

Disease Alert

प्रकोप चेतावनी

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

November 2019

Inside

1. Chickenpox Outbreak, District Faridkot, PunjabPage 1
2. Surveillance data of Enteric Fever, ADD, Viral Hepatitis A & E, Dengue, Leptospirosis, Chikungunya, Seasonal & Influenza H1N1.....Page 7
3. Action from Field..... Page 18
4. Glossary.....Page 18

CHICKENPOX OUTBREAK, DISTRICT FARIDKOT, PUNJAB

BACKGROUND:

Regarding Chickenpox: Chickenpox is an important childhood infection caused by the varicella-zoster virus (VZV) that can occur sporadically any time in year. This Disease affects both the sexes equally. Before the availability of a vaccine, chickenpox mainly affected children, with at least 90% of the population acquiring chickenpox by the age of 15 years.

Humans are the only known hosts of VZV.

Chickenpox mainly spreads by droplet or airborne spread of respiratory secretions or vesicle fluid, but it can also spread by direct contact.

The incubation period is usually 14-16 days.

Regarding EWS of outbreak: Suspected cases of Chickenpox were reported from blocks Bajakhana and Jandsahib. Population of both the blocks is approximately 618,000.

On preliminary investigation, it came to light that first cases perhaps occurred in August, 2019. Before investigation, a preliminary survey was conducted by MPHS(M), MPH(W), MPH(F) and ASHA of the locality.

A district RRT was constituted and started its investigation on 31st Oct'2019. RRT consisted of District Epidemiologist, Skin Specialist, and Health Supervisors.

INVESTIGATIONS UNDERTAKEN BY RRT:

It was found that approximately 500 cases of chicken pox in Dashmesh Global School, Bargari. Upon investigation many cases of chickenpox were found including students and staff. Maximum cases are from rural area and only 10 cases are from urban area.

Apparently, one death of a teacher was also reported and was presumed to be due to chickenpox. Death review indicated the cause of death to be due to **ulcerative colitis**.

All cases were examined by Skin Specialist who was part of RRT, and diagnosis was confirmed as Chicken Pox. Every case was investigated for date of onset of fever, onset of rash, history of exposure and possible source of infection. Upon investigating, it was found that many of the students of Dashmesh Global School who hailed from different villages of district Faridkot, Moga and Bathinda suffered from chickenpox from August and they furthermore may have continued to transmit the infection to others. On the date of investigation, fever and rash had already been resolved in majority of the cases and approximately 100 students were found to be afflicted by it. After this, vigorous surveillance was carried out in schools, anganwaris, and villages from where students belonged followed by surveillance in whole of the district.

Line list of cases of chickenpox from various villages and schools was received from corresponding ANMS. Majorly, Dashmesh Global School, Bargari, Guru Teg Bahadur school Mehmuaana, and Jawahar Navodya Vidyalaya ,Kauni were found to be affected.

Subsequent to investigation of these schools, DC Faridkot was informed about the alarming numbers of chickenpox cases in schools of the region. A meeting under chair of DC was held on 14th November' 19 in which Civil Surgeon Faridkot, DSO, District Epidemiologist and management/principal of various private schools of Faridkot participated.

Following this, almost every Private and Govt. School of Faridkot reported chickenpox cases. It seems that the index case probably dates back to August 3rd, in a student of prep-2 DGS, Bargari. **The possible sequence of events may have been(Fig.1) :-**

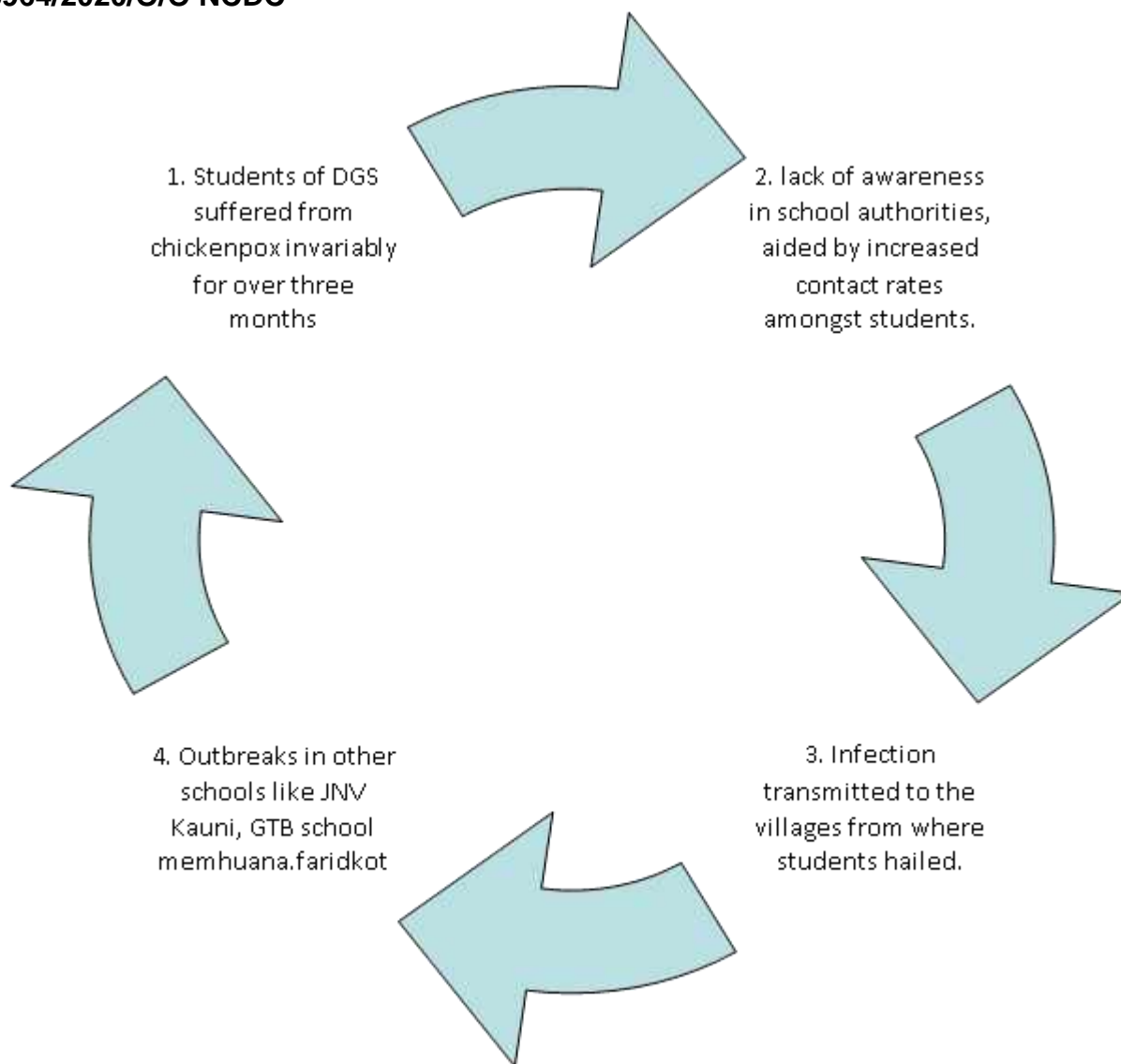


Figure 1: Possible sequence of events

Clinical Case Definition: The Clinical Case Definition made by RRT was-

“Any person suffering from diffuse (generalized) maculo-papulovesicular rash characteristic of varicella, without other apparent cause lasting for more than 4 or more days who is a resident of affected localities”.

LABORATORY DIAGNOSIS:

All cases were clinically confirmed based on case definition. No lab tests were done

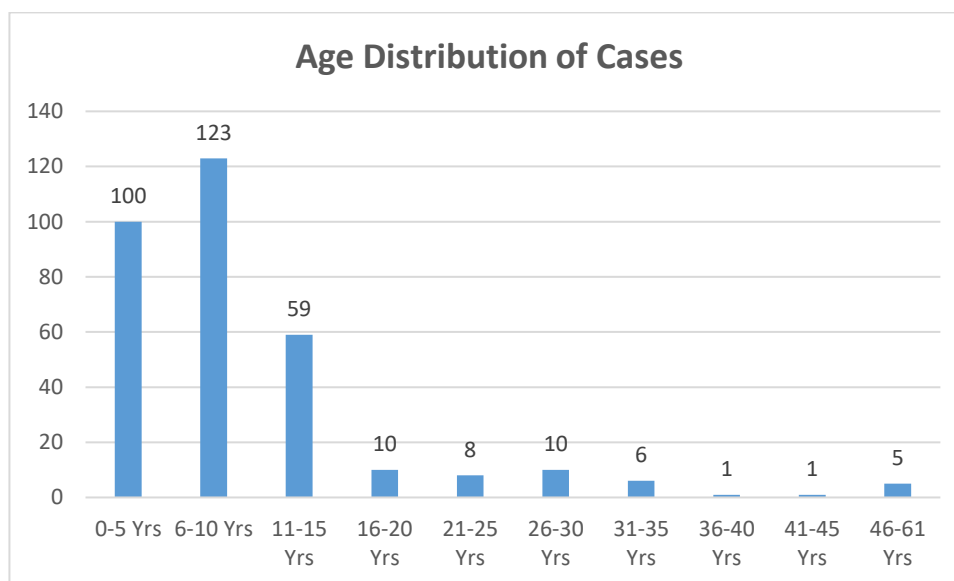
DESCRIPTIVE EPIDEMIOLOGY:

There were total 323 possible cases of Chicken Pox was identified by RRT.

