1794856/2020/O/O NCDC

Issue - 9 Vol. 4

Disease Alert
प्रकोप चेतावनी

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

September 2019

Inside

MUMPS OUTBREAK, GOVT. PRIMARY SCHOOL, BLOCK GHARUAN, DISTRICT S.A.S.NAGAR,

BACKGROUND:

On 26th August, few cases with moderate fever, swelling at parotid region & pain in throat were reported among students at Primary School, Village Daun, SHC Daun. Rural Medical Officer, SHC Daun undertook a preliminary investigation and it was suspected that the children are suffering from Mumps.

The information was relayed to district and in response, District and Block Rapid Response Team were mobilized to tackle the situation**.**

INVESTIGATIONS UNDERTAKEN BY RRT:

It was found that the first case occurred about 07 days back. It was noted that index case was possibly an 8yrs/F who developed symptoms on 19th August. Thereafter, infection possibly spread to other children of Govt. Primary School, Daun and they started showing signs of infection. Subsequently, the number of cases increased in the school. Till 27th August, the date investigation was started by RRT, 30 clinically confirmed cases were reported from the school. On further testing, 19 cases were found to be lab confirmed.

Clinical Case Definition: RRT started by making a clinical case definition to identify all suspect cases -

"Any child aged 05-12 years suffering from acute onset of unilateral or bilateral tender swelling of the parotid or other salivary gland lasting for 2 or more days or a symptomatic child who is IgM Elisa positive , onset of symptoms' after 27.8.2019 belonging to Daun village."

LABORATORY DIAGNOSIS

22 blood samples were collected and were sent to District Public Health Lab, Mohali for detection of mumps by IgM ELISA

ACTIONS TAKEN BY

RAPID RESPONSE TEAM:

- 124 students are studying in school. All pre-primary and primary students were screened out and from that 24 students were suspected for mumps.
- An emergency medical camp was organized in the school premises and preliminary treatment was given to them
- Students & school staff were sensitized about the disease, its transmission, prevention & control.
- Parents of infected students were informed to put their children under isolation if they are suspected to be suffering from Mumps.
- School authority were instructed not to send the infected or suspected children for at least seven days
- Health education was given to school staff and students.
- House to house survey was conducted.
- 22 blood samples were collected. Samples were sent to District Public Health Lab, Mohali.
- ANM and ASHA workers were instructed to closely monitor the situation.
- Suspected patients were put on isolation.
- Immunization status of all patients: although it was found complete but children were unvaccinated against Mumps.
- On 28th August' 2019, 150 houses were surveyed in surrounding areas. No suspected case found during the survey.

NOTES ON DATE-WISE UPDATES BY RAPID RESPONSE TEAM:

29th August 2019: Mapping of addresses o suspects was done. Among the 24 cases, 01 case is from Village Desumajara ,02 cases from New Sunny Enclave and 03 cases from Village Balongi and 18 cases are from Village Daun. House to house survey conducted in Village Balongi,Village Daun, New Sunny Enclave and Desumajra.

House-to-house surveys were conducted in these areas, but no suspects were found.

