Issue - 6 Vol. 1

Disease Alert
प्रकोप चेतावनी

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

June 2016

Inside

OUTBREAK OF CUTANEOUS ANTHRAX – VILLAGE SOGRA, PAKARTAND BLOCK, DISTRICT SIMDEGA, JHARKHAND

Name of state:	:	Jharkhand
Health Block District	:	Simdega
Administrative Block	:	Pakartand
City	:	Simdega
Village	:	Sogra
Total population	:	550
Total population affected	:	9

Source of Information of Outbreak (As in EWS): ASHA

Date of Outbreak Reporting (As in EWS): 27.06.2016

Background

One suspected case of cutaneous anthrax was reported from pithiyartoli of Sogra village in private clinic of Dr. Jagdeesh Prasad, MOIC, CHC Simdega on 25th June 2016. Dr. Prasad provisionally diagnosed the case for anthrax and information was given to District Epidemiologist, Simdega and sent the patient to AFI Lab for laboratory confirmation. Information regarding new outbreak of anthrax in Sogra village of Simdega block was shared with SSO and State Epidemiologist. State Epidemiologist joined the district team immediately and helped in outbreak investigation. Blood, Urine as well as swab sample from cutaneous lesions were collected by the members of Manipal AFI centre. On the same day district as well as block level team went to the affected village for active surveillance. Eight (8) more cases were provisionally diagnosed for suspected anthrax. They had the history of handling and consumption of dead goat. All the samples collected from 9 suspected patients were sent to Manipal

Centre for Virus Research (MCVR), Manipal University Manipal for laboratory confirmation. Treatments to the suspected cases started with Ciprofloxacin & Doxycycline.

Simdega District Profile:

Simdega is a tribal district in western Jharkhand approximately 170 km away from the state capital Ranchi. It is situated between 200 10 min to 200 40 min north latitude and 840 0 to 840 34 East longitude sharing larger border with the states of Odisha and Chattisgarh. Simdega has a population of 0.6 million (Census 2011) spread in ten administrative blocks (Circles) namely (Simdega, Kurdeg, Bolba, Thethaitangar, Kolebira, Bano, Jaldega, Pakartanr, Bansjore and Kersai) served by seven health block facilities. There is only 6.6 percent urbanization with Simdega being the only town. Remaining population are mostly scheduled tribes residing in hills and undulating plateau with most of the population being scheduled tribes. In this district, males constitute 52% of the population and females 48% with 15% ofthe total population under 6 years of age. Simdega has an average literacy rate of 67.6%, lower than the national average of 74%: male literacy is 75.8%, and female literacy is 59.4%.

Methodology

Epidemiological investigation:

Outbreak investigation was started within 12 hours of the reporting by the rapid response team constituting following members:

S. No	Name	Designation
1.	Dr. Praveen Karn	State Epidemiologist
2.	Dr. Adhyayan Sharan	District Epidemiologist
3.	Dr. Birsa Uron	TVO, Simdega
4.	Dr. Jagdeesh Prasad	MO/ic CHC Simdega and his team
5.	Dr. Hemanth Kumar	Study Research Assistant Manipal AFI Centre, Simdega
6.	Mr. Prashant Bhatt	Study Lab Technician Manipal AFI Centre, Simdega

Active case search was done and hospital records were seen to identify probable cases. IDSP case definitions were used for this outbreak investigation.

Source of outbreak: Infected goat which died on 18.06.2016

Mode of transmission: Handling of dead animal infected with anthrax bacilli

Lab Investigation: Wound tissue, Blood and Urine samples of 9 cases were collected and sent to Manipal Centre for Virus Research (MCVR), Manipal University Manipal for PCR and Culture.

Results: A total of 9 cases were identified during active search.