1868964/2020/O/O NCDC

Age-wise distribution of Cases:-

Maximum cases (N=123 [38.1%]) fall in 6-10 Yrs age group, followed by 0-5 Yrs group (N=100 [31%]).

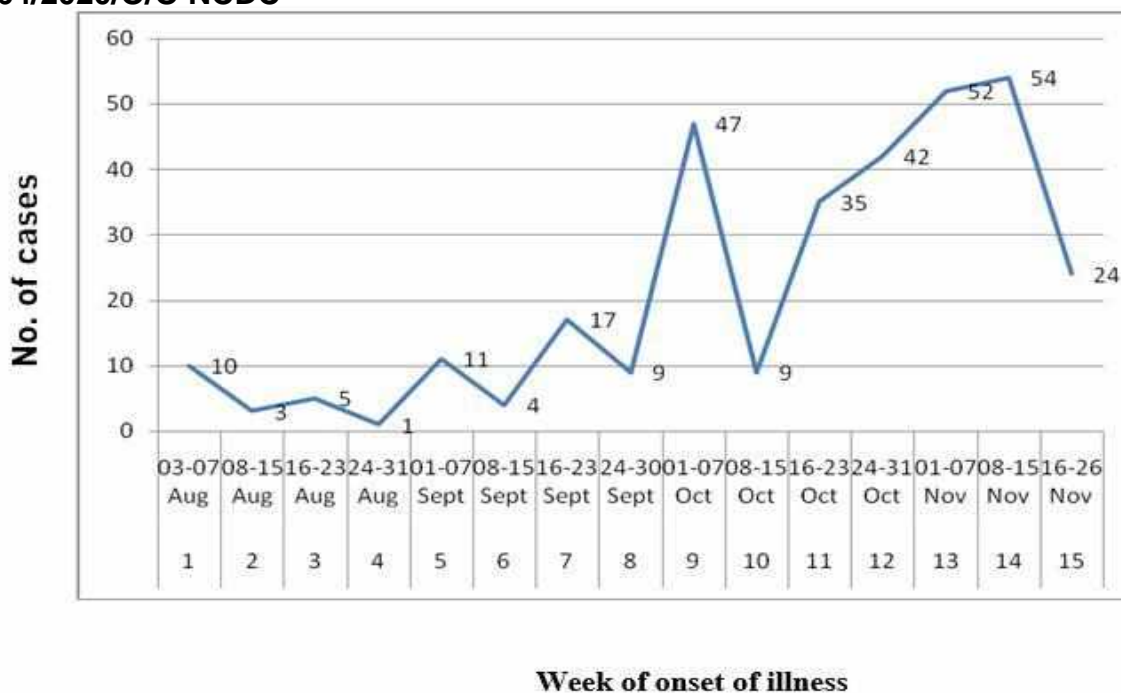
**Gender Distribution:**

58% of cases were among males.

| Gender | No of cases |
|--------|-------------|
| Male | 188 (58%) |
| Female | 135 (42%) |

B. Time Distribution of Cases:

On 3rd Aug 2019, first case of chickenpox probably occurred. After that 10 cases were reported between 3rd and 7th Aug. The graph shows that up to 8th week afterwards, the cases showed intermittent pattern of rise and fall of cases and then a sudden rise of cases in 9th week is seen. It should be noted that the outbreak was reported in the last week of October, therefore, its worth mentioning that after 11th week cases continued to increase as surveillance began in that week.



CONTROL MEASURES: The following control measures were undertaken -

- Rapid Response Team (RRT) was immediately activated & deployed.
- All the cases were examined by Skin specialist and clinically confirmed as Chickenpox. They were given symptomatic treatment.
- All cases were isolated and instructed to maintain isolation till lesions have crusted.
- Active search for new cases by door to door survey was started by ANM and ASHA.
- During home to home survey health education regarding Chickenpox was imparted. Following points were highlighted:
 - Avoiding close contact with suspected persons infected with Chickenpox.
 - Stay off from work and school till the last lesion has crusted.
 - Washing of infected clothing and bedding and drying it properly in sun.
 - Maintenance of hygiene to prevent any super-added infection.
 - Avoid scratching the lesions and cutting of nails.
- Awareness camp was also organized in all the affected Schools. School authorities were asked to notify any case if they encounter and grant leave to all those students who were infected.
- IEC activities included distribution of pamphlets, organization of camps, regular miking in gurdwaras and education of children via schools plays

RECOMMENDATIONS:

1. School authorities of the area needed to be sensitized about symptoms, prevention and treatment of communicable diseases (like Chickenpox) so that in case of suspicion they refer such types of cases to the health authorities for further action without any delay.
2. ANMs and ASHA workers should be sensitized for early detection and quick reporting to District Surveillance Unit.

1868964/2020/O/O NCDC

3. Strict guidelines must be given to all the private schools regarding communicable diseases and its implications to avoid such outbreaks in future.
4. Coordination must be established with local practitioners as most of people in rural settings visit them in diseases like Chickenpox.
5. IEC activities need to be done in the area to sensitize the community members about occurrence and prevention of the communicable diseases.

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue Leptospirosis, Dengue, Chikungunya, Leptospirosis and Seasonal Influenza A (H1N1) During November 2017 - 2019*

Data extracted from IDSP Portal (www.idsp.nic.in) as on January 3rd, 2020.

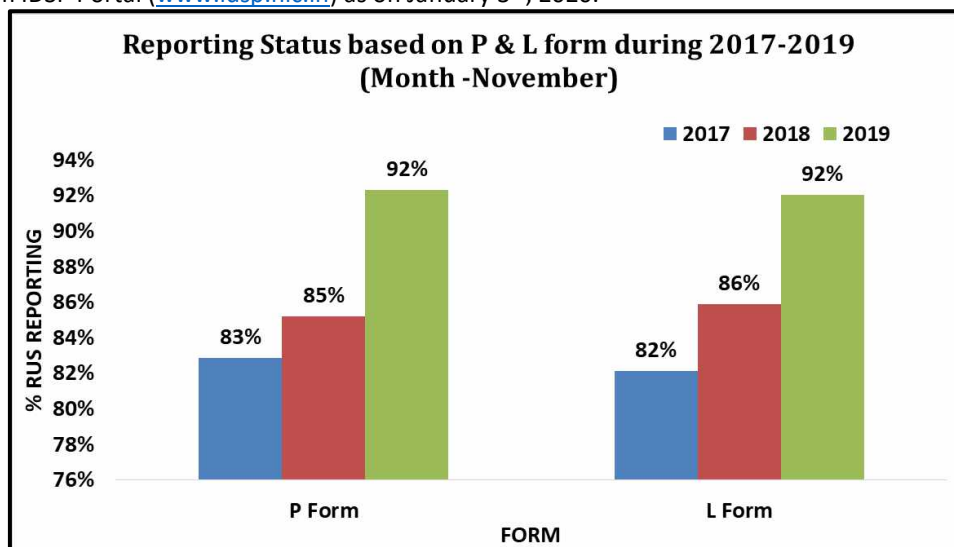


Fig 2: RU wise reporting based on P & L form during November 2017 - 2019

As shown in Fig 2, in November 2017, 2018 and 2019, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 83%, 85% and 92% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 82%, 86% and 92% 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 increased over the years in both P and L form, thereby improving the quality of surveillance data.

