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Disease Alert
प्रकोप चेतावनी

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

Inside

Investigation Report of case of West Nile Disease from Kannur, Kerala

Background

Hand Foot and Mouth disease (HFMD) is an acute viral disease common in children. It is caused by viruses belonging to the Enterovirus genus, such as Coxsackie virus-A16 and Enterovirus-71. The incidence was investigated by a Public Health team from State of Kerala.

Route of transmission

It is through person-to-person by direct contact with respiratory droplets, open and weeping skin vesicles, blister fluid from mouth, faeces, or indirectly through exposing to a contaminated environment.

Progression of clinical symptoms

HFMD usually starts with fever, reduced appetite, and sore throat. After 1-2 days of onset of fever, painful blister-like sores develop in the mouth. A skin rash on the palms of the hands and soles of the feet may also develop as flat, red spots, sometimes with blisters. It may also appear on the knees, elbows, buttocks, or genital area.

Complications

Acute pulmonary oedema, cardiopulmonary failure, aseptic meningitis, encephalitis and acute flaccid paralysis.

Profile of District Shopian

District Shopian comprises of 3 Blocks namely Shopian, Zainapora and Keller. The population of District Shopian is about 2.66 lakhs. The main town comprising of population of around 20,000 is located in Block Shopian, about 2 Km away from District Headquarter (CMO's Office).

Investigation by RRT

On 10th June 2019, District Surveillance Unit (DSU), Shopian received information from a Paediatrician at District Hospital (DH), Shopian regarding possible reporting of HFM patients based on clinical symptomatology. Consequently, the Rapid Response Team (RRT) comprising of 3 doctors and 4 paramedical staff including health supervisory staff of block Shopian made a door to door survey of the area.

In the course of survey, the RRT detected 40 possible cases of HFM disease cases in Shopian town itself. However, during preliminary investigation, it came to the surface that it was actually village Kanipora which is located nearby, where 2-3 cases of HFMD cases were reported in recent past and it may be the probable cause of HFMD outbreak in main town Shopian. The village in question is located only a few kilometres away from the main town.

On learning this, the RRT proceeded to investigate the focus on infection in Kanipora village.

Methods employed by RRT

- **Epidemiological Investigations:**

  a) Standard case definitions were used of HFMD like Fever, blisters, headache, poor appetite, irritability, sore throat, red rash on the hands and soles of the feet in suspected patients.
  b) The current rate of cases were compared with the background data from previous years.
  c) All the symptomatic patients were examined and diagnosed on the basis of case definition.
  d) Door-to-door active case search in the village and in schools were done.
  e) Outbreak was described with respect to time, place and person.

- **Environmental Examination**
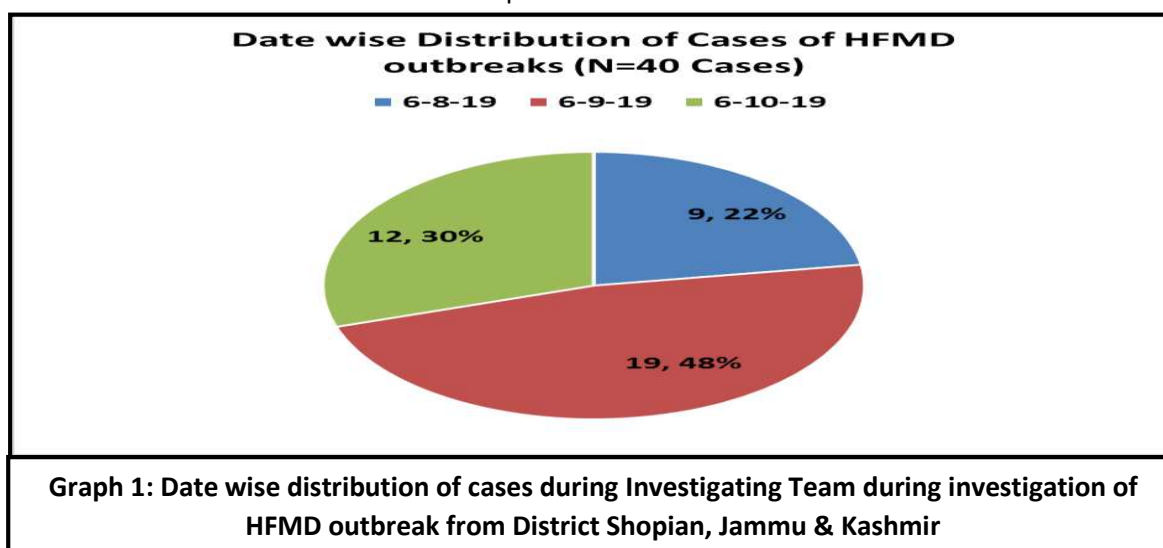 Living conditions and surroundings of inhabitants was examined.

Observations

- **Epidemiological Observations:**

  a) Through active case search 40 cases were identified.
  b) First case was reported on 8th May 2019. As solation of this case was not done, it is likely that the disease spread among close contacts.
  c) Mode of spread may have been droplet infection, stool, or blister fluid.
  d) Clustering of cases was found maximum on 9th June'2019
  e) The current attack rate was found to be 0.2%. It was almost nil in the previous 2 years.
  f) No patients were hospitalized in the current outbreak.
  g) No death or complications were reported
  h) Most of those affected were children.

- **Environmental Observations:** Unclean surroundings was observed.
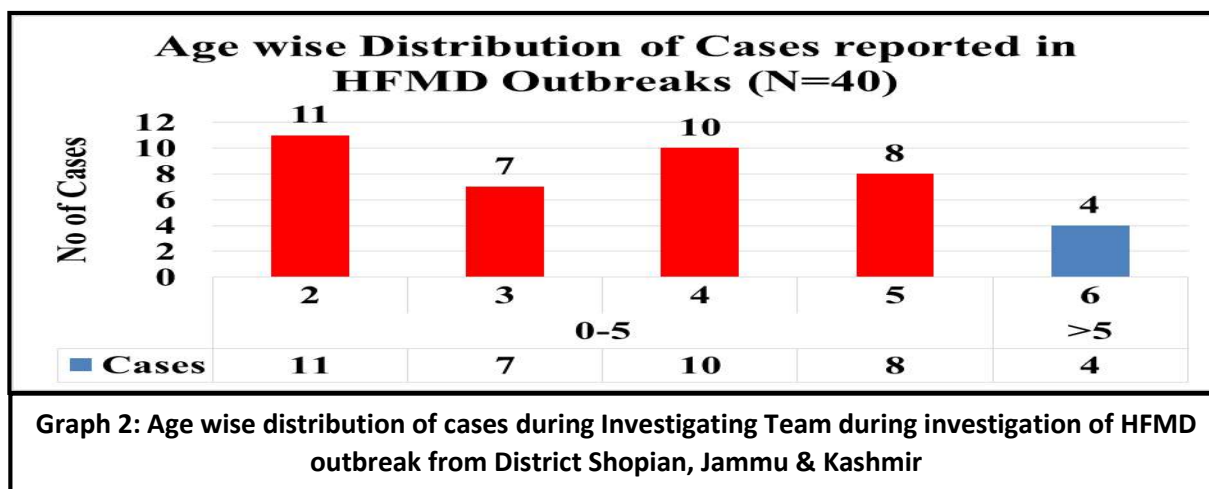
Trends Observed

- **Date-wise distribution**
  Nearly all the cases (N = 40) occurred within a span of 3 days (8th – 10th June' 2019). Almost half of the cases were reported on 9th (N = 19 cases, 48% of total cases). 12 (30%) of cases were reported on subsequent day, 10th June. On 8th, 9 cases (22%) had been reportedIn Yr 2019, 8 outbreaks have been reported. In essence, all the outbreaks except the first report have been reported this year. Most of the outbreaks have been reported from Kozhikode district. The district-wise distribution as reported in IDSP is as follows:

Date wise Distribution of Cases of HFMD outbreaks (N=40 Cases)
■ 6-8-19   ■ 6-9-19   ■ 6-10-19