Fig 1: Site map of Sogra village, Pakartand Block, District Simdega, Jharkhand

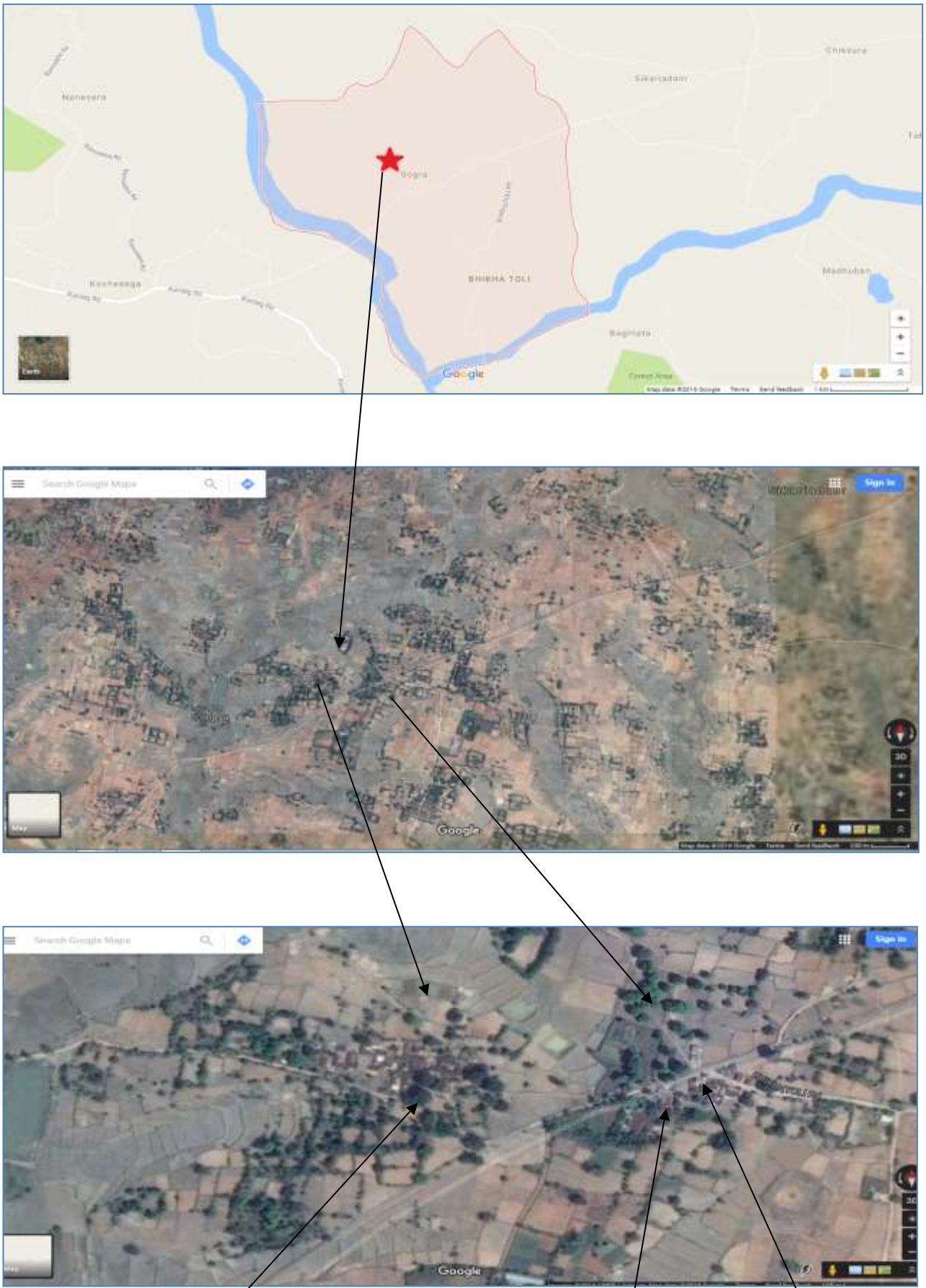


Fig 2. Time wise distribution of anthrax case, Epidemic Curve

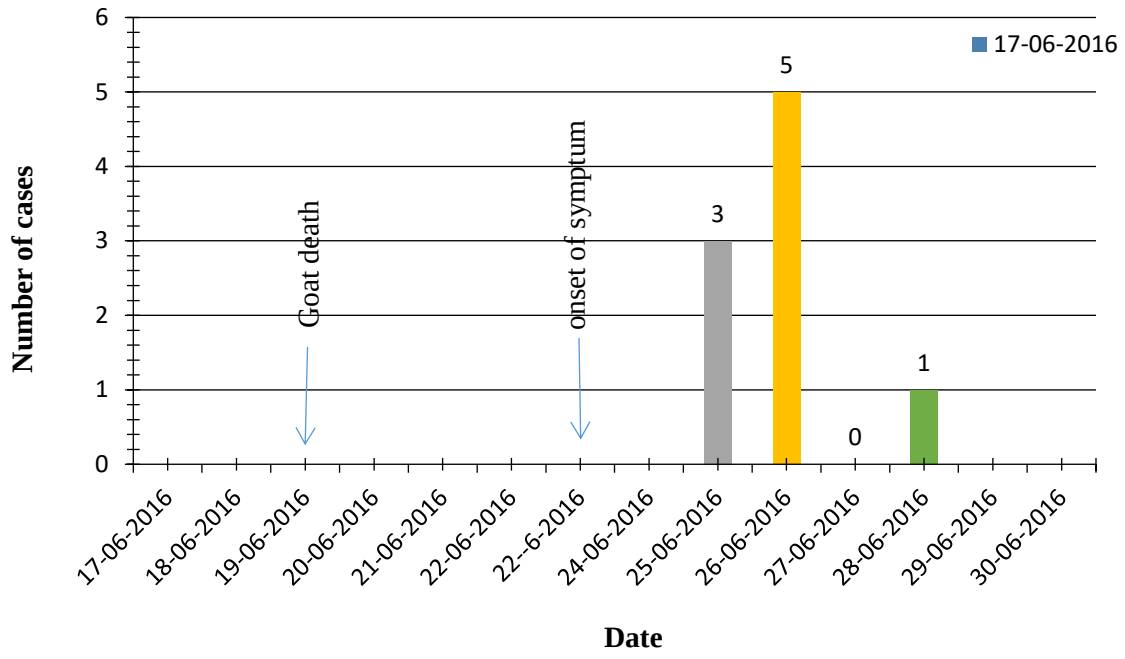


Fig 3. Age sex distribution of anthrax cases in sogra village

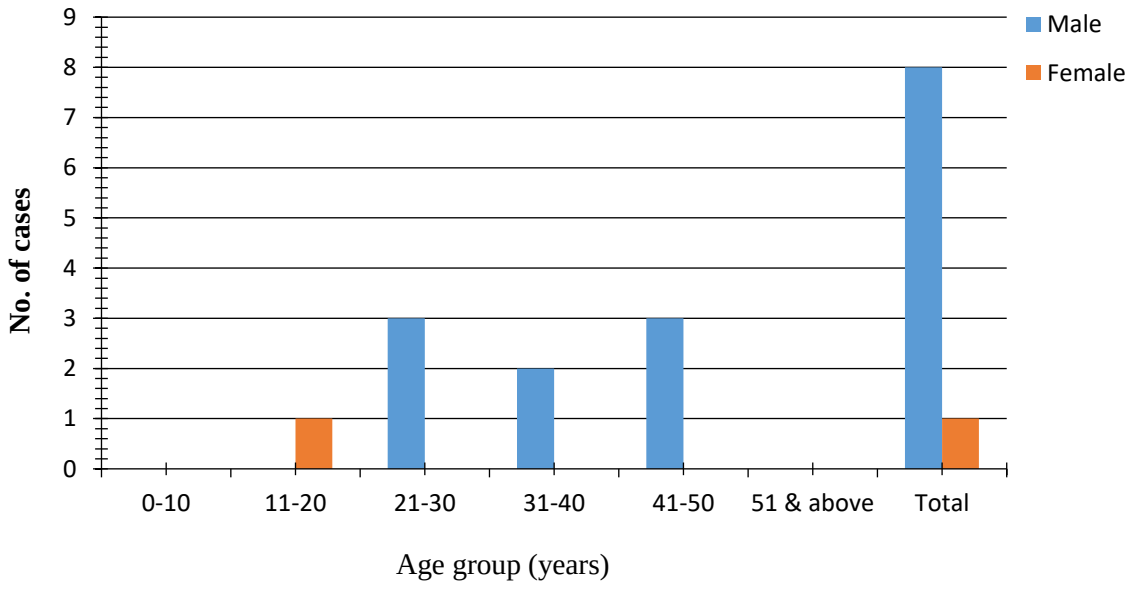
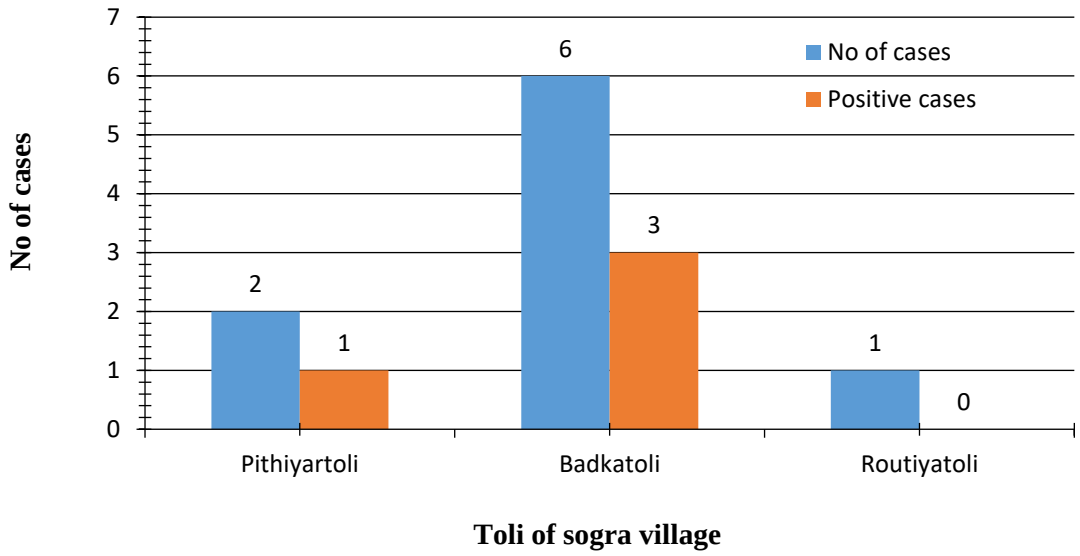


Fig 4. Area wise distribution of Anthrax cases



Results of samples sent at lab: Out of nine samples, 4 were found PCR positive and 3 samples positive for PCR were also found culture positive for anthrax bacilli.

Final Diagnosis

Index case was provisionally diagnosed as cutaneous anthrax on the basis of type of lesion and history provided by the patient. After laboratory examination with culture and PCR test, outbreak of cutanous anthrax was confirmed.

All cases provisionally diagnosed as cutaneous anthrax were treated with ciprofloxacin and Doxycyclin.

Control measures that were taken to curb outbreak:

IEC provided vide pamplets, wall writing, education etc from Health department, veterinary department as well as district and block administration. Vaccinations of live stocks were also done in and around the affected area by veterinary personals. Prophylactic dose of Ciprofloxacin were also distributed among healthy human contacts.

Contribution from other sectors: Vaccination of live stocks as well as IEC was also performed by Animal Husbandry Department of Simdega. Education regarding anthrax disease was also performed by PRI members. Simdega is a tribal district and have a social culture amongst villager to consume dead animal meat frequently and use animal skin for making drum and trading. In the view of this context, District Collector Simdega also provides written instructions to all Block Development Officer's of Simdega for providing Salt and clime to villagers at panchayat level through Mukhiya at the time of burial of dead animal.

Conclusion

The outbreak was confirmed to be due to handling of the infected dead goat died on 18th June 2016. The cutaneous lesion was first seen on the hand of a man (handler of dead goat and resident of sogra pithiyartoli) on 22nd June 2016.

Fig 6: Health camp in Sogra village, Pakartand Block, District Simdega, Jharkhand

Final outbreak report prepared by

Dr. Adhyayan Sharan
District Epidemiologist
IDSP, Simdega

Dr. P.S. Linda
District Surveillance Officer
IDSP, Simdega

Dr. Praveen Karn
State Epidemiologist
IDSP, Jharkhand

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue and Leptospirosis During June 2014-2016*

* Data extracted from IDSP Portal (www.idsp.nic.in) as on November 03; 2016.