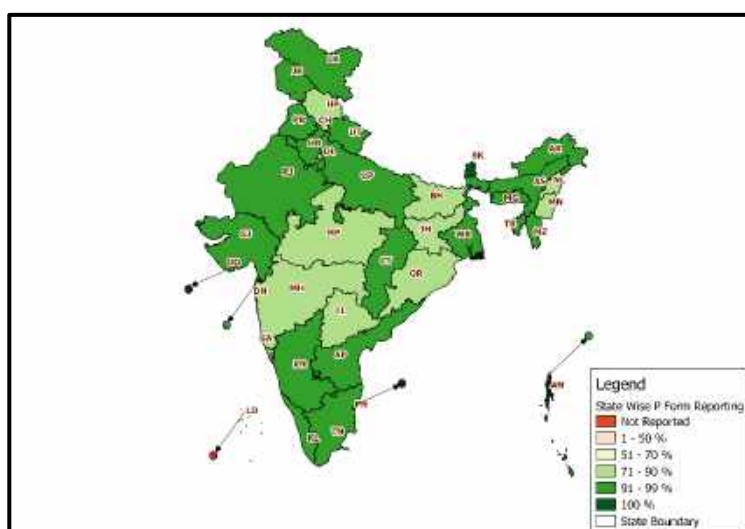


Fig 3: State/UT wise P form completeness % for November 2019

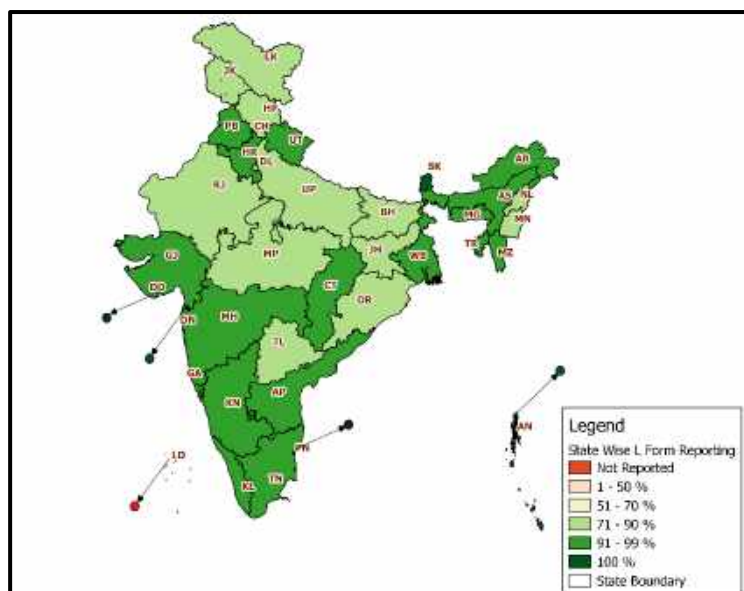


Fig 4: State/UT wise L form completeness % for November 2019

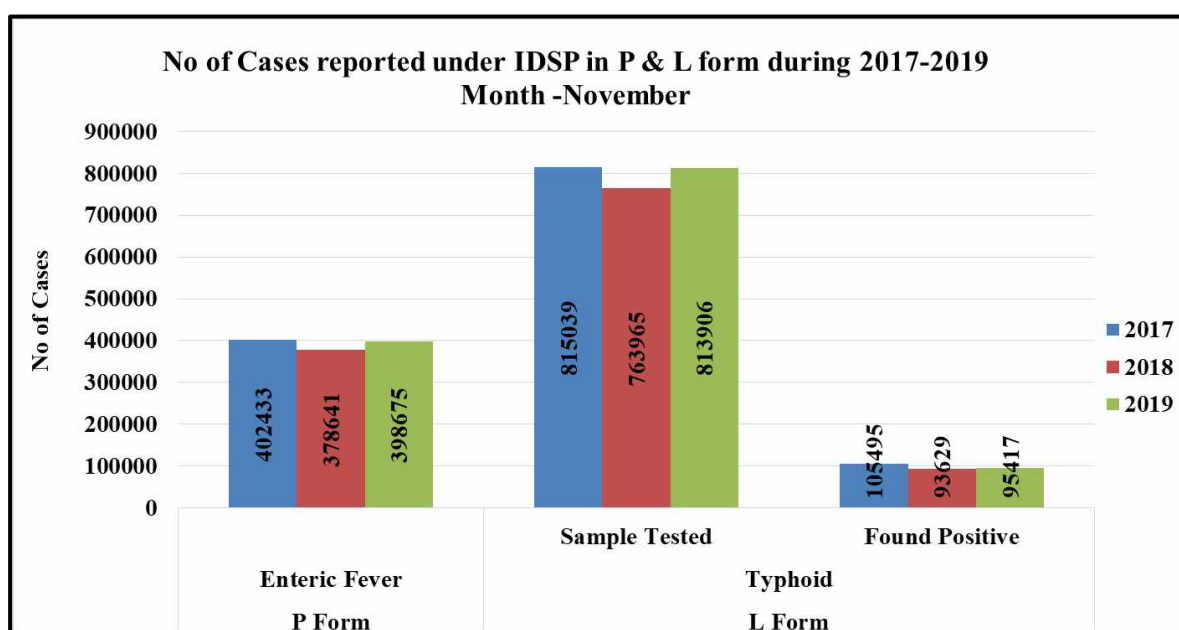


Fig 5: No. of Enteric Fever Cases reported under P & L form during November 2017 - 2019

As shown in Fig 5, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 402433 in November 2017; 378641 in November 2018 and 398675 in November 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in November 2017; 815039 samples were tested for Typhoid, out of which 105495 were found positive. In November 2018; out of 763965 samples, 93629 were found to be positive and in November 2019, out of 813906 samples, 95417 were found to be positive.

Sample positivity has been 12.94%, 12.26% and 11.72% in November month of 2017, 2018 & 2019 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.

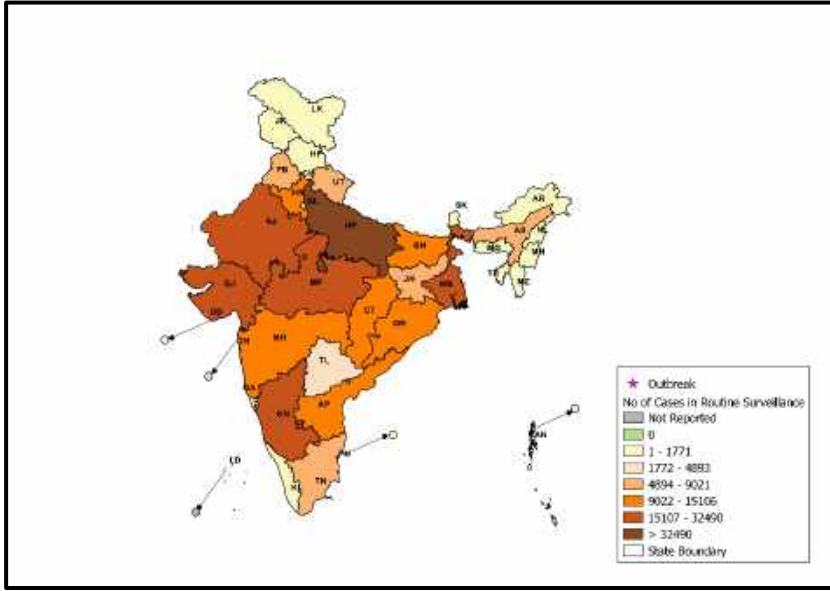
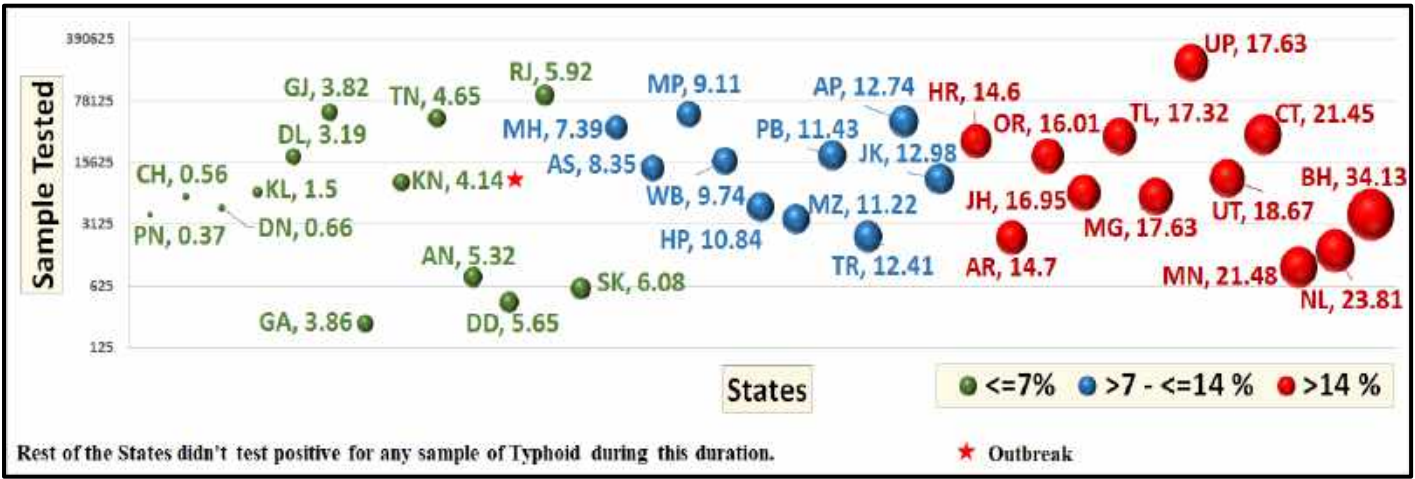