9, 22%
12, 30%
19, 48%

Graph 1: Date wise distribution of cases during Investigating Team during investigation of HFMD outbreak from District Shopian, Jammu & Kashmir
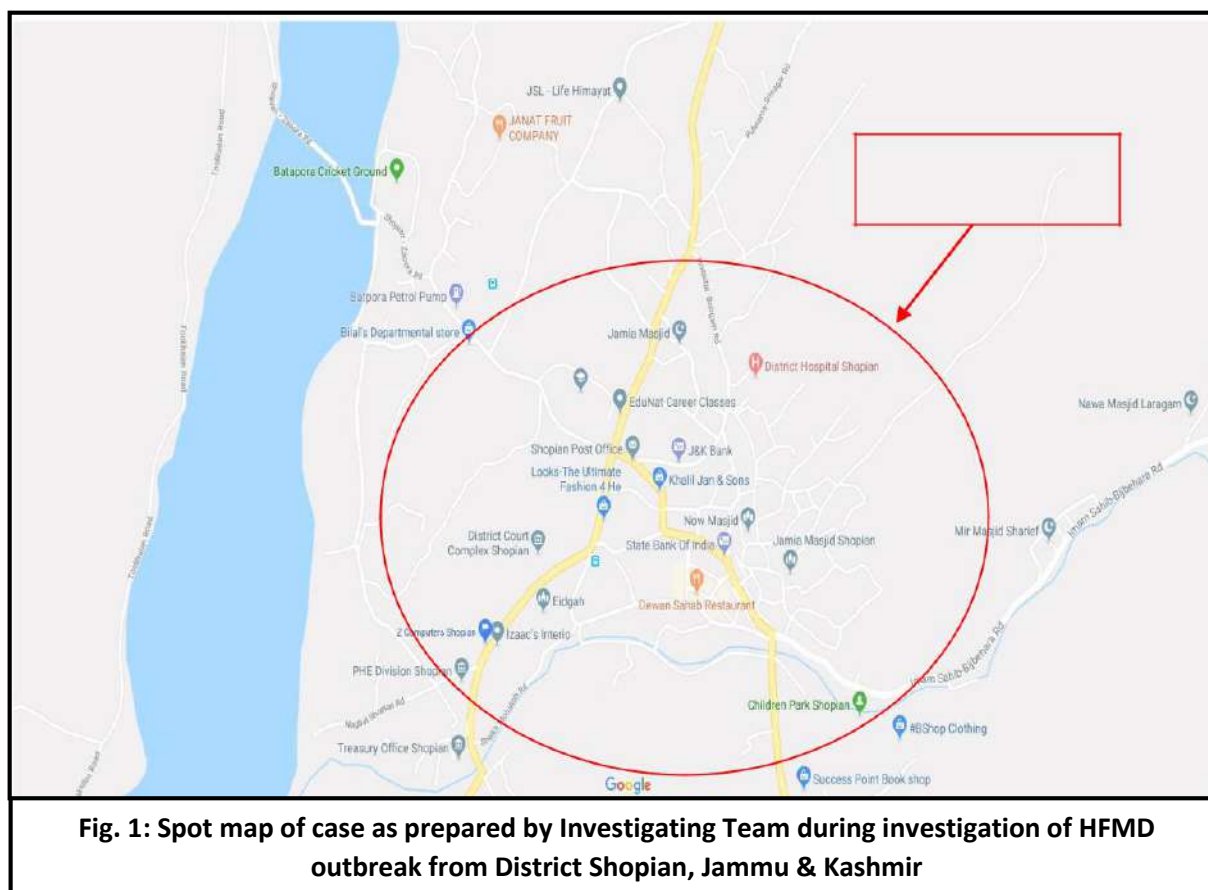
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Age-wise distribution

90% (N= 36) of the cases occurred in children aged 5 years or younger. Maximum number of cases (N= 11, 27.5% of total) were found in children aged 2 years, closely followed by 10 cases in age 4 (25% of total)

Graph 2: Age wise distribution of cases during Investigating Team during investigation of HFMD outbreak from District Shopian, Jammu & Kashmir

Location Map

Fig. 1: Spot map of case as prepared by Investigating Team during investigation of HFMD outbreak from District Shopian, Jammu & Kashmir

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Control measures undertaken

a) Health education to the population about the disease and its preventive measures was imparted. Health advisory in the form of Pamphlets were distributed among the inhabitants and the same was also pasted on walls at public places.

b) A team of Doctors was deputed to the area for the treatment of patients and to look for any complications.

c) In charge BMO Shopian was directed by CMO Shopian to monitor the situation and to utilize his staff round the clock.

d) Local staff advised to keep close vigil on the situation and report Head office on Daily Basis.

e) School administration advised to keep the school environment neat & clean and to avoid overcrowding.

f) Field staff was directed to follow up the affected children regularly until they recover.

Recommendations

The following recommendations was given by RRT –

a) Isolation of patients.

b) Standard treatment protocol to be followed for managing patients.

c) The parents of suspected cases advised to give plenty of fluids to their wards who were suffering from HFMD in the form of coconut water, fruit juice and water. They were also advised to keep their wards at home for at least 10 days.

d) Washing hands often with soap and water for at least 20 seconds, especially after changing diapers and using toilet.

e) Clean and disinfect frequently touched surfaces and soiled items, including toys.

f) Avoid close contact such as kissing, hugging, or sharing of utensils/cups with people of HFMD disease.

g) Avoid touching eyes, nose, and mouth with unwashed hands.

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

* Data extracted from IDSP Portal (www.idsp.nic.in) as on November 02, 2019.

Fig. 2: RU wise reporting based on P & L form during June 2017 - 2019
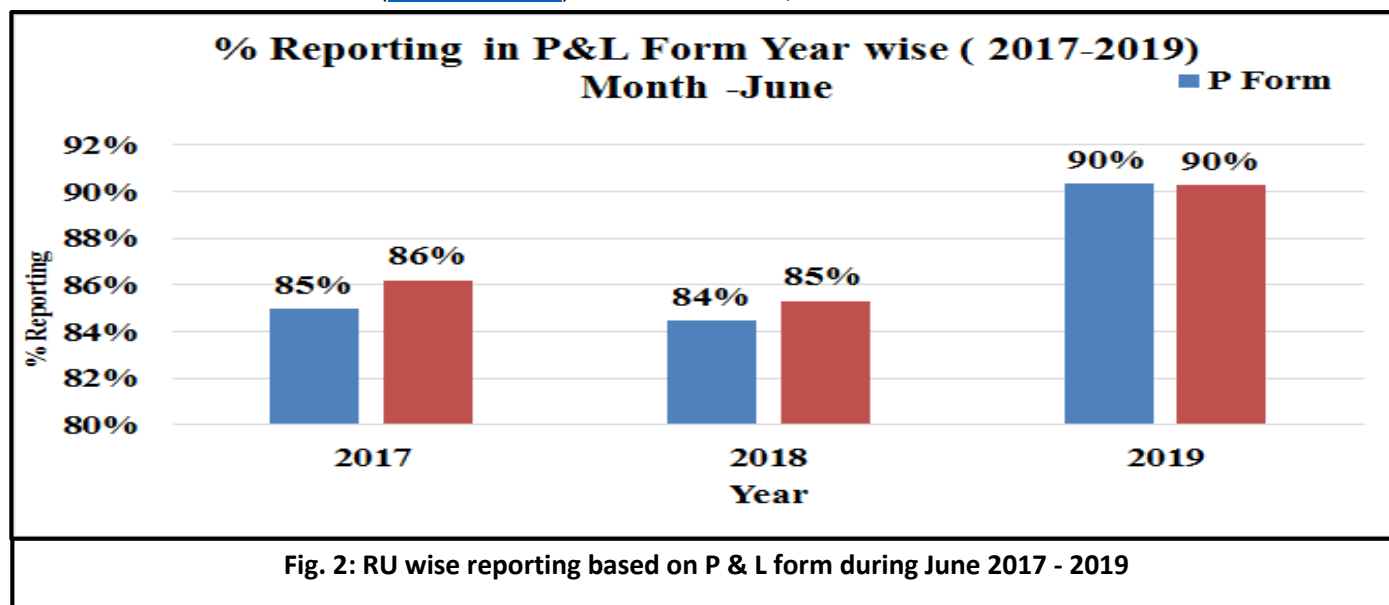
As shown in Fig 2, in June 2017, 2018 and 2019, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 87%, 90% and 88% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 87%, 90% and 89% respectively 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.