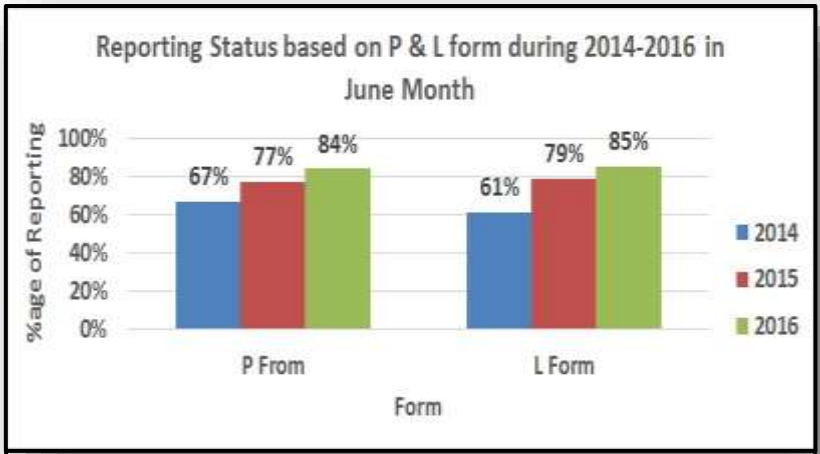


Fig. 7: Reporting Status based on P & L form during June 2014-2016

As shown in fig 7, in June 2014, 2015 and 2016, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 67 %, 77% and 84% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 61%, 79% and 85% 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.

As shown in fig 8, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 183000 in June 2014; 181967 in June 2015 and 222459 in June 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2014; 309677 samples were tested for Enteric fever, out of which 52507 were found positive. In June 2015; out of 355294 samples, 53899 were found to be positive and in June 2016, out of 449350 samples, 64086 were found to be positive.

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

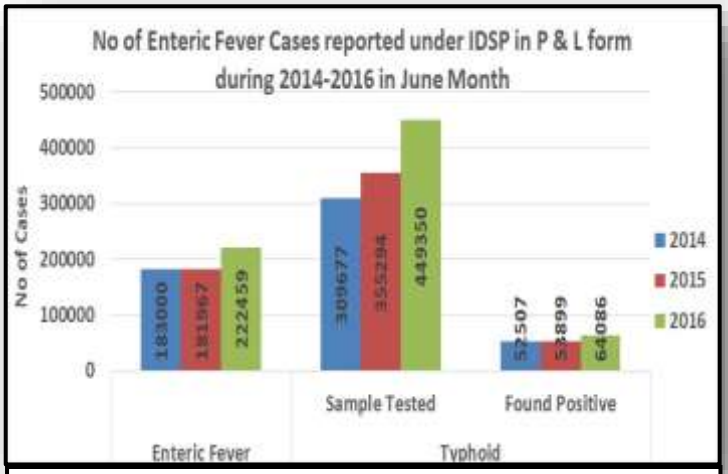


Fig. 8: No. of Enteric Fever Cases reported under P & L form during June 2014-2016

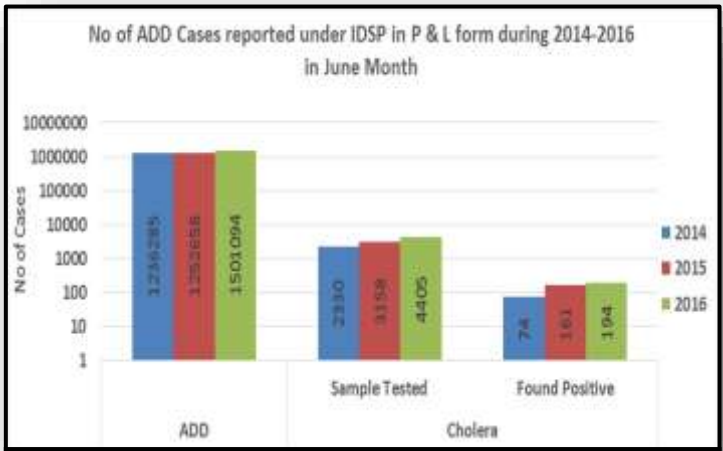


Fig. 9: No. of ADD Cases reported under IDSP in P form & Lab confirmed Cholera cases in L form during June 2014-2016

As shown in fig 9, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1236285 in June 2014; 1252658 in June 2015 and 1501094 in June 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2014, 2330 samples were tested for Cholera out of which 74 tested positive; in June 2015, out of 3158 samples, 161 tested positive for Cholera and in June 2016, out of 4405 samples, 194 tested positive

As shown in fig 10, the number of presumptive Viral Hepatitis cases was 27173 in June 2014, 22332 in June 2015 and 22332 in June 2016. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in June 2014; 18372 samples were tested out of which 1176 were found positive. In June 2015; out of 15498 samples, 1306 were found to be positive and in June 2016, out of 18565 samples, 1343 were found to be positive.

As reported in L form for Viral Hepatitis E, in June 2014; 5457 samples were tested out of which 715 were found positive. In June 2015; out of 5700 samples, 526 were found to be positive and in June 2016, out of 8699 samples, 760 were found to be positive.

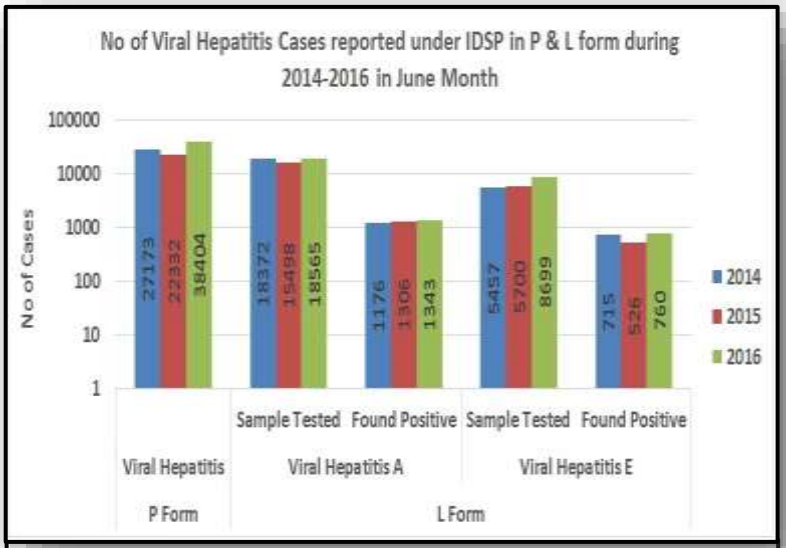


Fig. 10: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during June 2014-2016

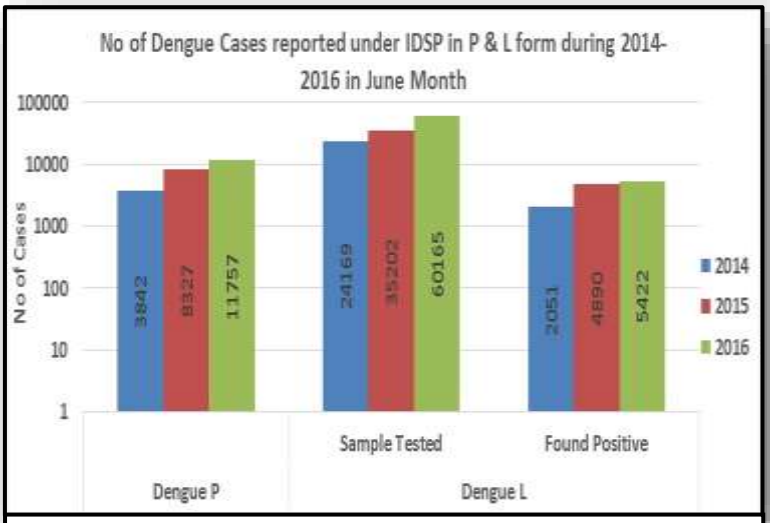


Fig. 11: No. of Dengue Cases reported under IDSP in P & L form during June 2014-2016

As shown in fig 11, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 3842 in June 2014; 8327 in June 2015 and 11757 in June 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2014; 24169 samples were tested for Dengue, out of which 2051 were found positive. In June 2015; out of 35202 samples, 4890 were found to be positive and in June 2016, out of 60165 samples, 5422 were found to be positive.

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 12, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 446 in June 2014; 726 in June 2015 and 954 in June 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2014; 8173 samples were tested for Leptospirosis, out of which 232 were found positive. In June 2015; out of 7217 samples, 202 were found to be positive and in June 2016, out of 14829 samples, 406 were found to be positive.