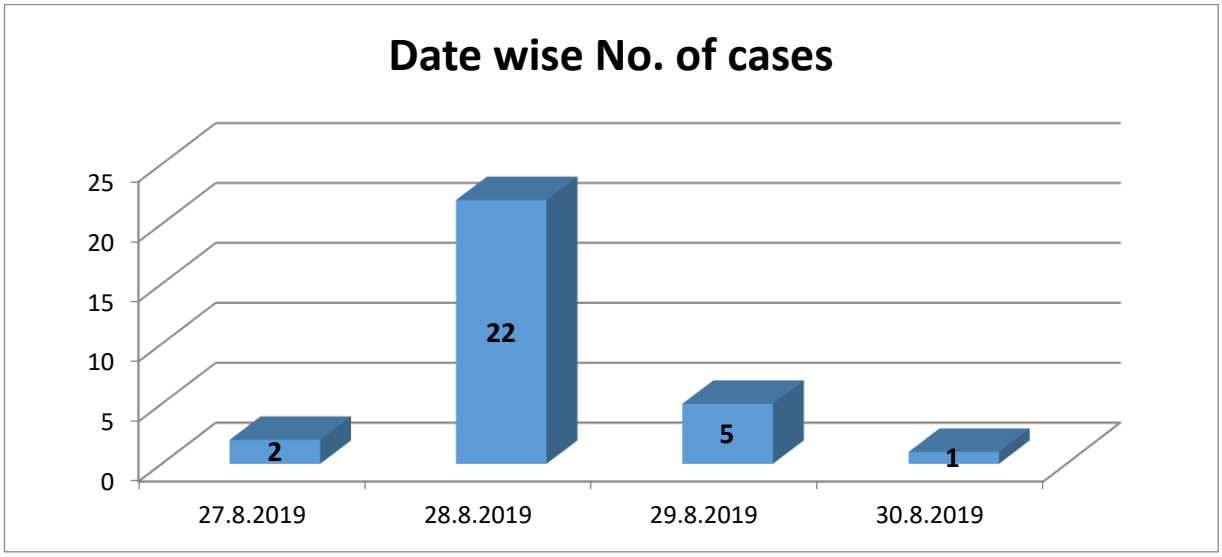
30th August 2019: 1 students from Govt.Primary School, Daun complained of pain behind the ear and diagnosed by RMO, Daun as suspected of Mumps. This brought number of cases to 30. Thereafter, no new cases were identified.

LABORATORY RESULT:

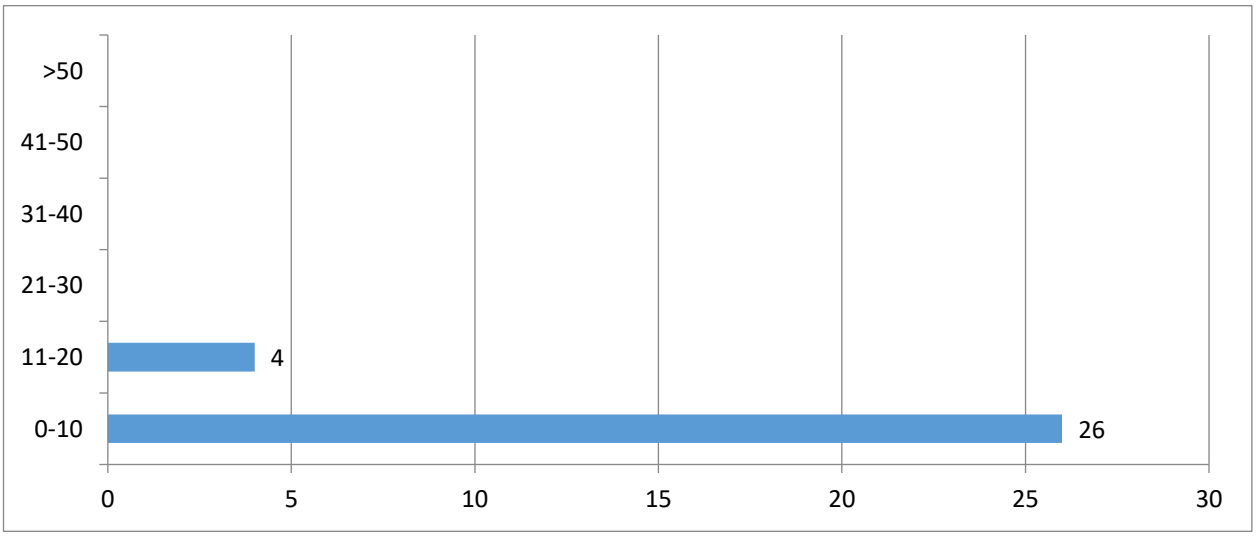
Out of 22 samples analyzed at District Public Health Lab, Mohali, 19 tested positive for Mumps by IgM ELISA and 03 tested negative.

