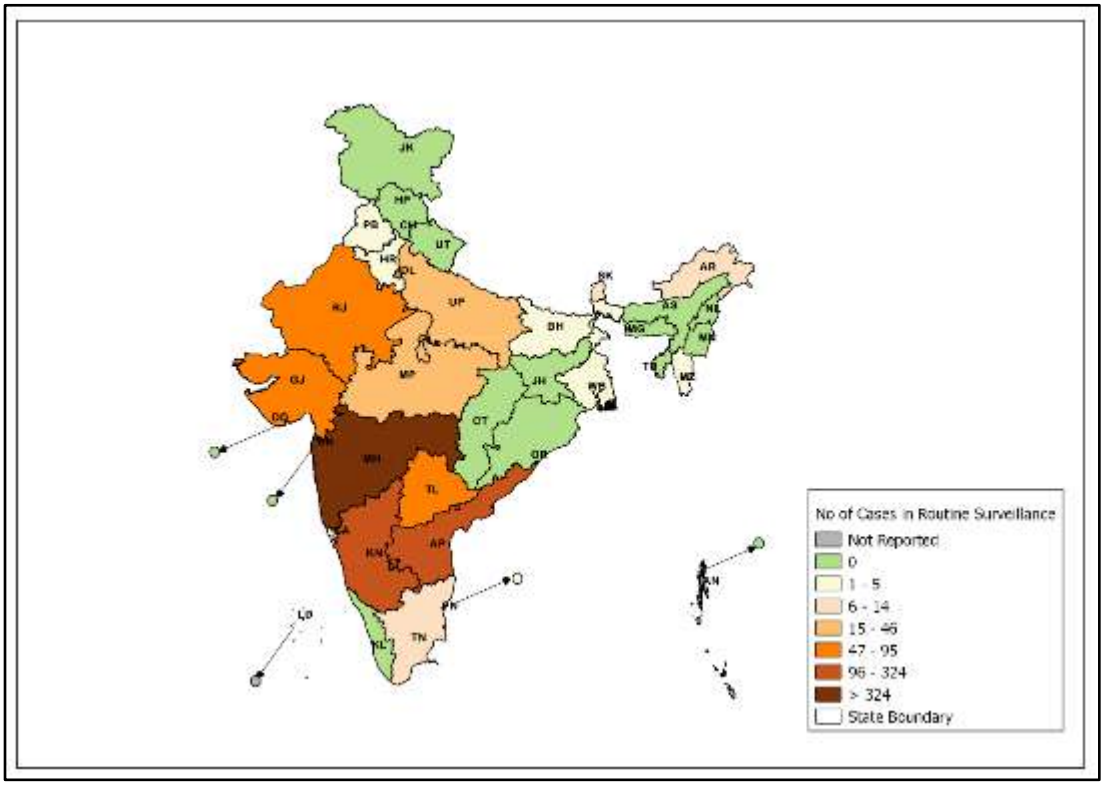


Fig 26: State/UT wise Lab Confirmed Chikungunya cases & outbreak for March 2017

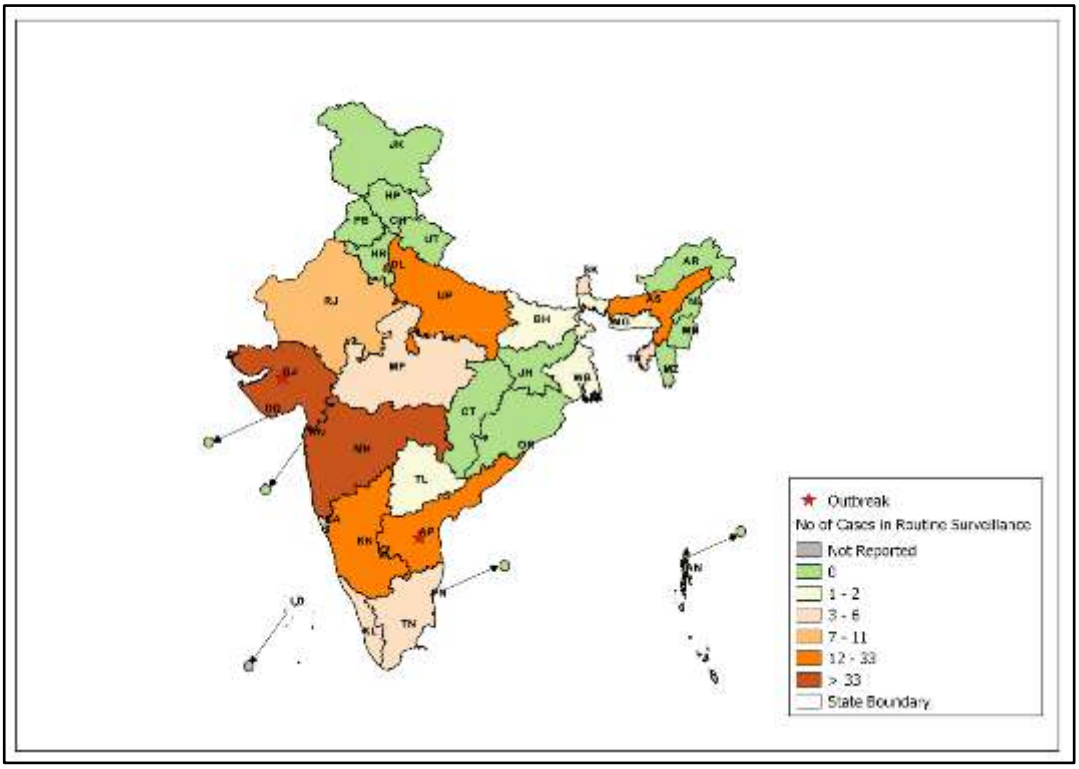
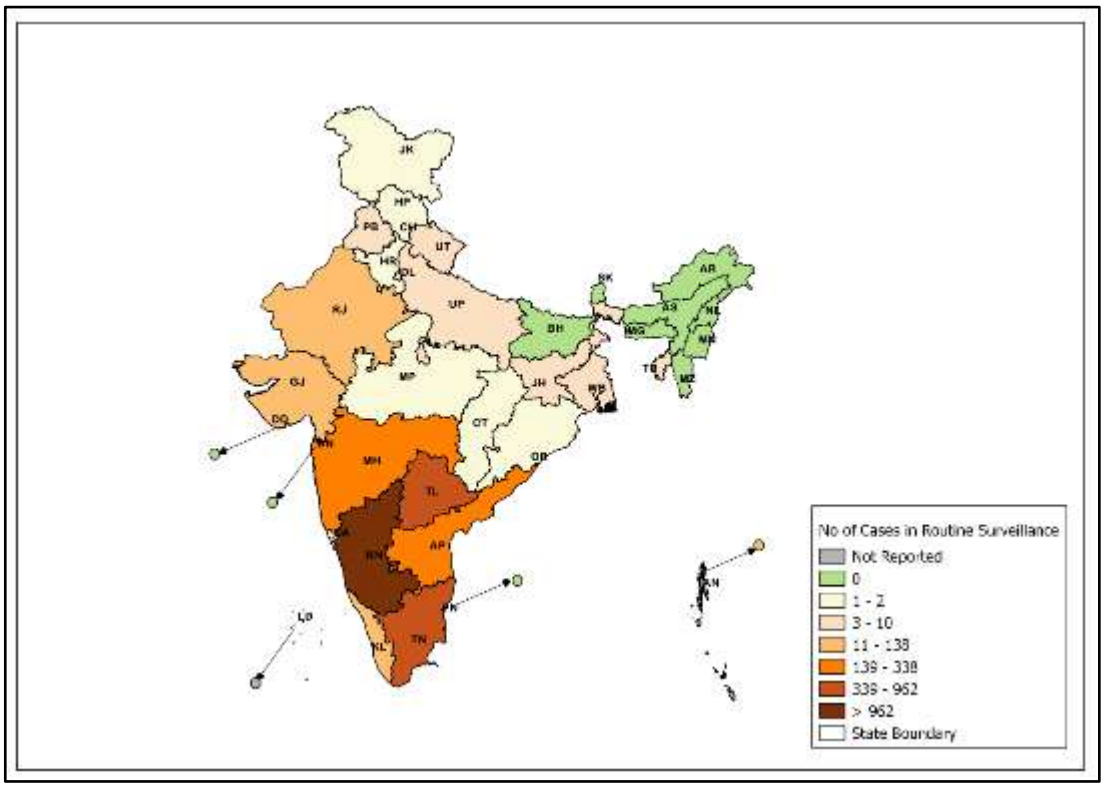


Fig 27: State/UT wise Influenza A (H1N1) cases & outbreak for March 2017



Action from the field

- A central team consisting of Dr Lata Kapoor Joint Director IDSP, Dr Nishant Kumar Deputy Director IDSP, Dr. Saurabh Goel Deputy Director IDSP, Dr. Uma Gupta Microbiologist CSU (IDSP), Ms. Pallavi Luthra Consultant IT CSU (IDSP), Mr. Indranil Chakravartti Consultant Finance CSU (IDSP), Ms. Stakshi Taryon, Consultant IT, CSU (IDSP) and Ms. Sujata Malhotra Data Manager CSU (IDSP) conducted an in-depth evaluation of IDSP implementation in State of Meghalaya from 20th March– 24th March' 2017.

- **VC session conducted between SSU and CSU through Web Conn NIC**

Central Team visited DSU, East Khasi Hills, Meghalaya

IDSP CSU Team visited to CHC Sohra, Meghalaya

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 leptospires 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 leptospires 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. A. C. Dhariwal Director NCDC, Dr. Pradeep Khasnobis NPO IDSP, Dr. Jyoti Deputy Director IDSP, Mr. Priyank Pandya Communication Officer IDSP, Ms. Ritu Malik Consultant GIS IDSP, Mr. Prasun Sharma Statistician-cum-Programmer IDSP, Ms. Sujata Malhotra Data Manager IDSP & Dr. Surbhi Seth Consultant- Epidemiology 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 & idsp-npo@nic.in

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