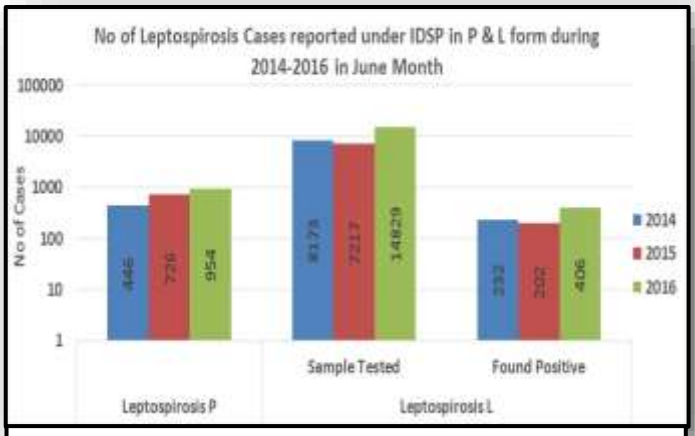


Fig. 12: No. of Leptospirosis Cases reported under IDSP in P & L form during June 2014-2016

Fig 8: State/UT wise P form completeness % for June 2016

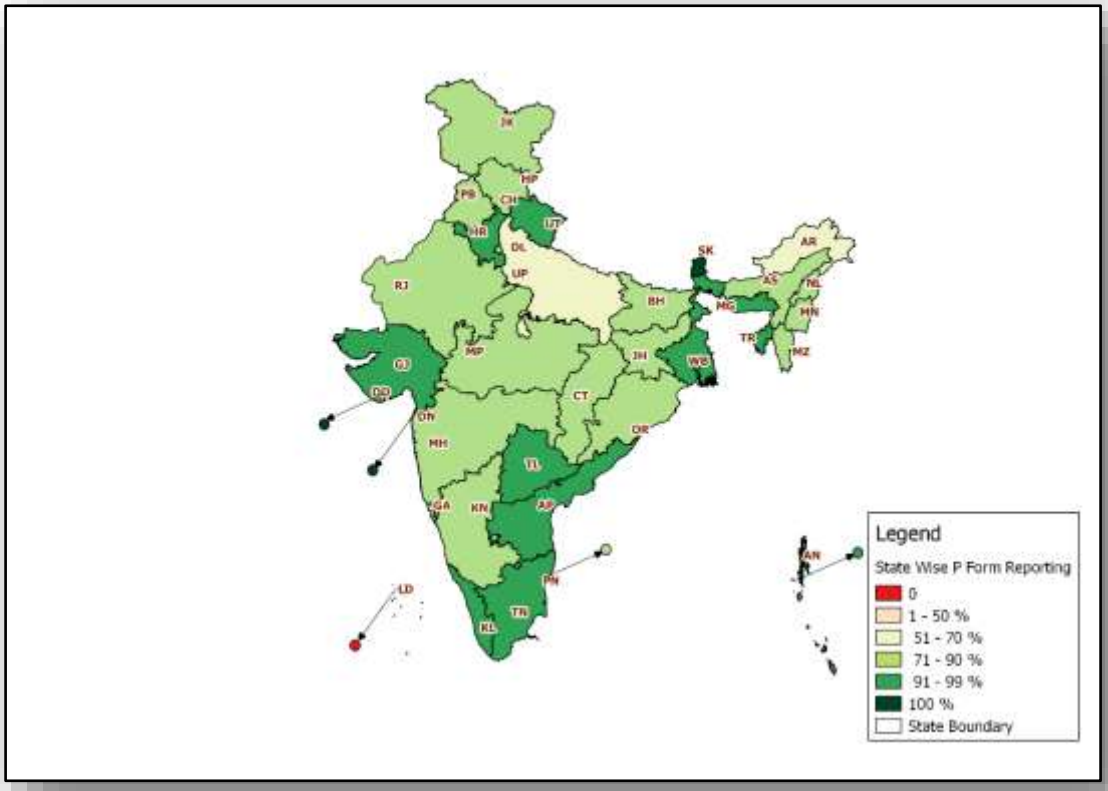


Fig 9: State/UT wise L form completeness % for June 2016

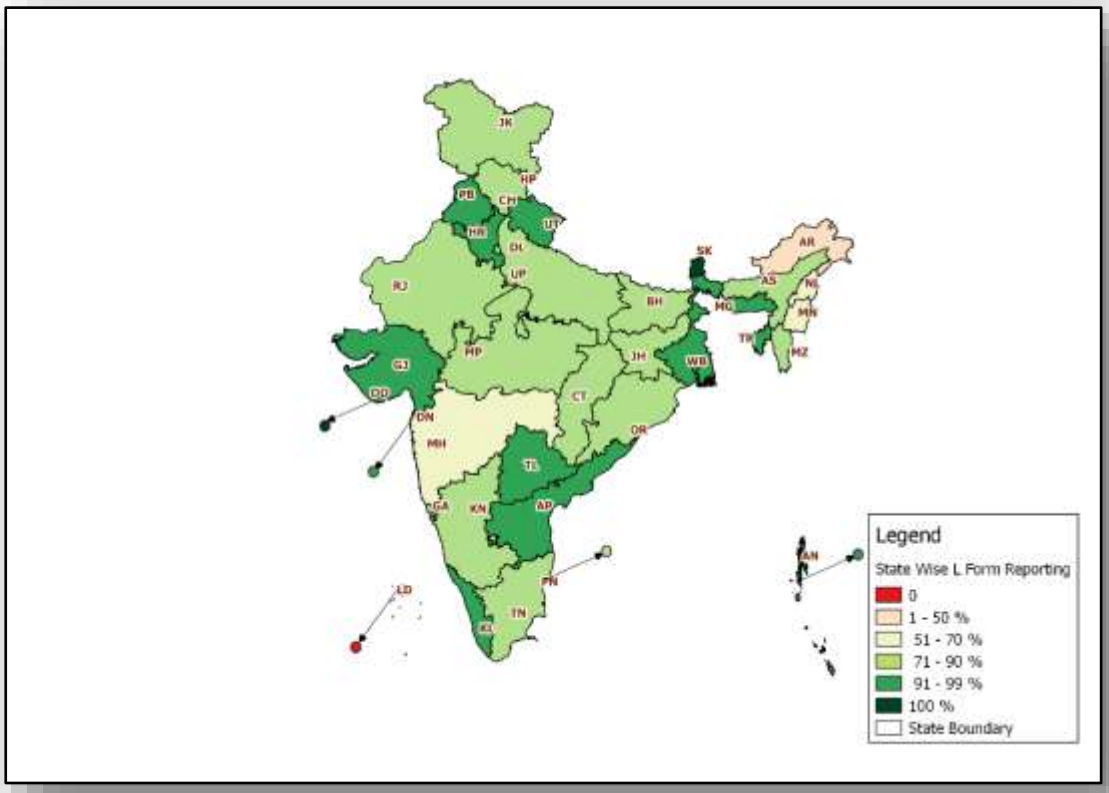


Fig 10: State/UT wise Presumptive Enteric fever cases and outbreaks for June 2016