Fig 6: State/UT wise Presumptive Enteric fever cases and outbreaks for November 2019

Fig 7: State/UT wise Lab Confirmed Typhoid cases and outbreaks for November 2019



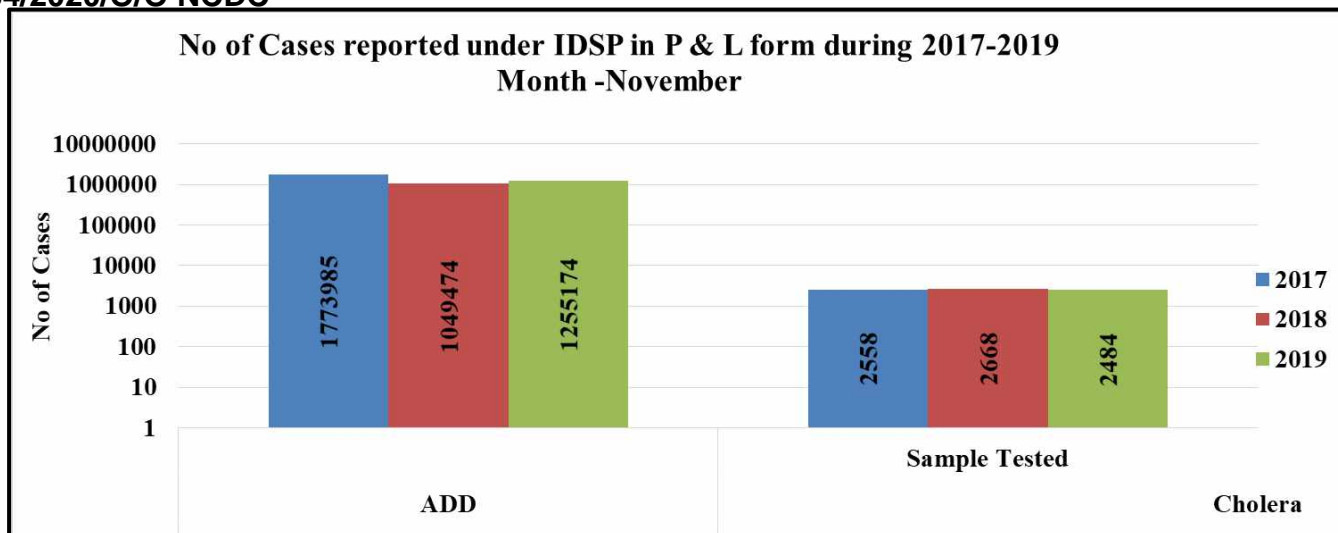


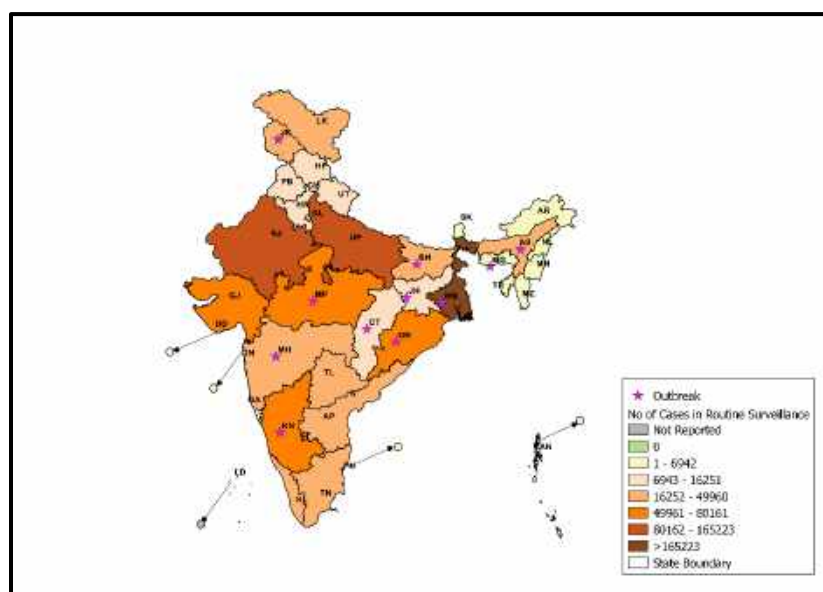
Fig. 8: No. of ADD Cases reported under IDSP in P Form & Cholera Cases in L form during November 2017 - 2019

As shown in Fig 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1773985 in November 2017; 1049474 in November 2018 and 1255174 in November 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in November 2017, 2558 samples were tested for Cholera out of which 41 tested positive; in November 2018, out of 2668 samples, 18 tested positive for Cholera and in November 2019, out of 2484 samples, 48 tested positive.

Sample positivity of samples tested for Cholera has been 1.60%, 0.67% and 1.93% in November month of 2017, 2018 & 2019 respectively.

Fig 9: State/UT wise Presumptive ADD cases and outbreaks for November 2019



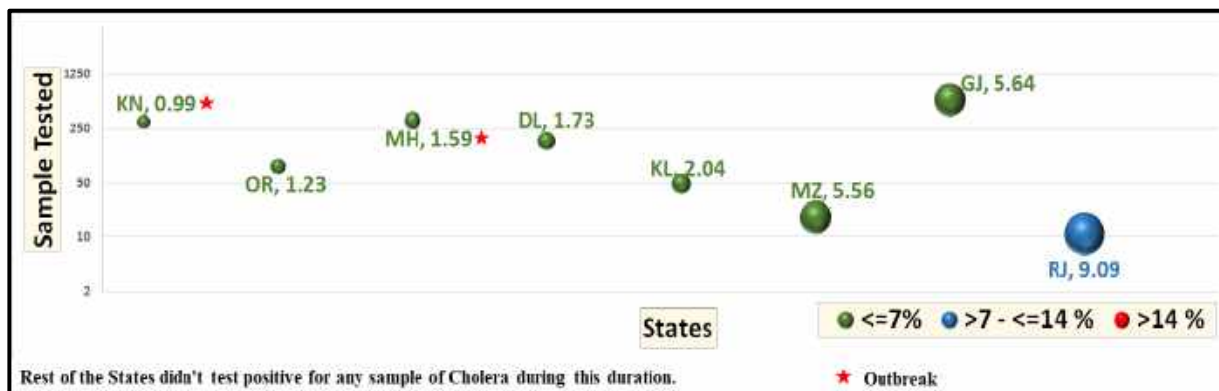


Fig 10: State/UT wise Lab Confirmed Cholera cases and outbreaks for November 2019

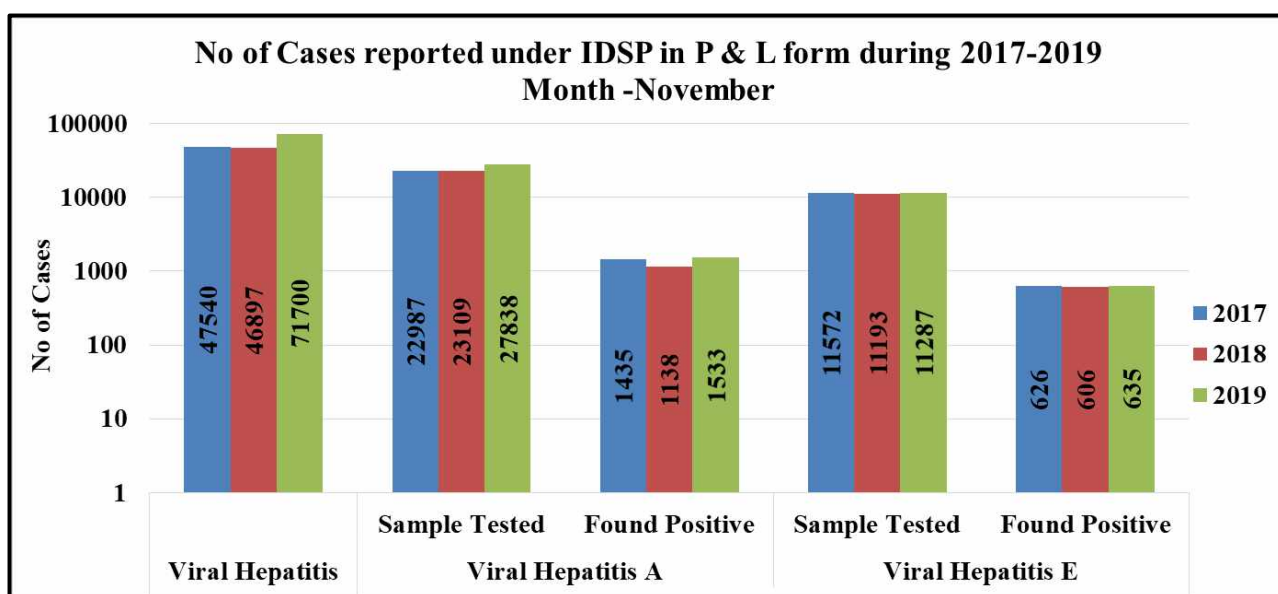


Fig 11: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during November 2017 - 2019

As shown in Fig 11, the number of presumptive Viral Hepatitis cases was 47540 in November 2017, 46897 in November 2018 and 71700 in November 2019. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in November 2017; 22987 samples were tested out of which 1435 were found positive. In November 2018 out of 23109 samples, 1138 were found to be positive and in November 2019, out of 27838 samples, 1533 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6.24%, 4.92% and 5.51% in November month of 2017, 2018 & 2019 respectively.