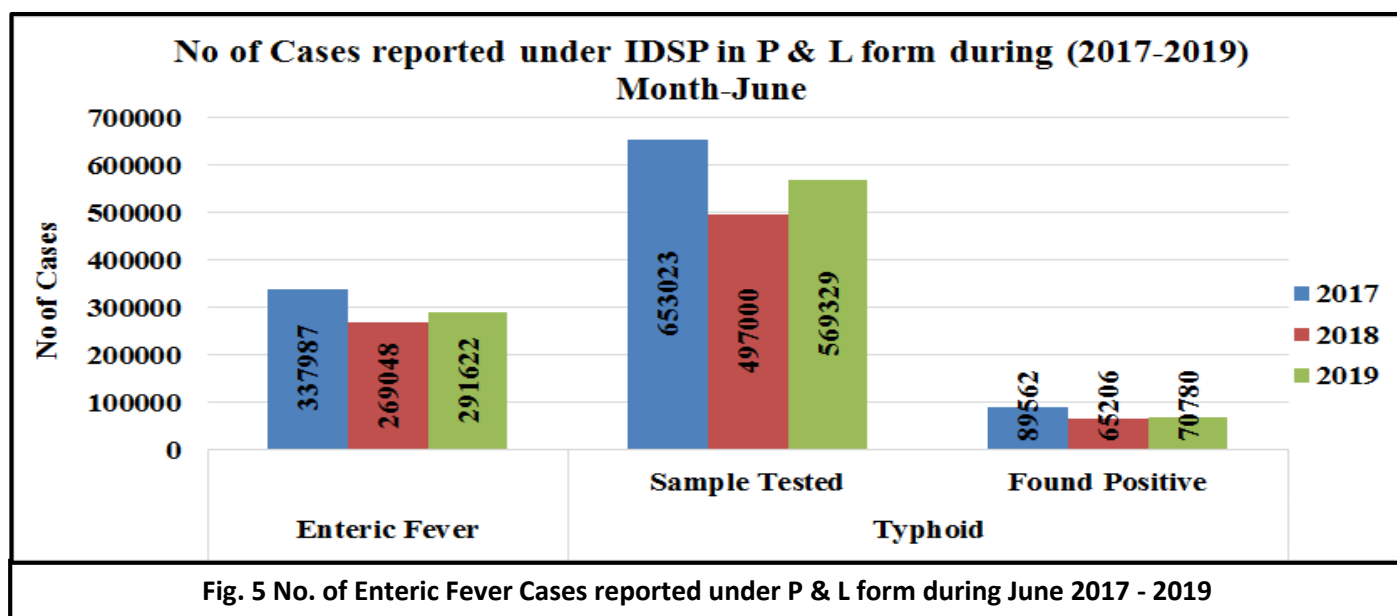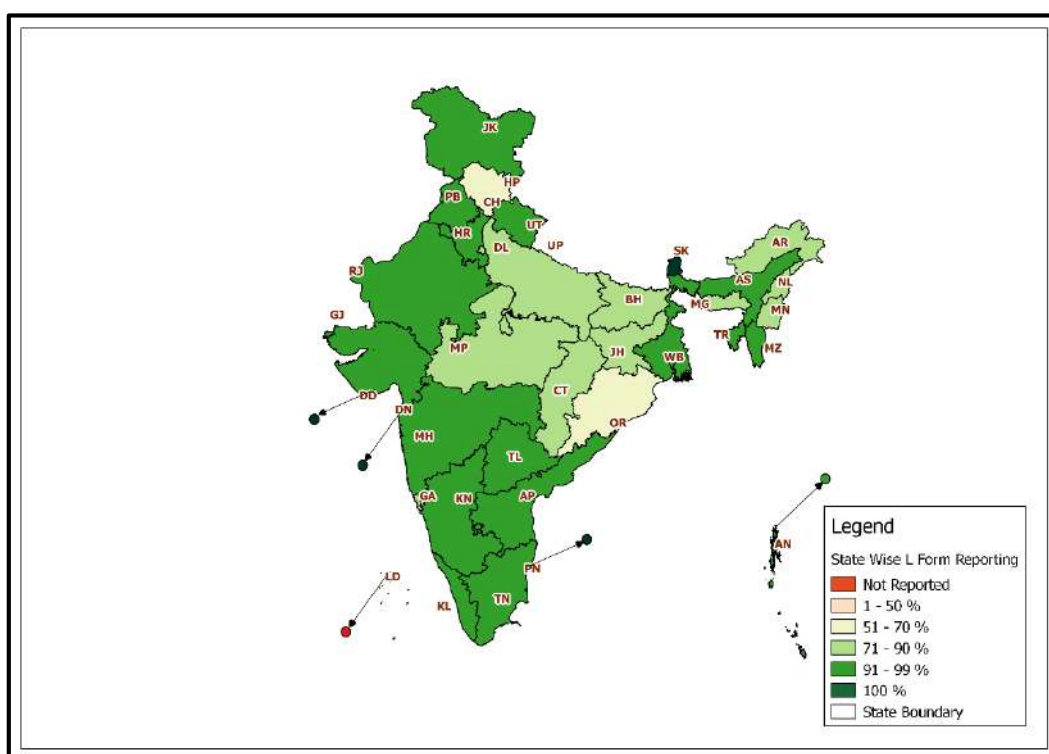**Fig 3: State/UT wise P form completeness % for June 2019**

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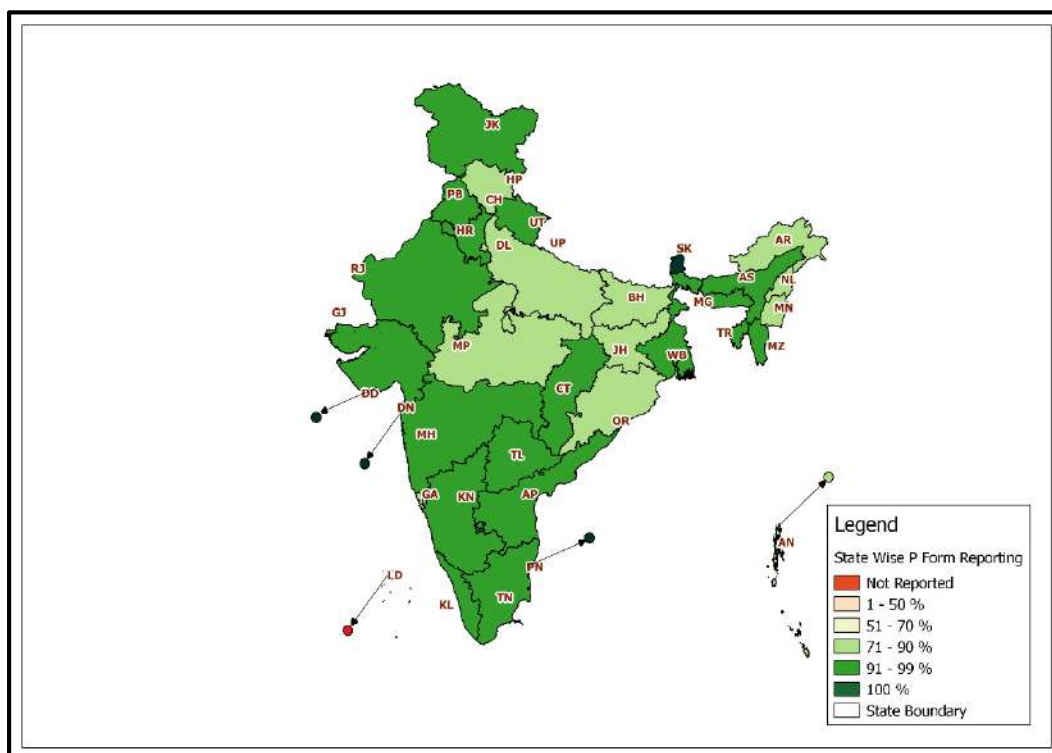
Fig 4: State/UT wise L form completeness % for June 2019

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

As shown in Fig 5, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 337987 in June 2017; 269048 in June 2018 and 291622 in June 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2017; 653023 samples were tested for Typhoid, out of which 89562 were found positive. In June 2018; out of 497000 samples, 65206 were found to be positive and in June 2019, out of 569329 samples, 70780 were found to be positive.

Sample positivity has been 13.71%, 13.12% and 12.43% in June 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.