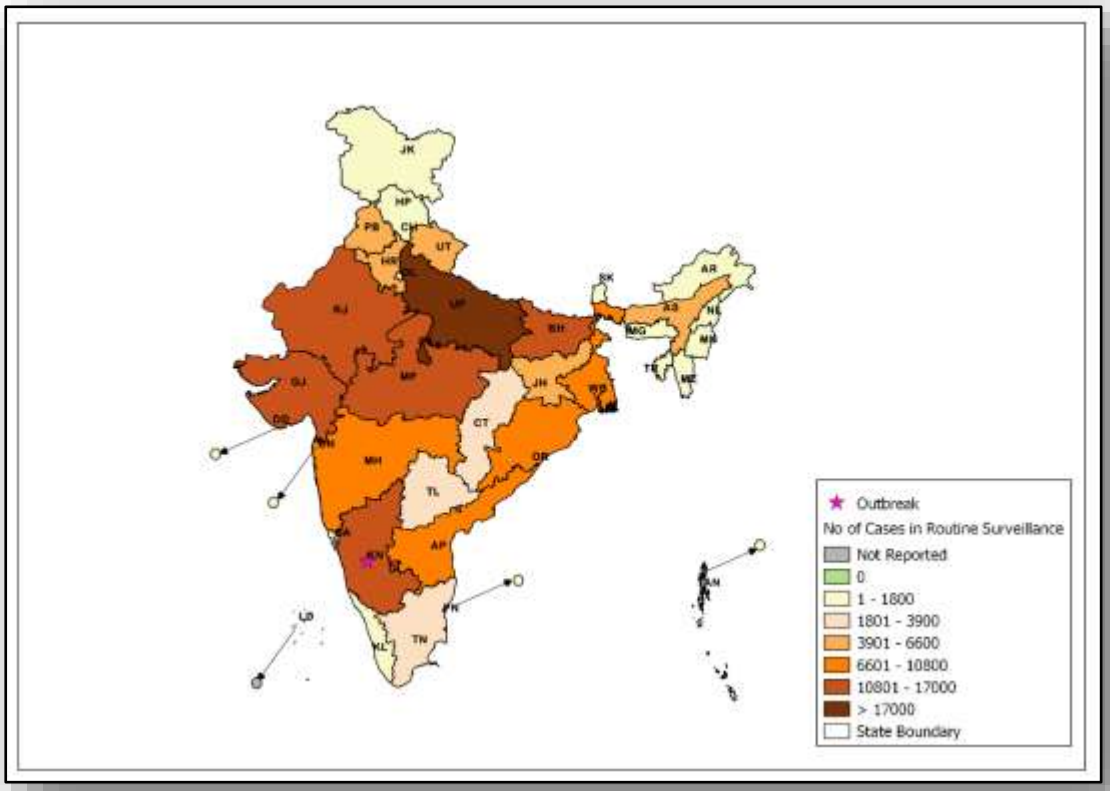


Fig 11: State/UT wise Lab Confirmed Enteric Fever cases and outbreaks for June 2016