As reported in L form for Viral Hepatitis E, in November 2017; 11572 samples were tested out of which 626 were found positive. In November 2018; out of 11193 samples, 606 were found to be positive and in November 2019, out of 11287 samples, 635 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 5.41%, 5.41% and 5.63% in November month of 2017, 2018 & 2019 respectively.

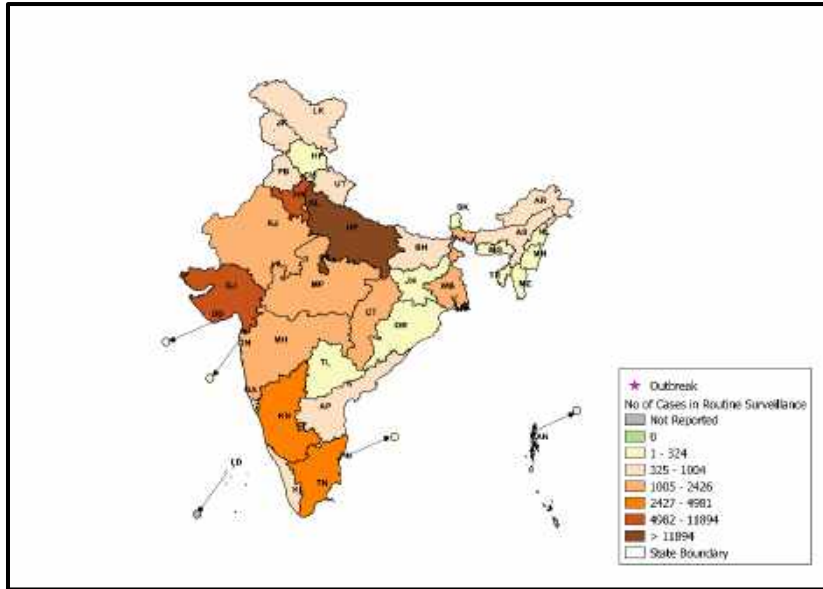


Fig 12: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for November 2019

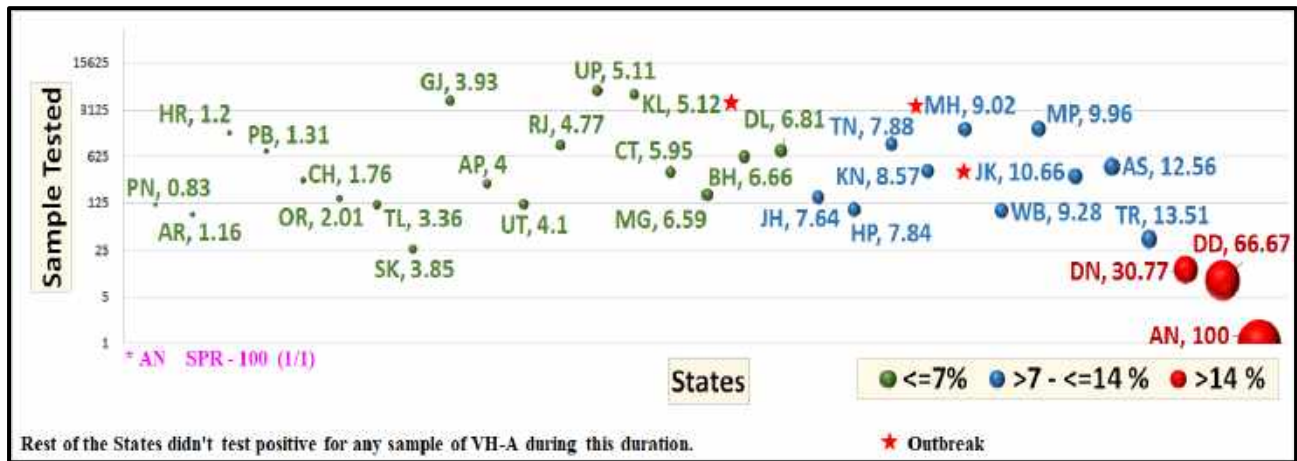


Fig 13: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for November 2019

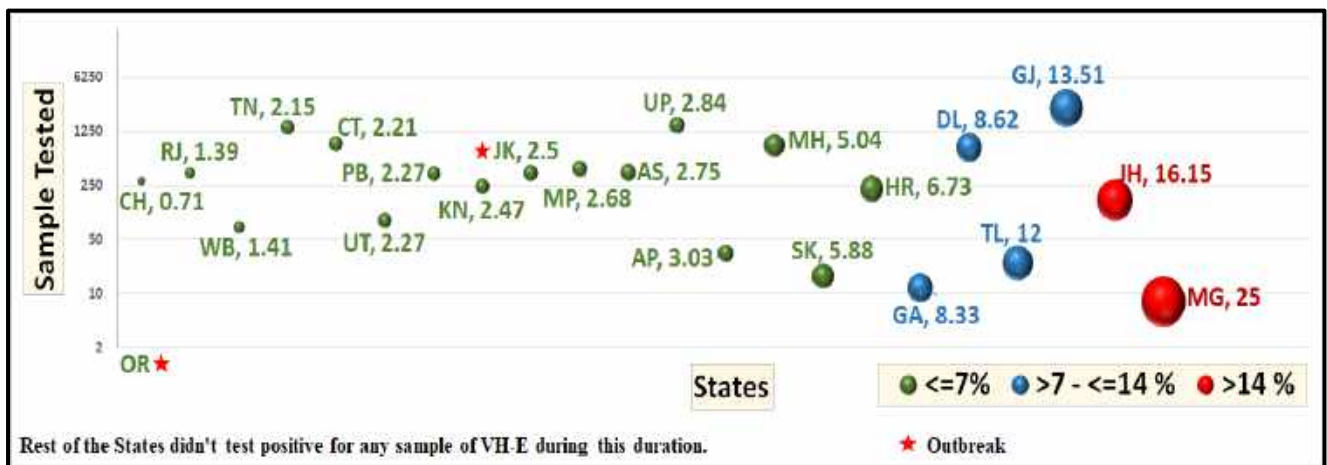


Fig 14: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for November 2019

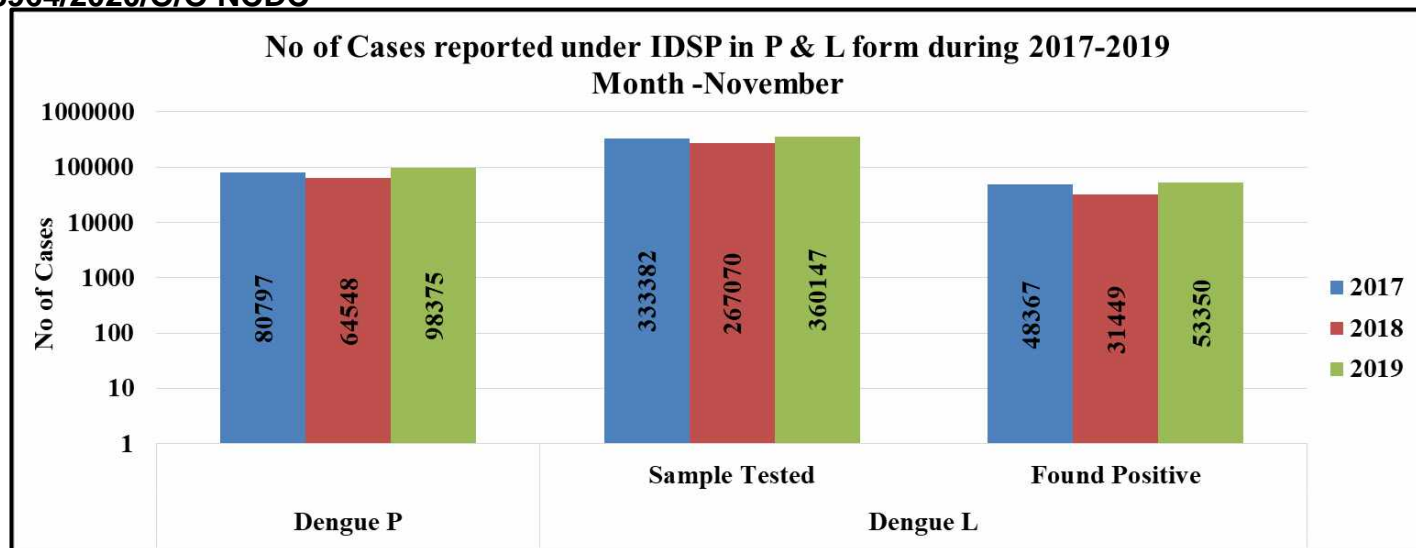


Fig 15: No. of Dengue Cases reported under IDSP in P & L form during November 2017 - 2019