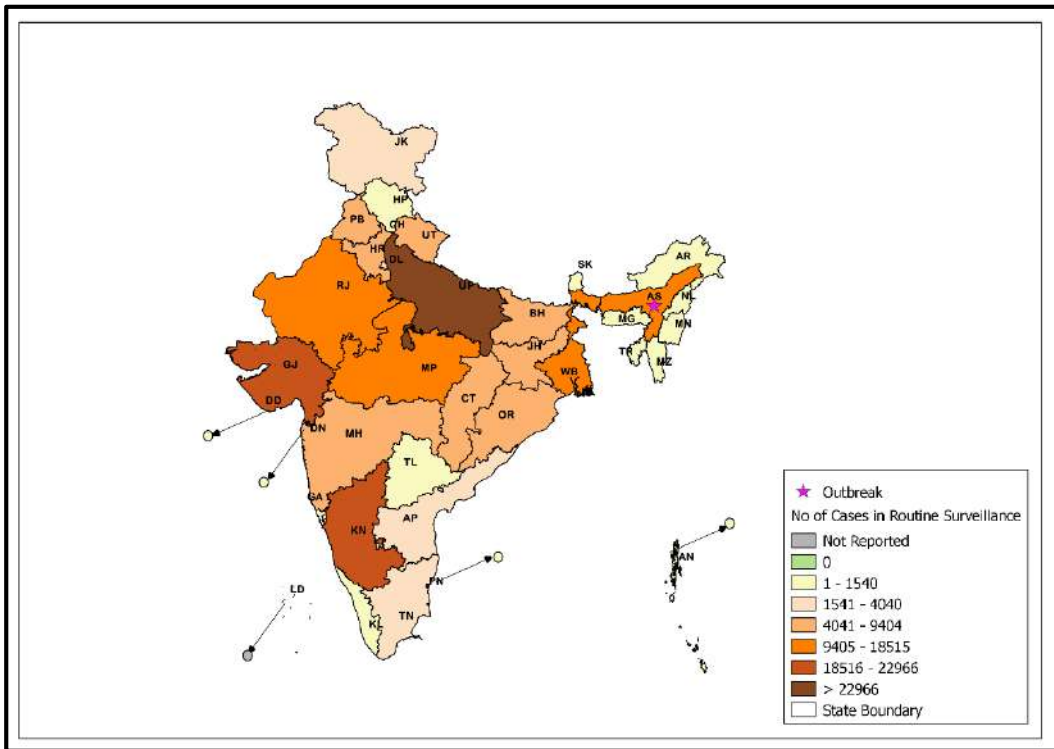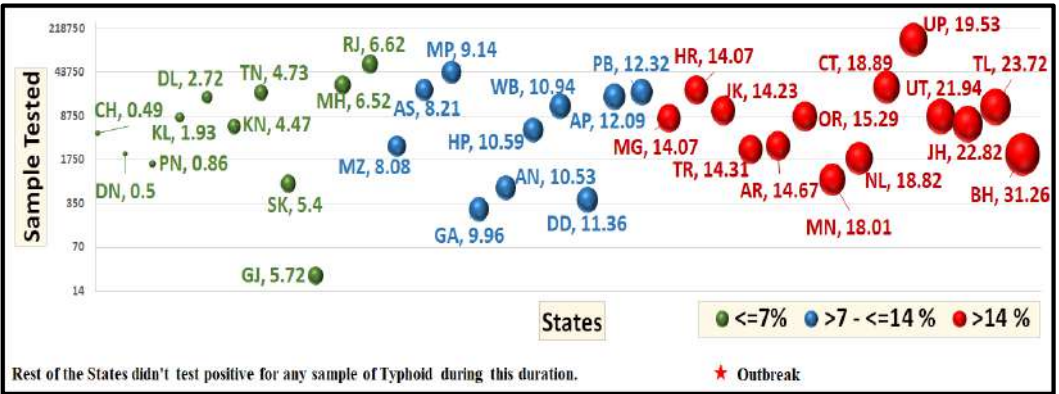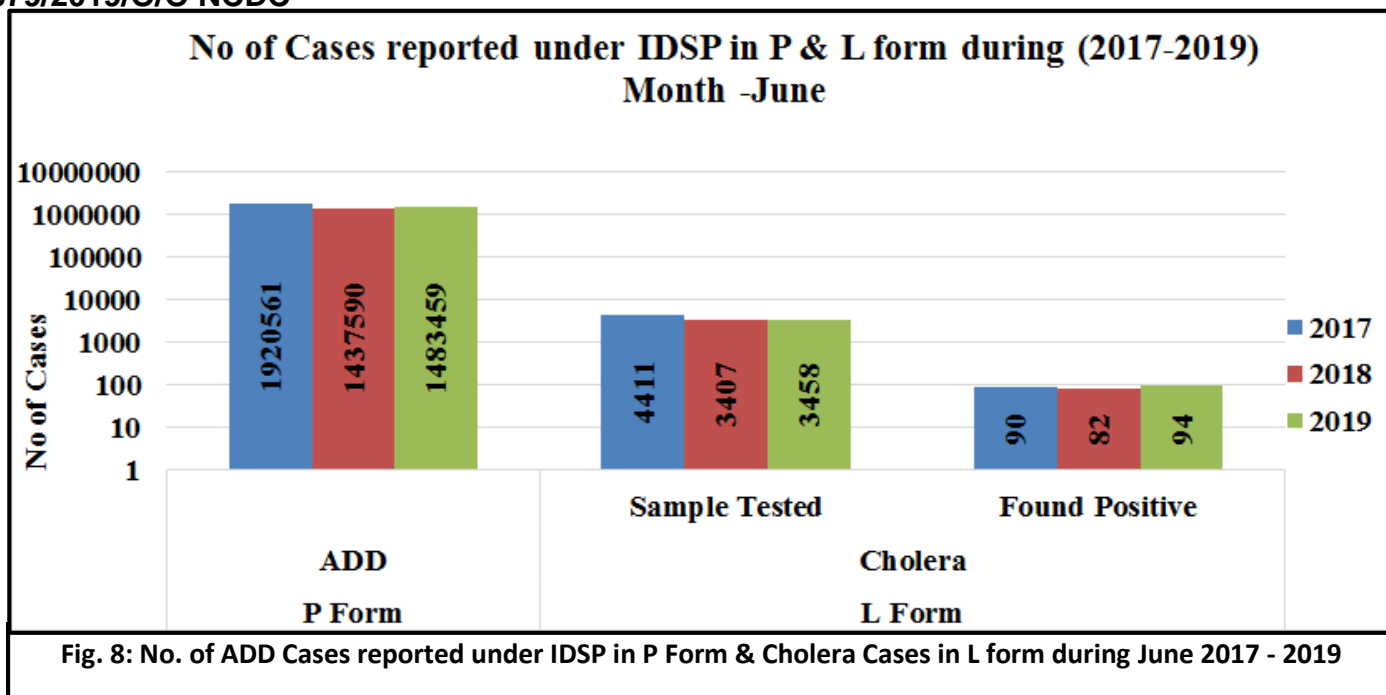**Fig 6: State/UT wise Presumptive Enteric fever cases and outbreaks for June 2019**

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

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No of Cases reported under IDSP in P & L form during (2017-2019)
Month -June

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

As shown in Fig 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1920561 in June 2017; 1437590 in June 2018 and 1483459 in June 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2017, 4411 samples were tested for Cholera out of which 90 tested positive; in June 2018, out of 3407 samples, 82 tested positive for Cholera and in June 2019, out of 3458 samples, 94 tested positive.

Sample positivity of samples tested for Cholera has been 2.04%, 2.41% and 2.72% in June month of 2017, 2018 & 2019 respectively.