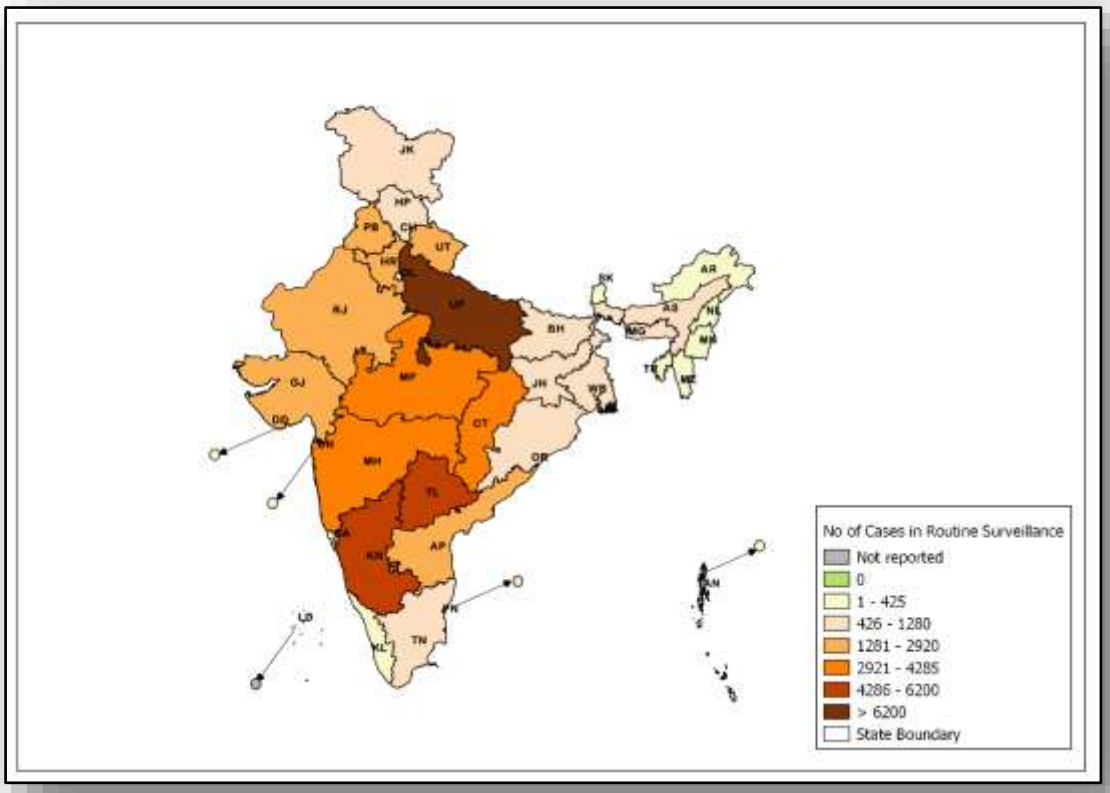


Fig 12: State/UT wise Presumptive ADD cases and outbreaks for June 2016

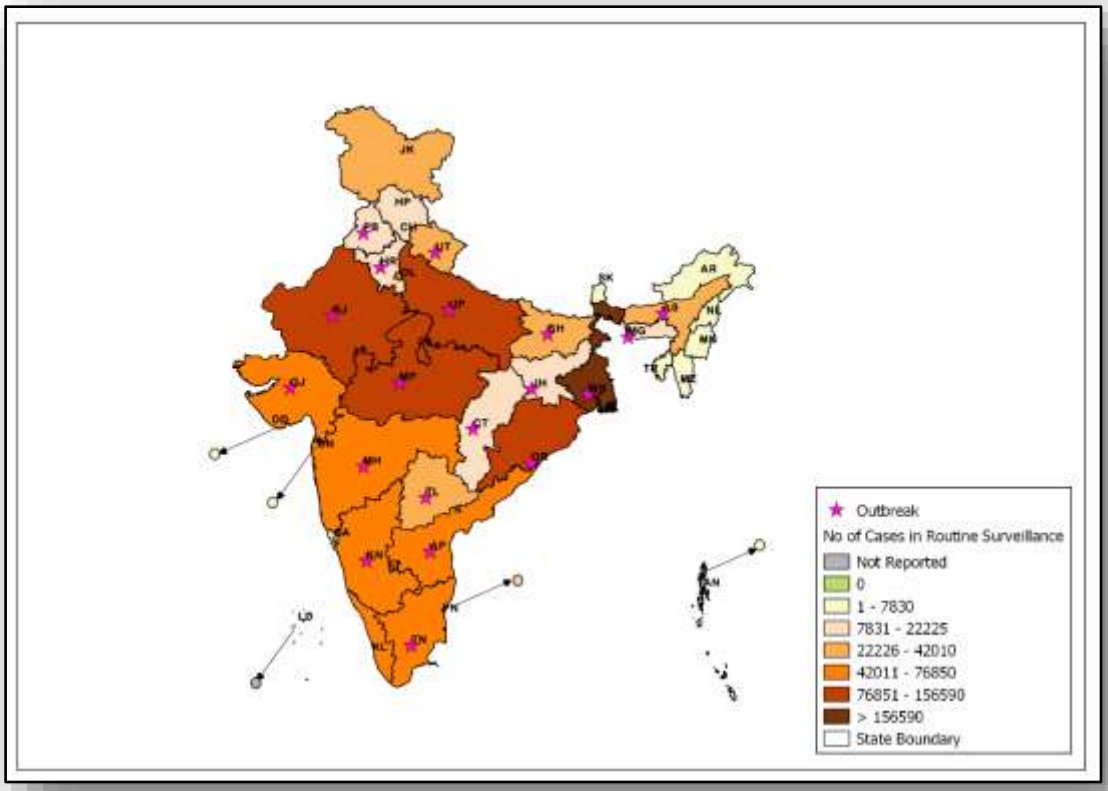


Fig 13: State/UT wise Lab Confirmed Cholera cases and outbreaks for June 2016

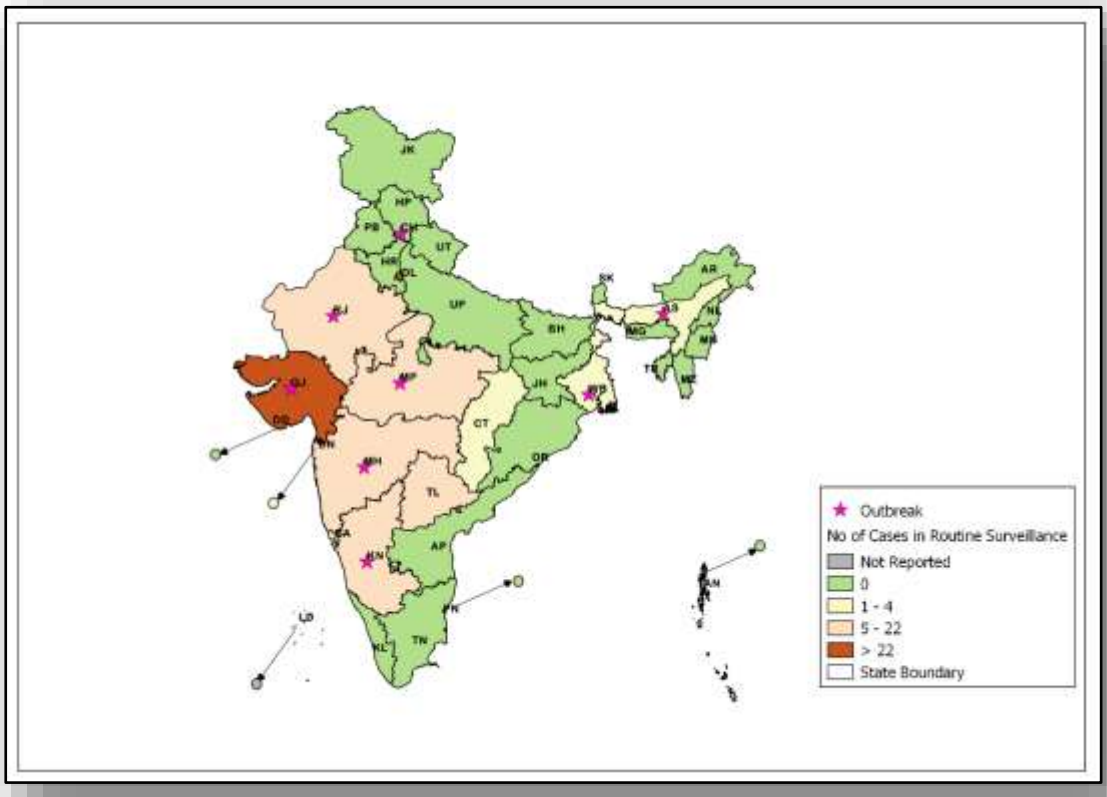


Fig 14: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for June 2016

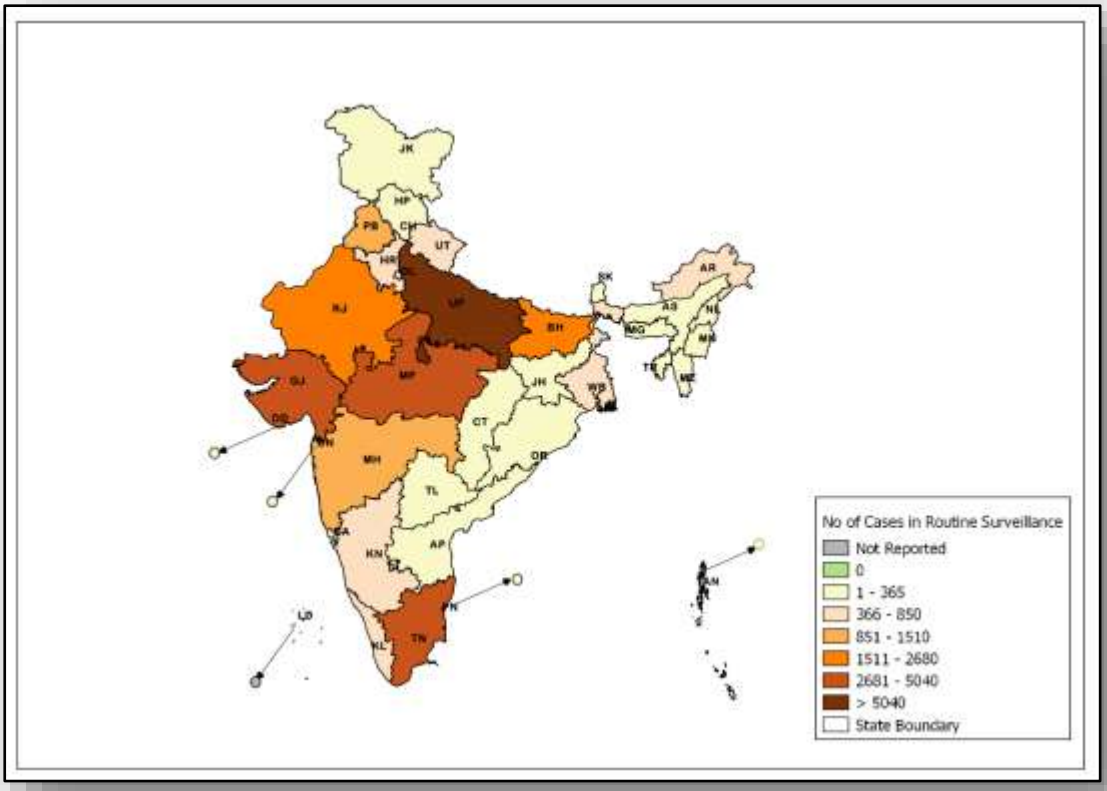


Fig 15: State/UT wise Lab confirmed Viral Hepatitis A cases for June 2016

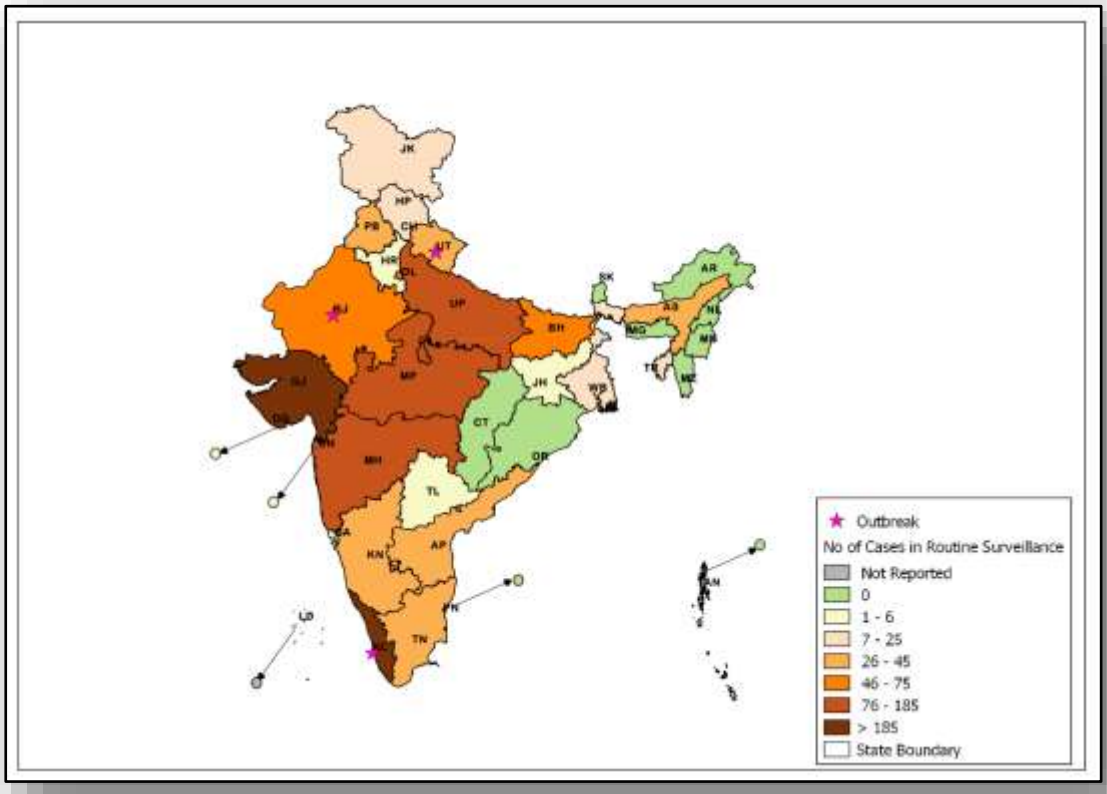


Fig 16: State/UT wise Lab confirmed Viral Hepatitis E cases for June 2016

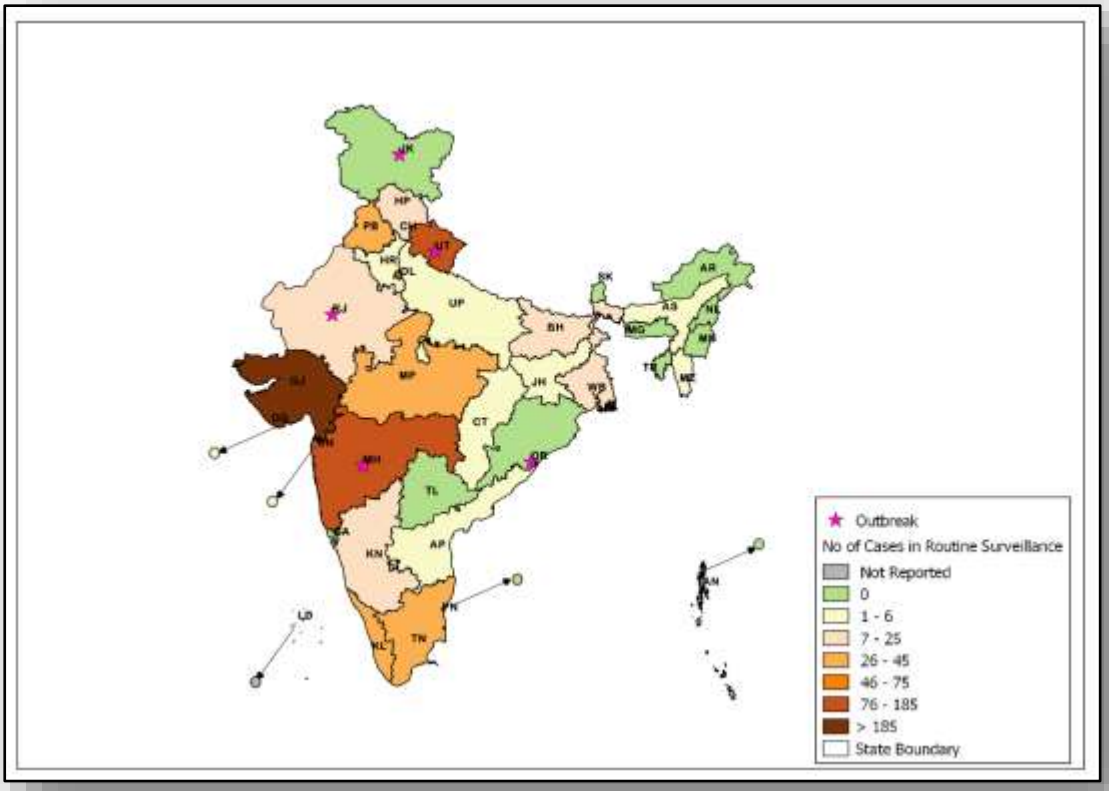


Fig 17: State/UT wise Presumptive Dengue cases & outbreaks for June 2016

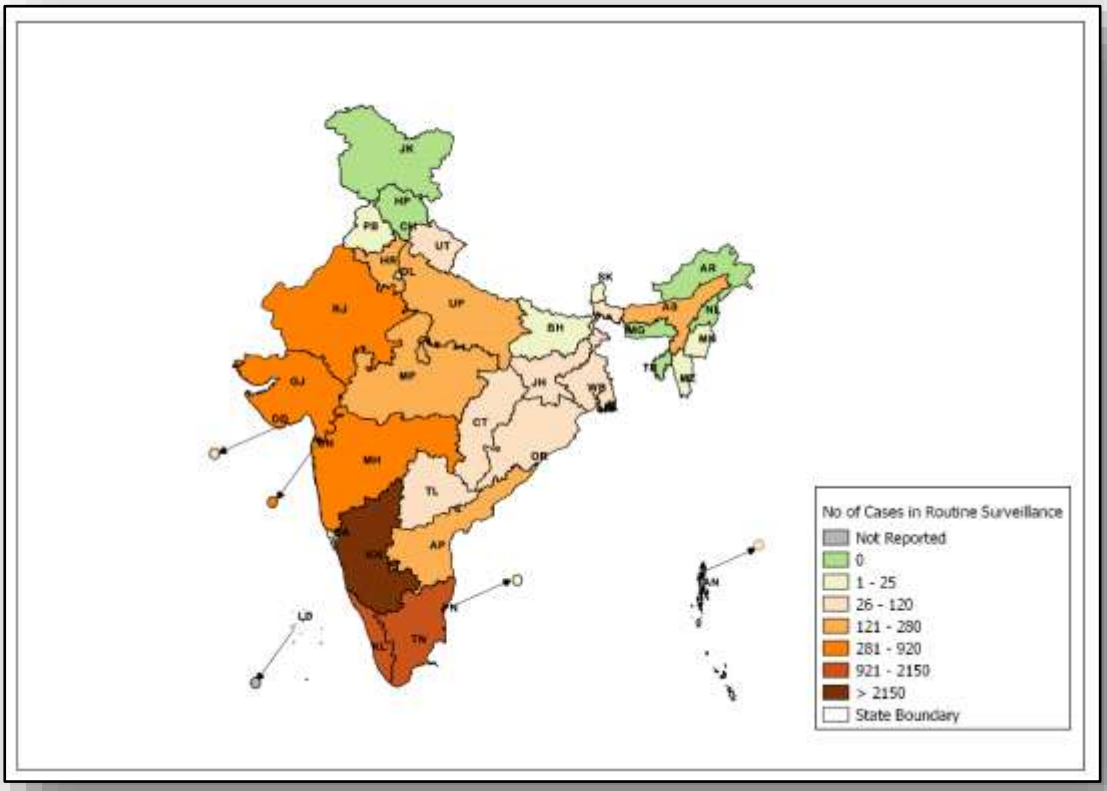


Fig 18: State/UT wise Lab confirmed Dengue cases for June 2016

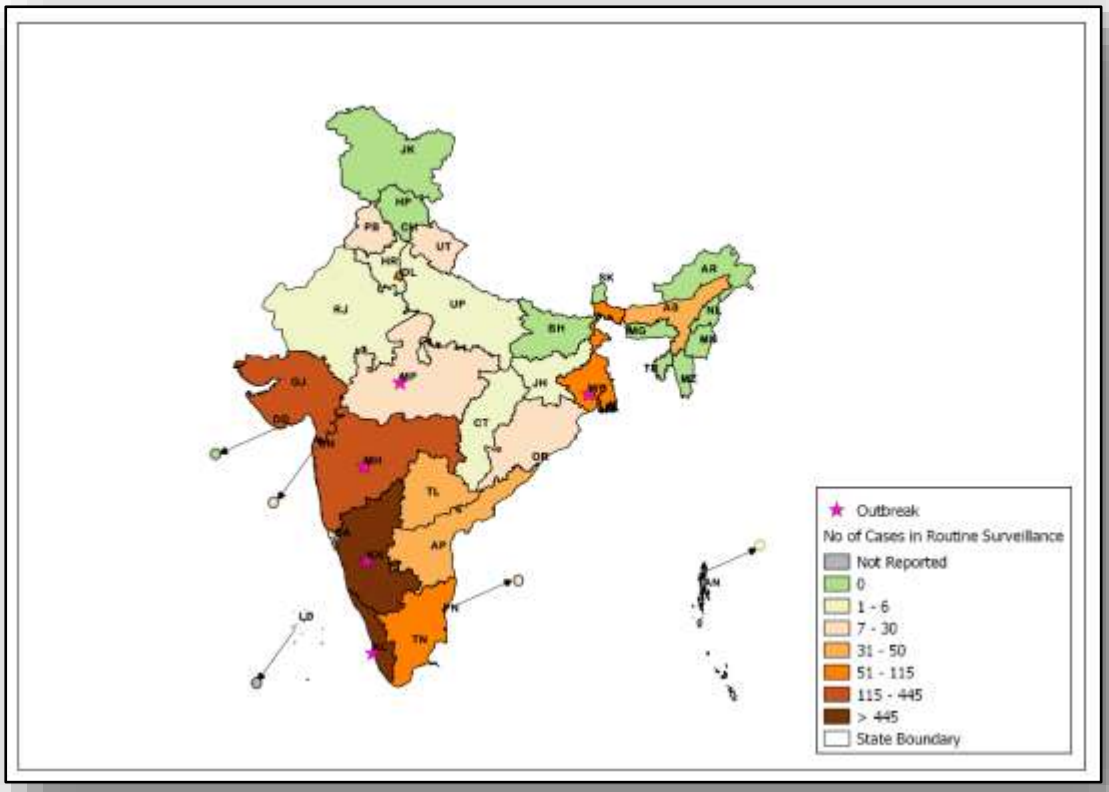


Fig 19: State/UT wise Presumptive Leptospirosis cases for June 2016

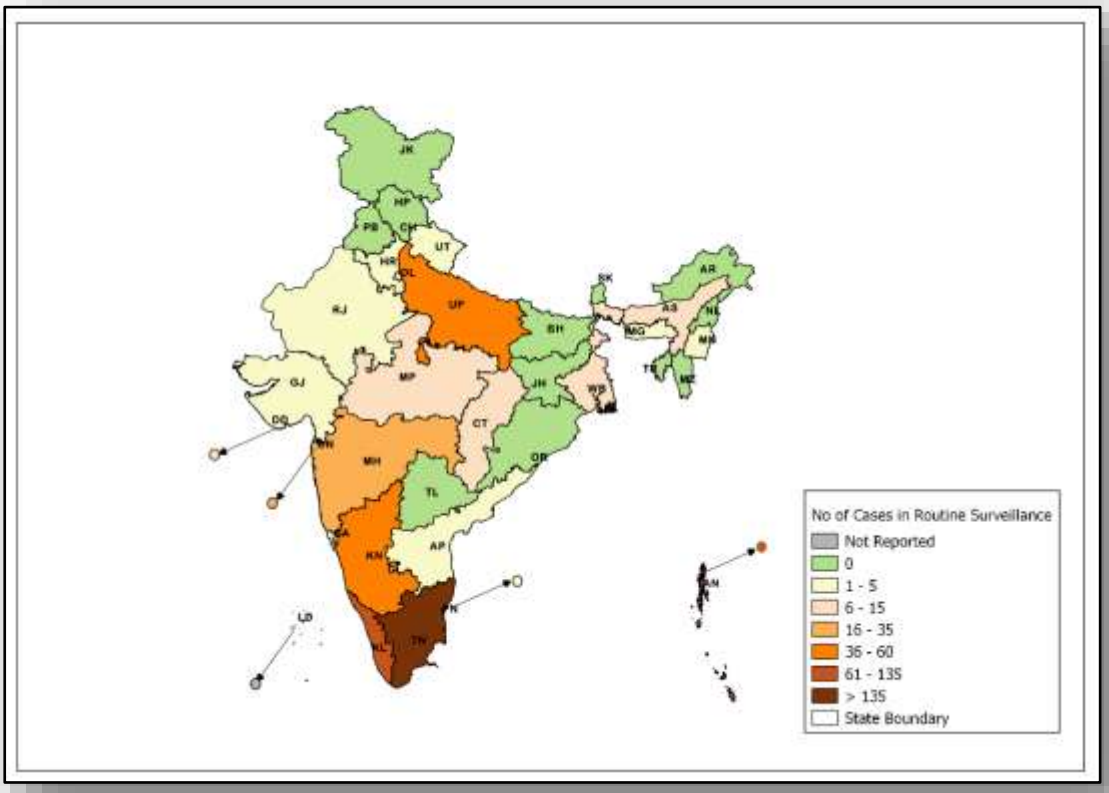
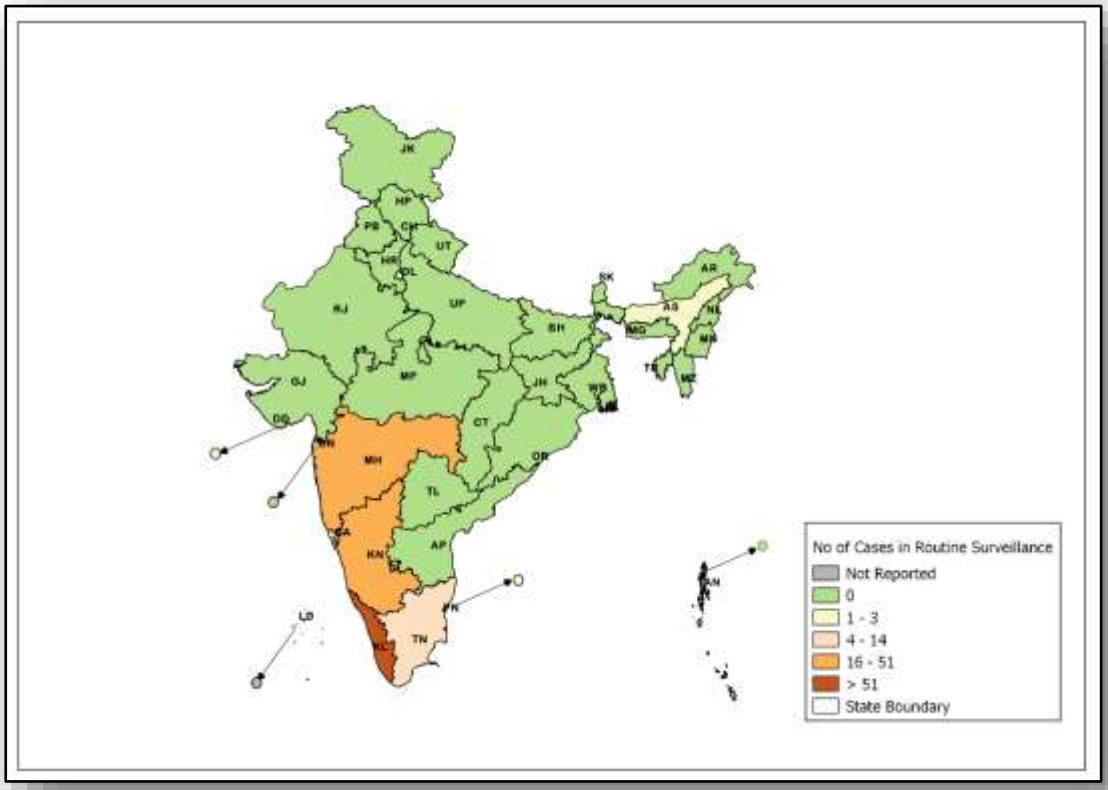


Fig 20: State/UT wise Lab Confirmed Leptospirosis cases & outbreak for June 2016



Action from the field