As shown in Fig 15, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 73818 in November 2017; 77952 in November 2018 and 127852 in November 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in November 2017; 283345 samples were tested for Dengue, out of which 44702 were found positive. In November 2018; out of 280963 samples, 38785 were found to be positive and in November 2019, out of 468721 samples, 74464 were found to be positive.

Sample positivity of samples tested for Dengue has been 15.78%, 13.80% and 15.89% in November month of 2017, 2018 & 2019 respectively.

Fig 16: State/UT wise Presumptive Dengue cases and outbreaks for November 2019

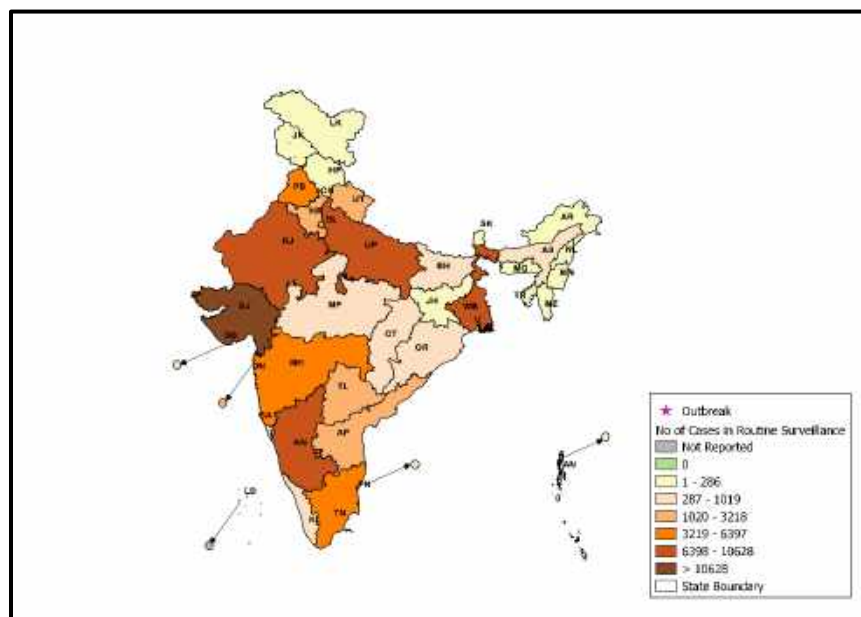


Fig 17: State/UT wise Lab Confirmed Dengue cases and outbreaks for November 2019

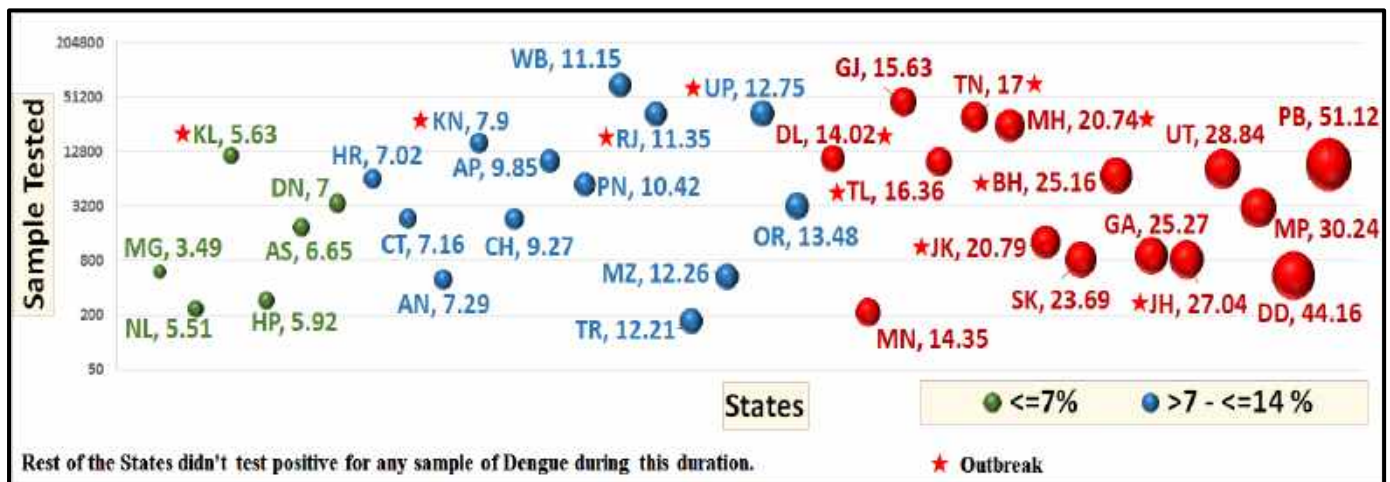
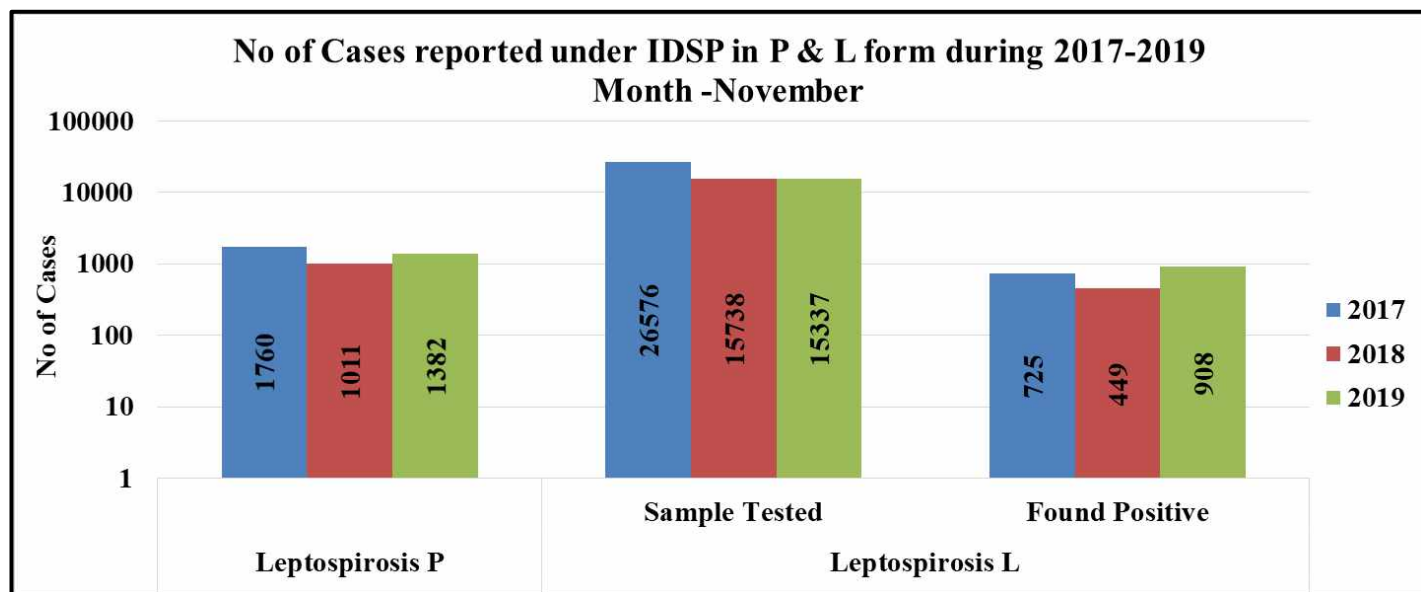


Fig 18: No. of Leptospirosis Cases reported under IDSP in P & L form during November 2017 – 2019



As shown in Fig 18, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1173 in November 2017; 1474 in November 2018 and 2298 in November 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in November 2017; 28368 samples were tested for Leptospirosis, out of which 766 were found positive. In November 2018; out of 16281 samples, 454 were found to be positive and in November 2019, out of 21736 samples, 1182 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 3%, 3% and 5% in November month of 2017, 2018 & 2019 respectively.