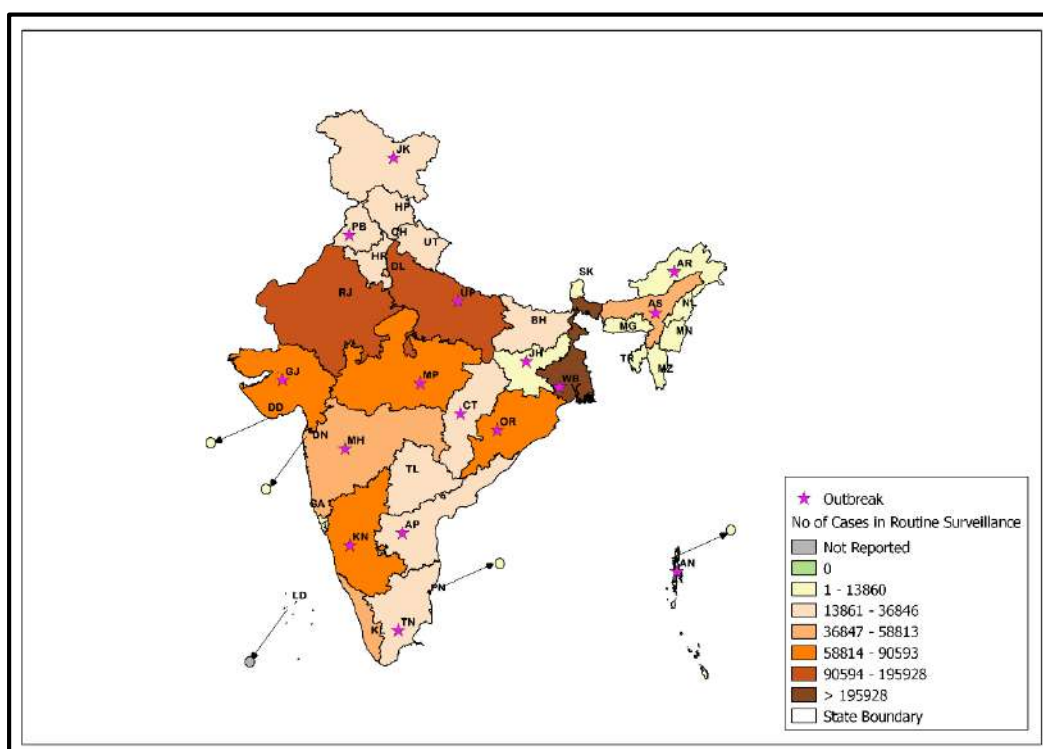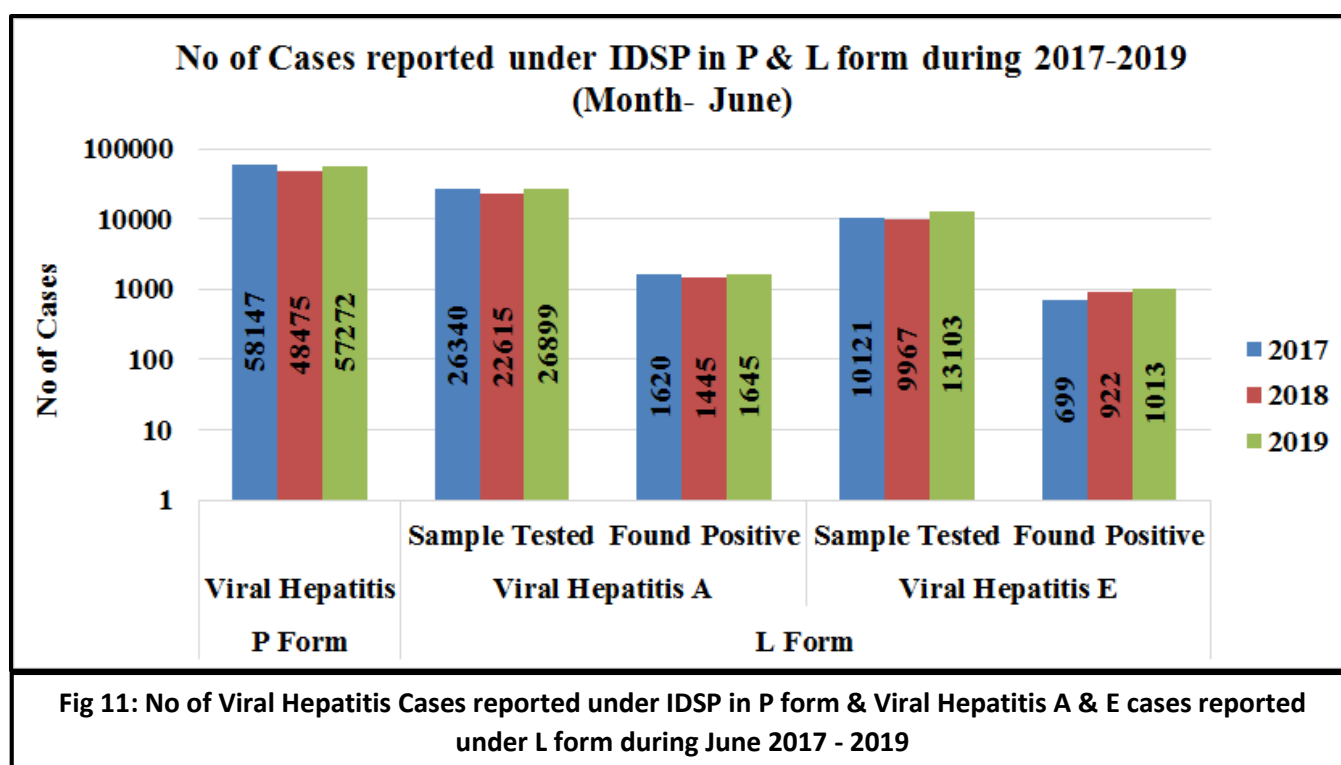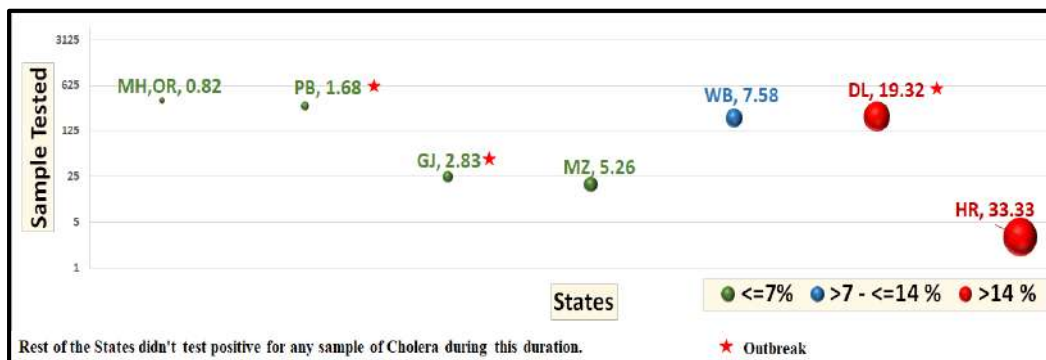**Fig 9: State/UT wise Presumptive ADD cases and outbreaks for June 2019**

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

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

As shown in Fig 11, the number of presumptive Viral Hepatitis cases was 58147 in June 2017, 48475 in June 2018 and 57272 in June 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 June 2017; 26340 samples were tested out of which 1620 were found positive. In June 2018 out of 22615 samples, 1445 were found to be positive and in June 2019, out of 26899 samples, 1645 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6.15%, 6.39% and 6.12% in June month of 2017, 2018 & 2019 respectively.

As reported in L form for Viral Hepatitis E, in June 2017; 10121 samples were tested out of which 699 were found positive. In June 2018; out of 9967 samples, 922 were found to be positive and in June 2019, out of 13103 samples, 1013 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 6.91%, 9.25% and 7.73% in June month of 2017, 2018 & 2019 respectively.

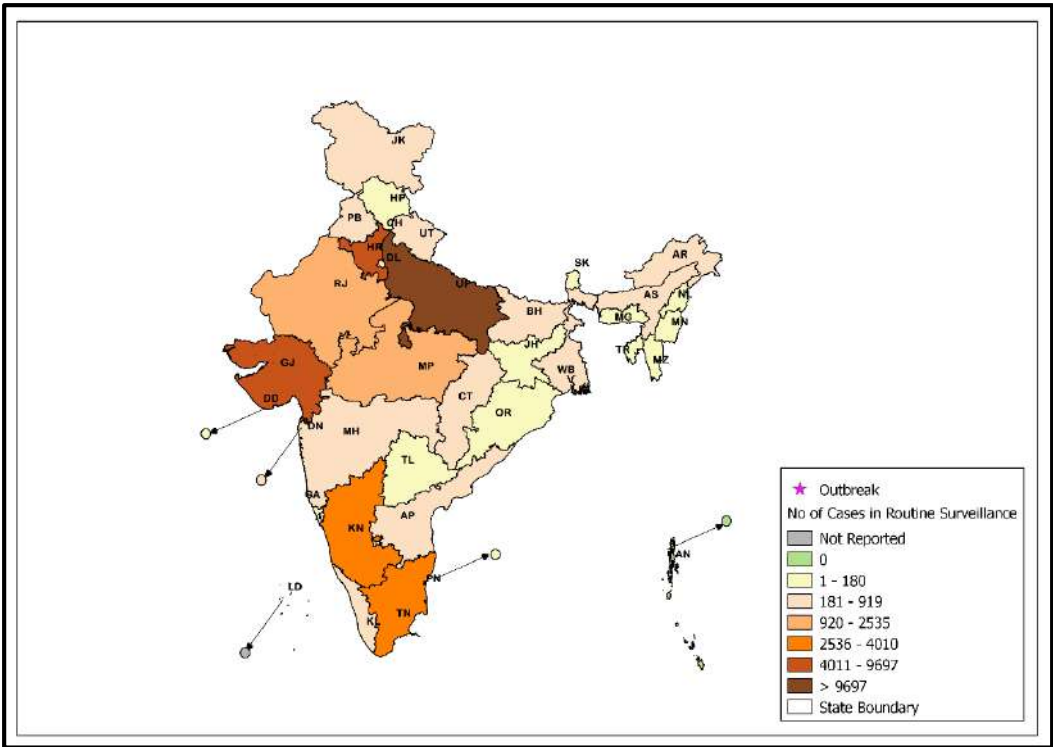**Fig 12: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for June 2019**

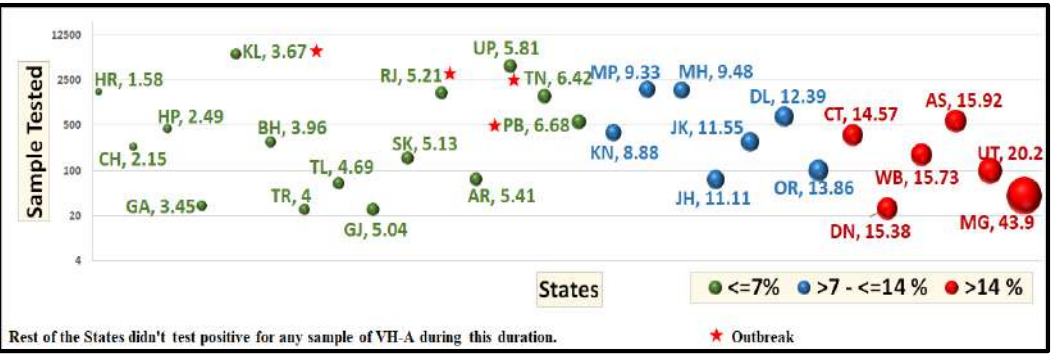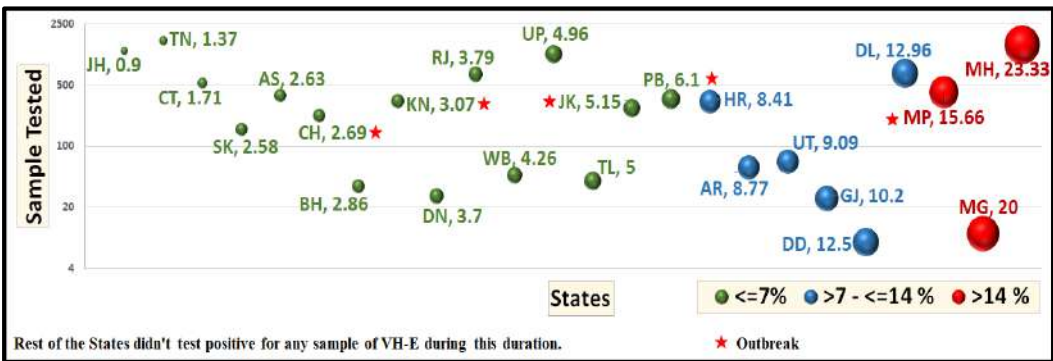**Fig 13: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for June 2019**