A National review meeting of IDSP SSOs was held from 9 to 11 June 2016 at Hotel Four Points by Sheraton, Jaipur, Rajasthan. The review meeting was attended by representatives from all States except Jammu & Kashmir, Himachal Pradesh, Assam, Chhattisgarh, Manipur, Daman and Diu, Andaman & Nicobar Islands and Lakshadweep. Dr Pavana Murthy, WHO presented on salient points of Joint Monitoring Mission which was held in the months of Nov and Dec 2015. Director NCDC stressed States to make the disease surveillance a priority in their States and increasing involvement of the private sector in IDSP reporting. This was followed by panel discussion on "Emerging Public Health Emergencies with Special Focus on Yellow Fever and Zika". A session on intersectoral coordination for Zoonotic diseases, concept of one health and role of veterinary consultant in intersectoral coordination was facilitated by Dr Mala Chhabra. Orientation on infection control practices including Collection, labelling, packaging and transportation of the samples along with demonstration of equipment needed for these purposes was provided to the participants. Guest of honour Dr. N. S. Dharmshaktu, Spl. DGHS, MOHFW, GOI along with Dr. V. K. Mathur, Director RCH, Government of Rajasthan unveiled the IDSP disease alert "A monthly report from Integrated Disease Surveillance Programme" and announced the launch of "New website of IDSP".

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.
- **State Code:**
  Andaman & Nicobar Islands AN; Andhra Pradesh AP; Arunachal Pradesh AR; Assam AS; Bihar BH; Chandigarh CH; Chhattisgarh CT; Dadra & Nagar Haveli DN; Daman & Diu DD; Delhi DL; Goa GA; Gujarat GJ; Haryana HR; Himachal Pradesh HP; Jammu & Kashmir JK; Jharkhand JH; Karnataka KN; Kerala KL; Lakshadweep LD; Madhya Pradesh MP; Maharashtra MH; Manipur MN; Meghalaya MG; Mizoram MZ; Nagaland NL; Odisha OR; Puducherry PN; Punjab PB; Rajasthan RJ; Sikkim SK; Tamil Nadu TN; Telangana TL; Tripura TR; Uttar Pradesh UP; Uttarakhand UT; West Bengal WB.

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**: 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 Case Definition: 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)

Acknowledgement:

This disease alert from IDSP acknowledges the contribution of Dr. S. Venkatesh Director NCDC, Dr. Pradeep Khasnobis Sr. CMO & Officiating NPO IDSP, 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.

The data shown in the IDSP Surveillance 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