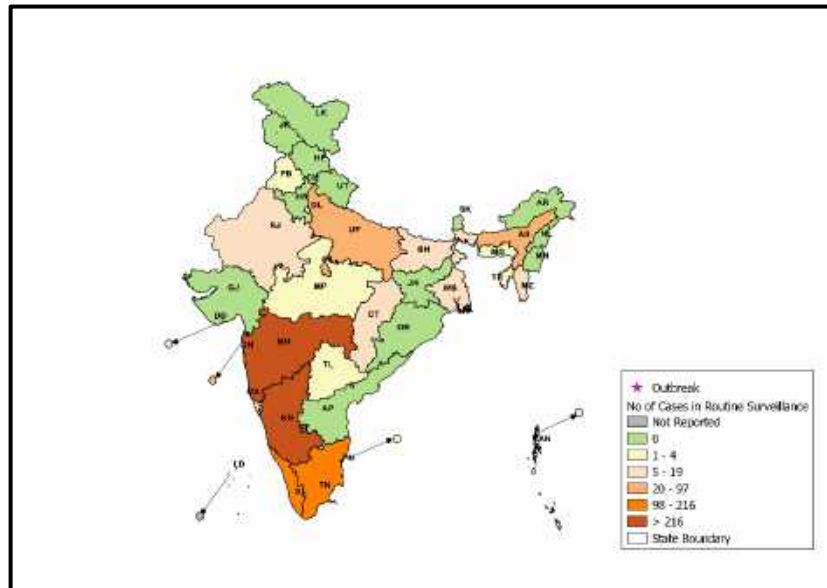
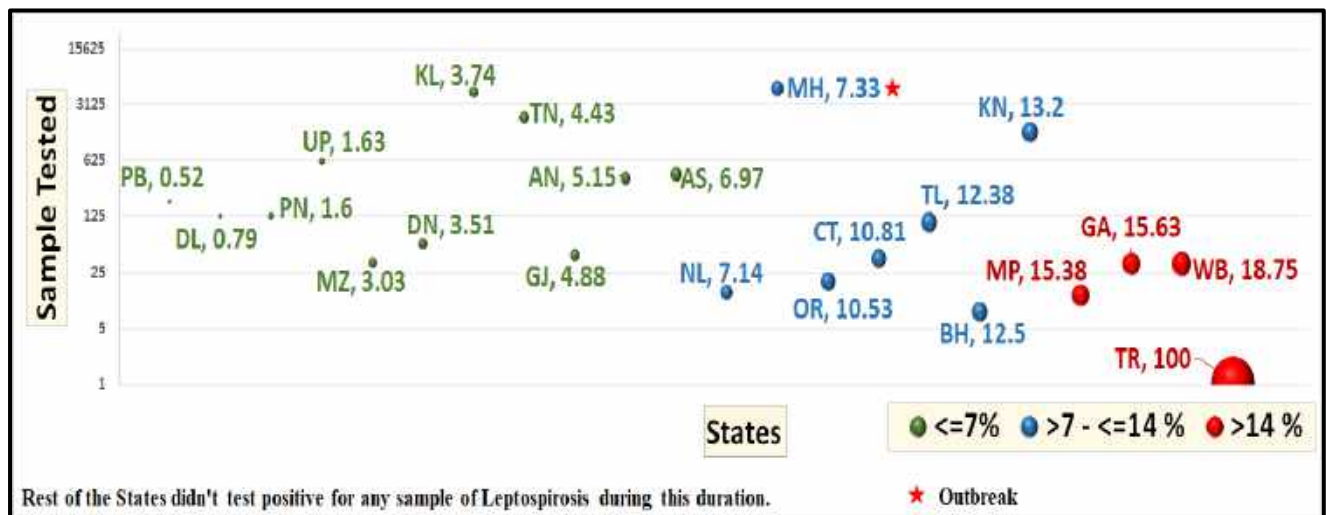


Fig 19: State/UT wise Presumptive Leptospirosis cases and outbreaks for November 2019

Fig 20: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for November 2019



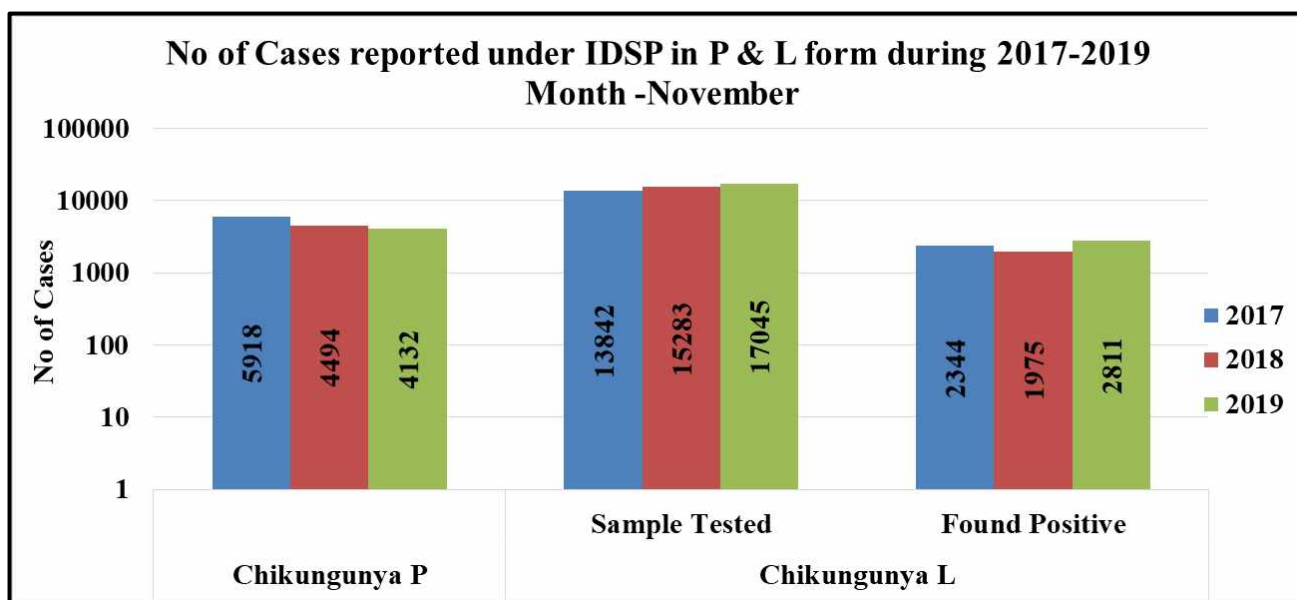


Fig 21: State/UT wise Presumptive Chikungunya cases and outbreaks for November 2019

As shown in Fig 21, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 4580 in November 2017; 5737 in November 2018 and 4888 in November 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in November 2017; 10821 samples were tested for Chikungunya, out of which 1640 were found positive. In November 2018; out of 15686 samples, 1657 were found to be positive and in November 2019, out of 21050 samples, 3166 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 15.16%, 10.56% and 15.04% in November month of 2017, 2018 & 2019 respectively.

Fig. 22: No. of Chikungunya Cases reported under IDSP in P & L form during November 2017 - 2019