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

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No of Cases reported under IDSP in P & L form during 2017-2019 (Month –June)

Fig 15: No. of Dengue Cases reported under IDSP in P & L form during June 2019
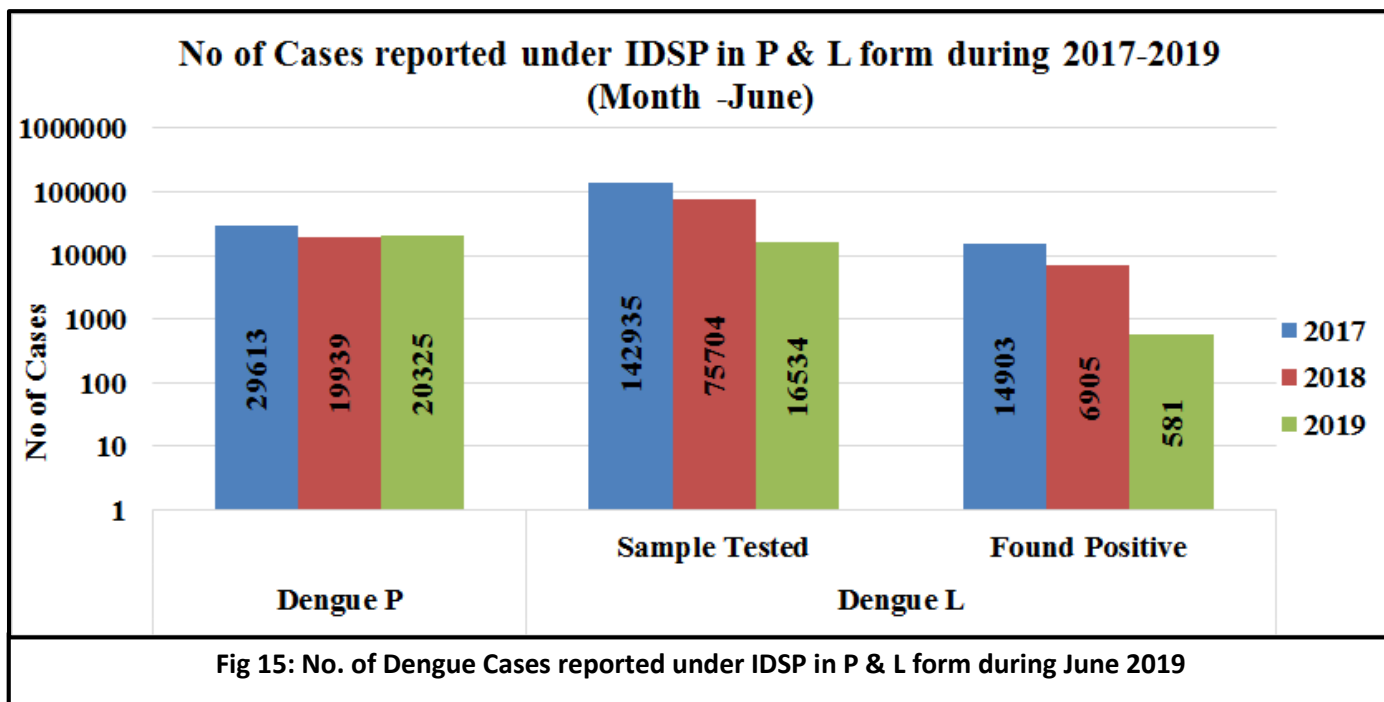
As shown in Fig 15, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 29613 in June 2017; 19939 in June 2018 and 20325 in June 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2017; 142935 samples were tested for Dengue, out of which 14903 were found positive. In June 2018; out of 75704 samples, 6905 were found to be positive and in June 2019, out of 16534 samples, 581 were found to be positive.

Sample positivity of samples tested for Dengue has been 10.43%, 9.12% and 3.51% in June month of 2017, 2018 & 2019 respectively.

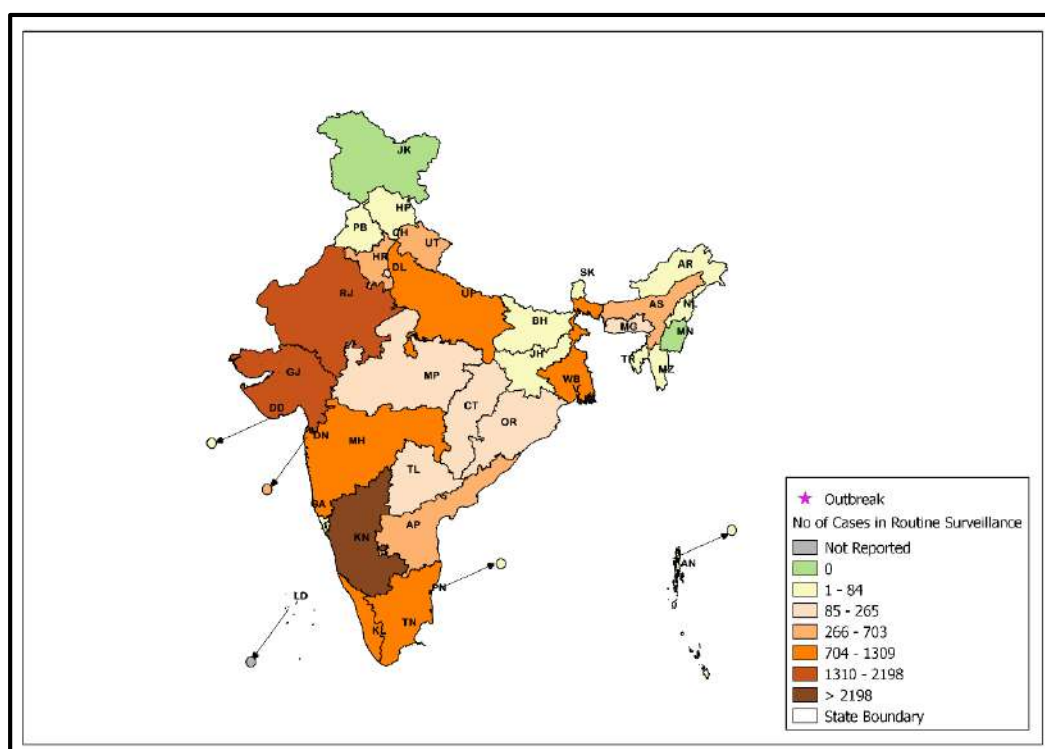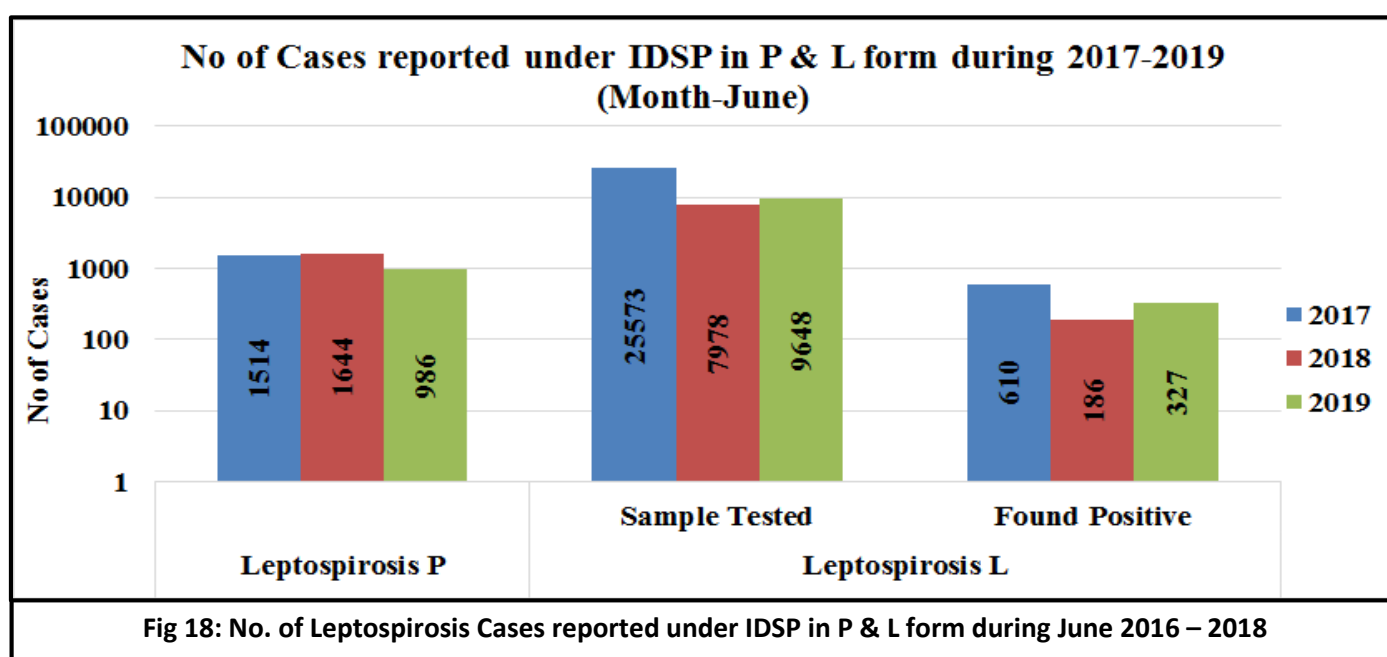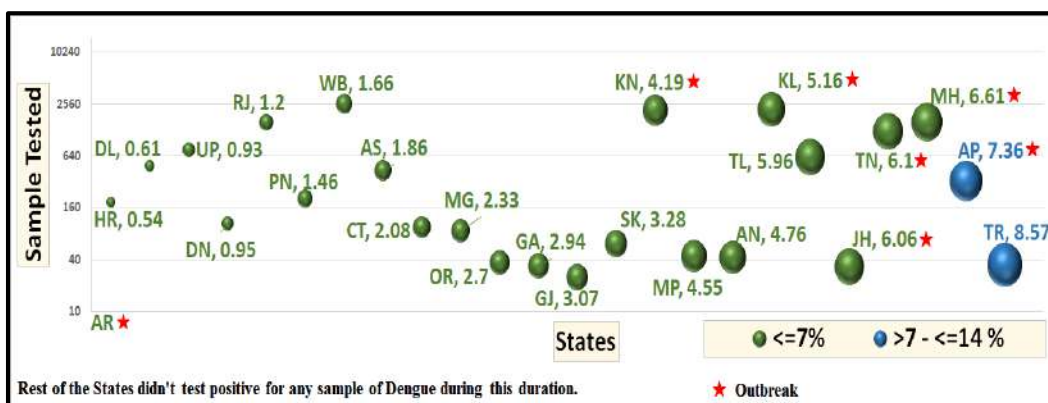**Fig 16: State/UT wise Presumptive Dengue cases and outbreaks for June 2019**

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

Fig 18: No. of Leptospirosis Cases reported under IDSP in P & L form during June 2016 – 2018

As shown in Fig 18, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1514 in June 2017; 1644 in June 2018 and 986 in June 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2017; 25573 samples were tested for Leptospirosis, out of which 610 were found positive. In June 2018; out of 7978 samples, 186 were found to be positive and in June 2019, out of 9648 samples, 327 were found to be positive.

Sample positivity of samples tested for Dengue has been 2.39%, 2.33% and 3.39% in June month of 2017, 2018 & 2019 respectively.

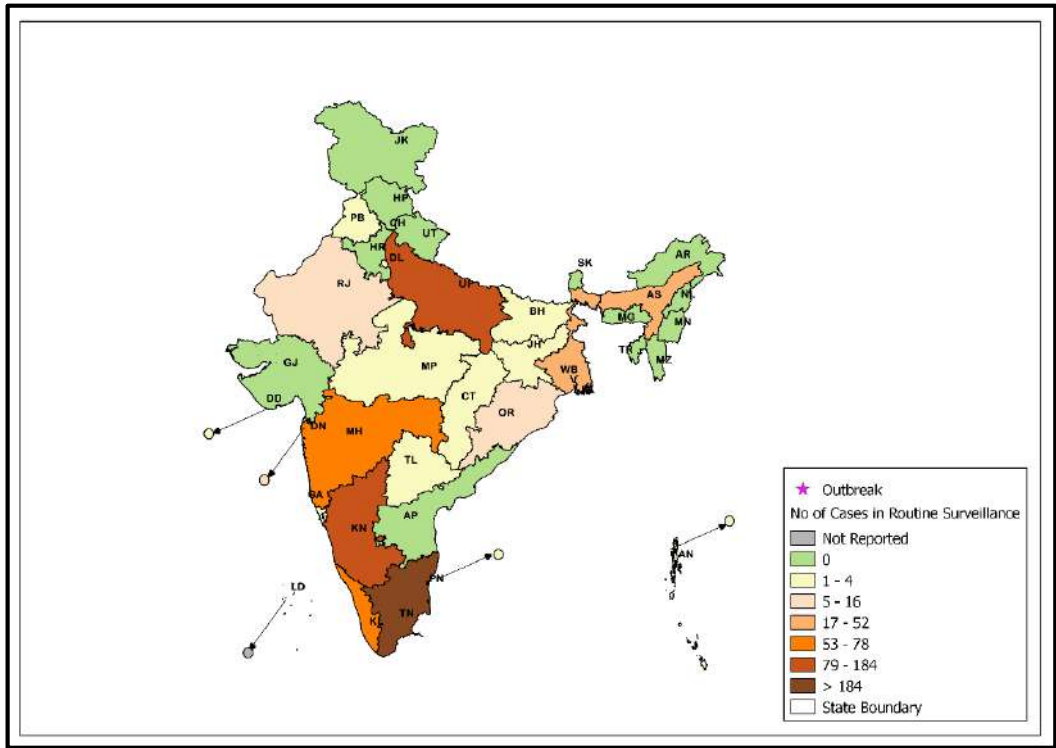**Fig 19: State/UT wise Presumptive Leptospirosis cases and outbreaks for June 2019**
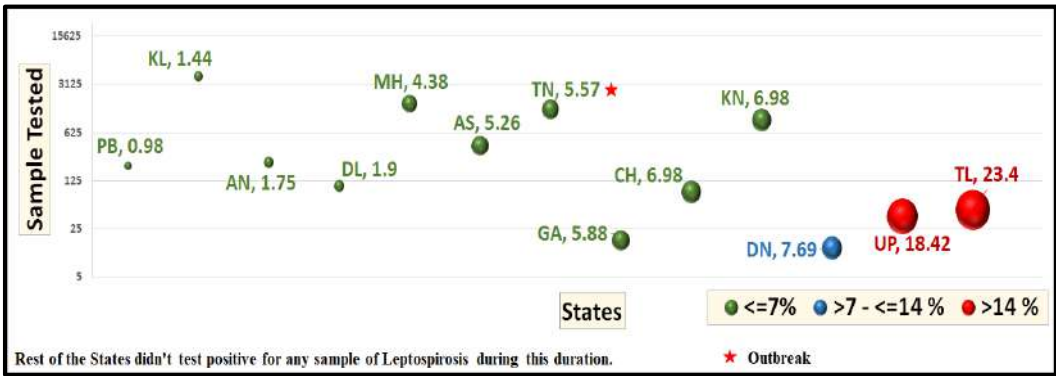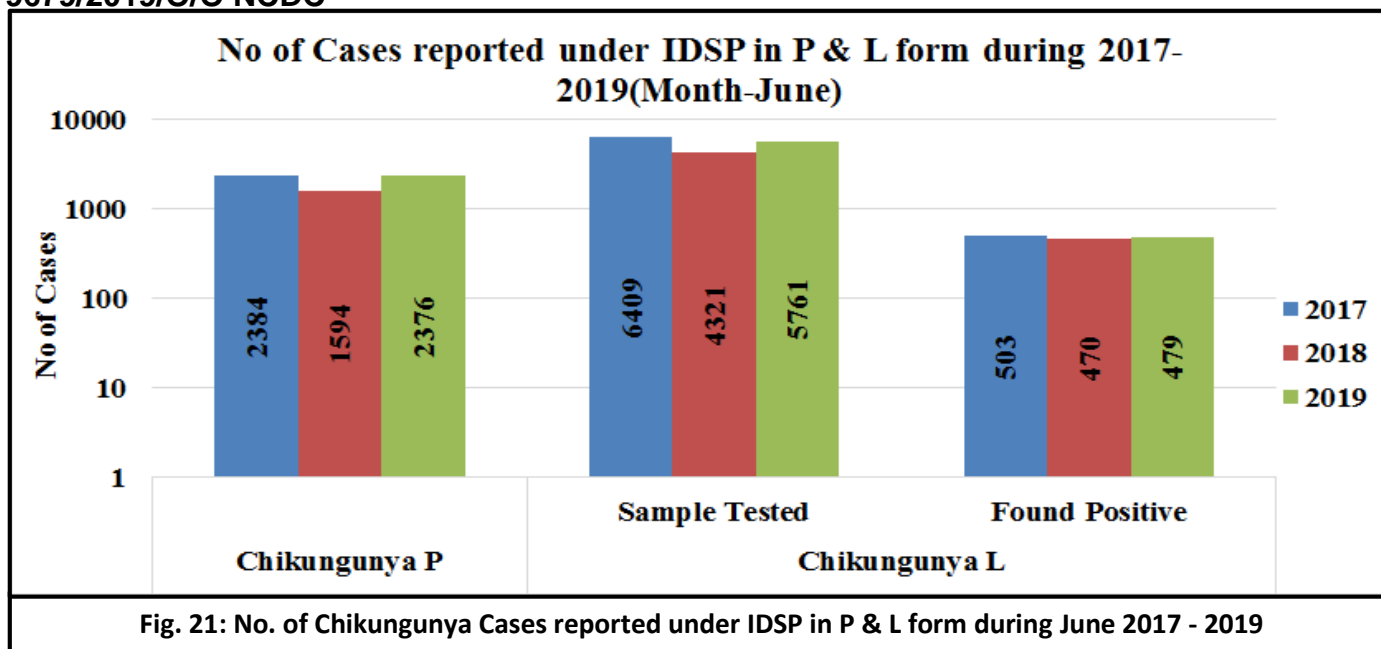