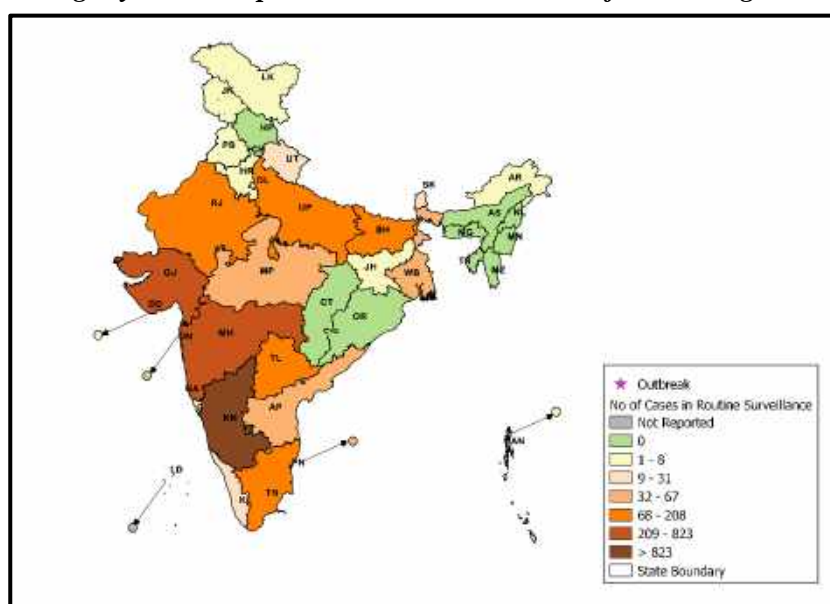


Fig 23: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for November 2019

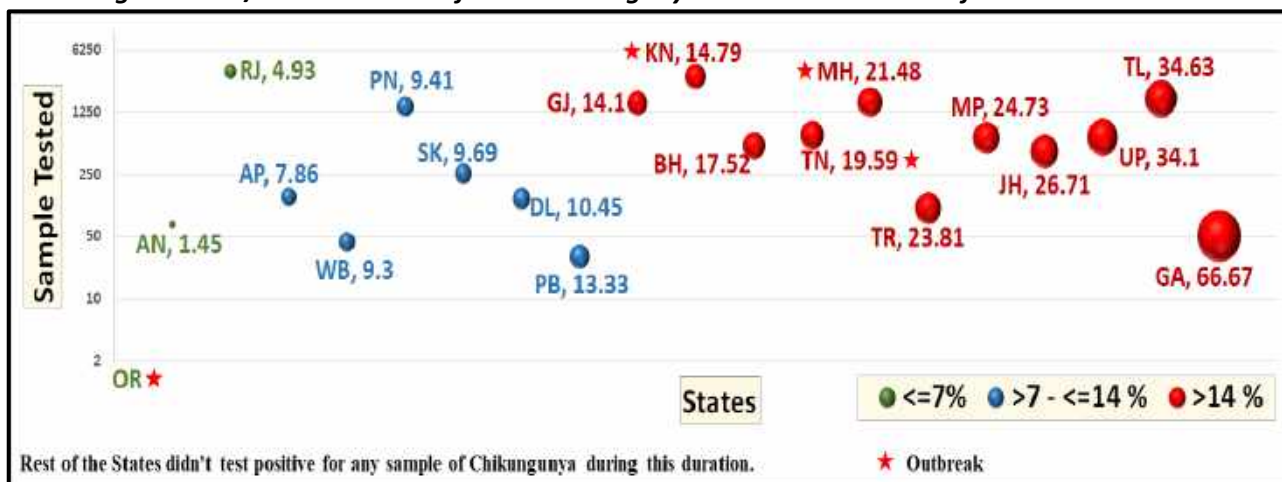
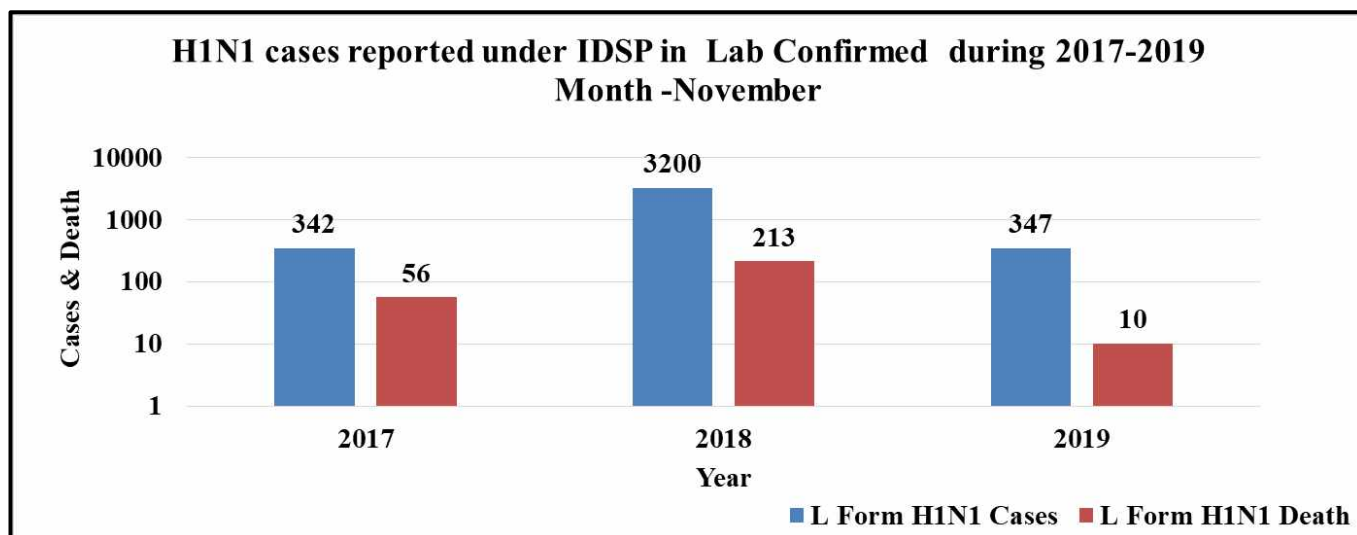


Fig 24: H1N1 cases reported under IDSP in L Form during 2017-2019 in November 2019



As reported in L form, in November 2017; there were 1483 cases and 174 deaths. In November 2018; there were 5150 cases and 390 deaths and in November 2019, there were 247 cases and 18 deaths.

Case fatality rate for H1N1 were 11.73%, 7.57% and 7.29% in November month of 2016, 2017 & 2018 respectively.

Fig 25: State/UT wise H1N1 cases and outbreaks for November 2019



Action from the field

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:** The acute illness characterized by persistent high fever with any of the following clinical features: Headache, nausea, loss of appetite, toxic look, Constipation or sometimes diarrhoea, splenomegaly and/or significant titre in 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 (Including Acute Gastroenteritis): Presumptive:** Passage of 3 or more loose watery stools (with or without vomiting) in the past 24 hours.
- **Confirmed Cholera:** A presumptive Acute Diarrheal case with Culture OR Polymerase chain reaction (PCR) test.
- **Viral Hepatitis: Presumptive:** Any person having clinical evidence of jaundice with signs and symptoms of acute hepatitis like malaise, fever, vomiting and bio-chemical criteria of serum bilirubin of greater than 2.5mg/dl, AND more than tenfold rise in ALT/SGPT.
- **Lab Confirmed Hepatitis A:** A presumptive case with IgM antibodies to hepatitis A(anti HAV IgM) in serum/plasma.
- **Lab Confirmed Hepatitis E:** A presumptive case with IgM antibody to hepatitis E virus (anti HEV IgM) in serum/plasma.
- **Dengue: Presumptive:** Acute febrile illness of 2-7 days with any one of the following:
 - Nausea, vomiting, rash, headache, retro orbital pain, myalgia or arthralgia, or Non-ELISA based NS1 antigen/IgM positive. (RDT reports are considered as probable due to poor sensitivity and specificity of currently available RDTs).
- **Lab Confirmed:** A presumptive case with:
 - Demonstration of dengue virus antigen in serum sample by NS1-ELISA OR
 - Demonstration of IgM antibody titre by ELISA in single serum sample OR
 - IgG seroconversion in paired sera after 2 weeks with four fold increase of IgG titres OR
 - Detection of viral nucleic acid by polymerase chain reaction (PCR) OR
 - Isolation of the virus (Virus culture positive) from serum, plasma or leucocytes.)
- **Leptospirosis Case Definition: Presumptive Leptospirosis:** A person having 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:
 - Calf muscle tenderness
 - Conjunctival suffusion

1868964/2020/O/O NCDC

- Anuria or oliguria and/or proteinuria
- Jaundice
- Hemorrhagic manifestations
- Meningeal irritation
- Nausea, Vomiting, Abdominal pain, Diarrhoea

Lab Confirmed Leptospirosis: A presumptive case with -

- IgM ELISA positive OR
- Isolation of leptospire from clinical specimen OR
- Four fold or greater rise in the MAT titer between acute and convalescent phase serum specimens run in parallel OR
- PCR test

• **Chikungunya case definition: Presumptive Case Definition:** Any person:

- With or without history of travel to or having left a known endemic area 15 days prior to the onset of symptoms AND Meeting the following clinical criteria:
- Acute onset of fever
- Arthralgia / arthritis
- With or without skin rash.

Lab confirmed: A presumptive case with

- MAC ELISA- Presence of virus specific IgM antibodies in a single serum sample collected in acute or convalescent stage. Four-fold increase in IgG values in samples collected at least three weeks apart OR
- Virus isolation OR
- Presence of viral RNA by RT-PCR.

Acknowledgement:

This Disease Alert from IDSP acknowledges the contribution of Dr. Sujeet K Singh, NPO Project Director - IDSP & Director NCDC; Dr. Himanshu Chauhan, Joint Director & Officer In-Charge, IDSP; Dr. Pranay Verma, Deputy Director, IDSP; Ms. Ritu Malik, Consultant (GIS), 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 & idsp-npo@nic.in

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