Fig 20: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for June 2019

Fig. 21: No. of Chikungunya Cases reported under IDSP in P & L form during June 2017 - 2019

As shown in Fig 21, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 2384 in June 2017; 1594 in June 2018 and 2376 in June 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2017; 6409 samples were tested for Chikungunya, out of which 503 were found positive. In June 2018; out of 4321 samples, 470 were found to be positive and in June 2019, out of 5761 samples, 479 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 7.85%, 10.88% and 8.31% in June month of 2017, 2018 & 2019 respectively.

Fig 22: State/UT wise Presumptive Chikungunya cases and outbreaks for June 2019
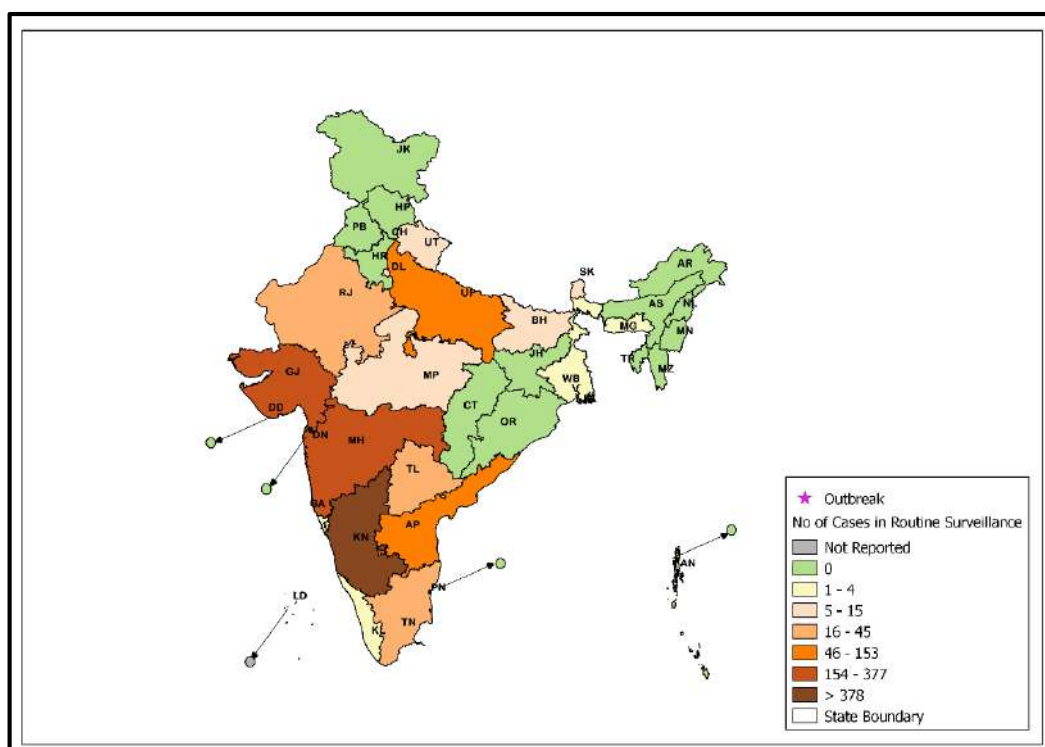

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Fig 23: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for June 2019
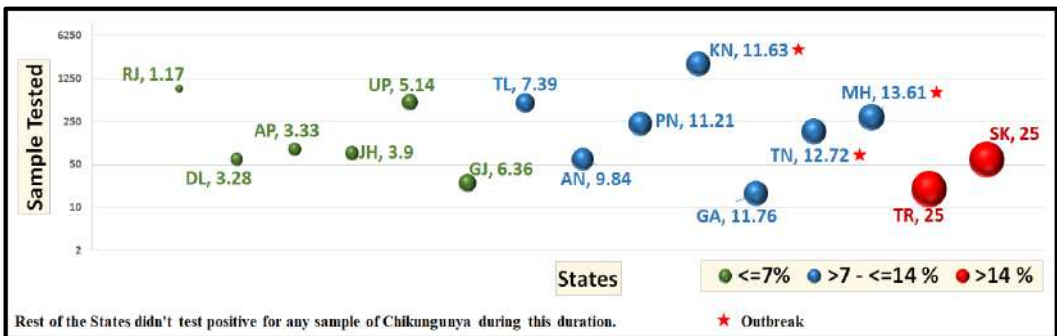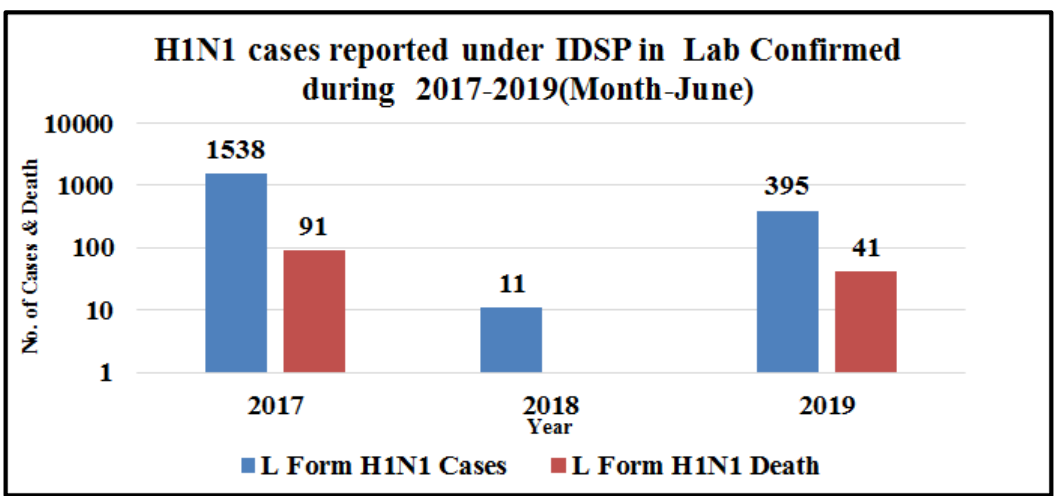

Fig 24: H1N1 cases reported under IDSP in L Form during 2017-2019 in June 2019

As reported in L form, in June 2017; there were 1538 cases and 91 deaths. In June 2018; there were 11 cases and 0 deaths and in June 2019, there were 395 cases and 41 deaths.

Case fatality rate for H1N1 were 5.92%, 0.00% and 10.38% in June month of 2016, 2017 & 2018 respectively

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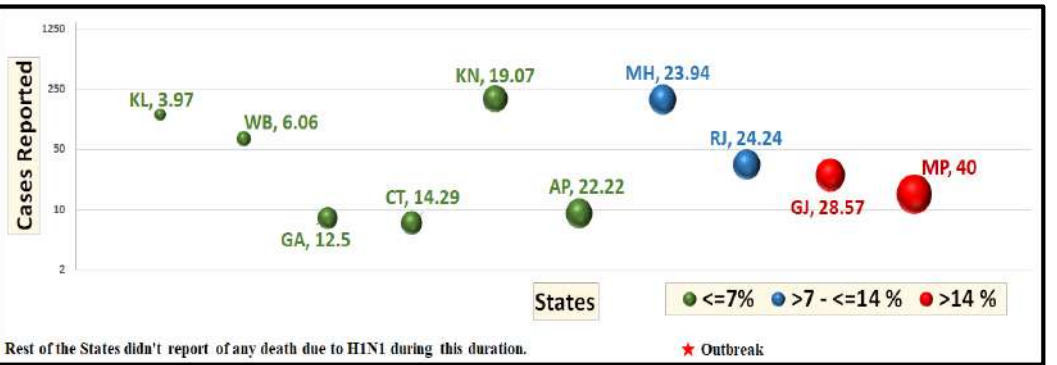
Glossary:

- **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
  - Anuria or oliguria and/or proteinuria

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- Jaundice
- Hemorrhagic manifestations
- Meningeal irritation
- Nausea, Vomiting, Abdominal pain, Diarrhoea

Lab Confirmed Leptospirosis: A presumptive case with -
- IgM ELISA positive OR
- Isolation of leptospires 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.

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