DESCRIPTIVE EPIDEMIOLGY:

Description of Cases by Time, Place and Person



Cases as per Person Distribution (w.r.t Age Groups)



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Sex wise distribution

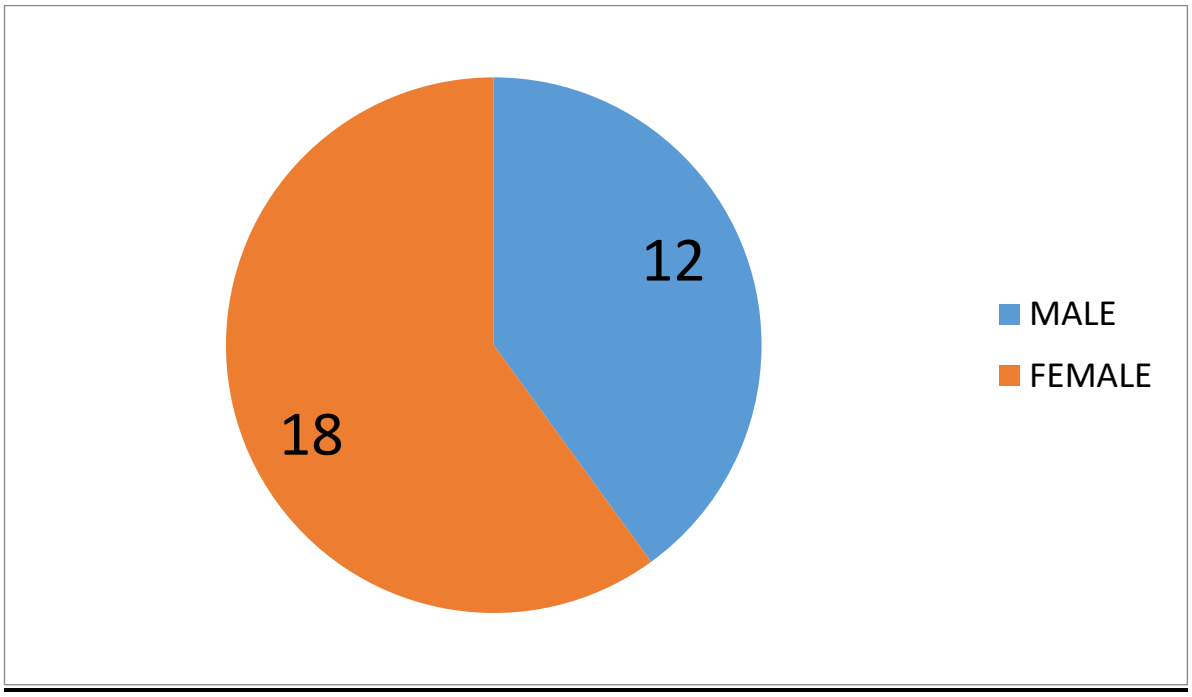


Figure 1: Checking students for Mumps

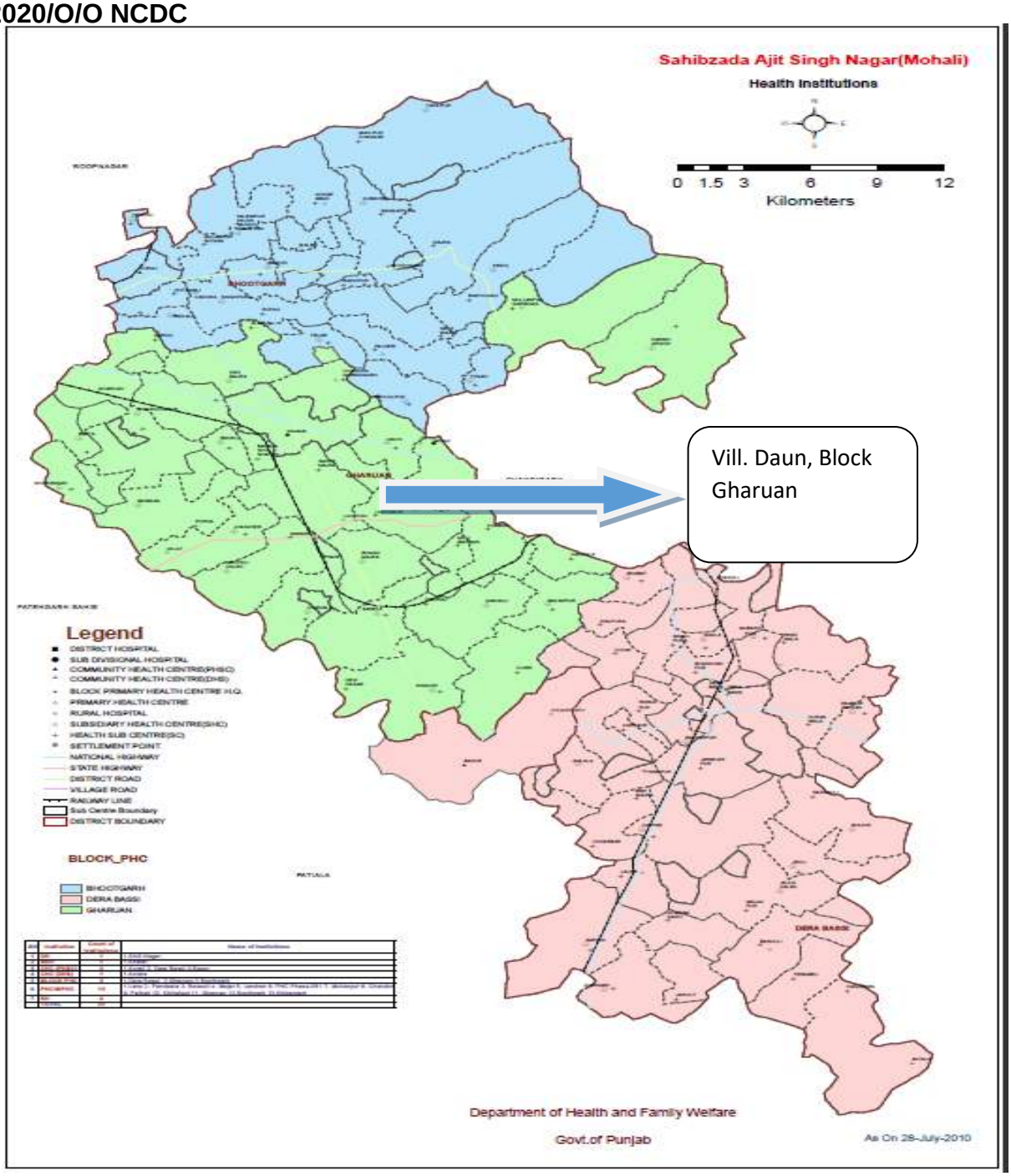


Figure 2 : Location Map Village Daun, Block Gharuan

Control measures:

Preventive measures

MMR vaccination was given to all children in the area & surrounding, unless specific contra-indications to the vaccine exist.

Mumps (MMR) Vaccine Indications

- One dose (as MMR) for preschool-age children 12 months of age
- Second dose (as MMR) for school-age children and adults at high risk of mumps exposure (i.e., healthcare personnel, international travelers and students at post-high school educational institutions

Control of case

Since there is no specific treatment, cases requiring hospitalization should be nursed in an isolation room using respiratory precautions until nine days after the onset of glandular swelling. Exclude cases from school, child care or workplace until nine days after the onset of glandular swelling. Advised parents to keep the child away from other children and susceptible adults for the period of exclusion.

Screening Activities in School

Figure 3: Screening activities in school

Figure 4: Screening activities in school

Recommendations:

Short term:

1. Health care workers and school teachers should be made aware that risk of transmission of Mumps is high and could cause outbreaks if majority of children are unvaccinated.
2. Active case search for early diagnosis, prompt isolation of cases and symptomatic treatment should be instituted.
3. An early alert should be issued to schools and Anganwadies in the area to report any child with symptoms suggestive of mumps to the health authorities in a timely manner. This could help in planning strategies to control of mumps outbreak.

Long term:

Childhood Immunization against Mumps should be considered, as this could be one of the important intervention for preventing occurrence of such outbreaks in future

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

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

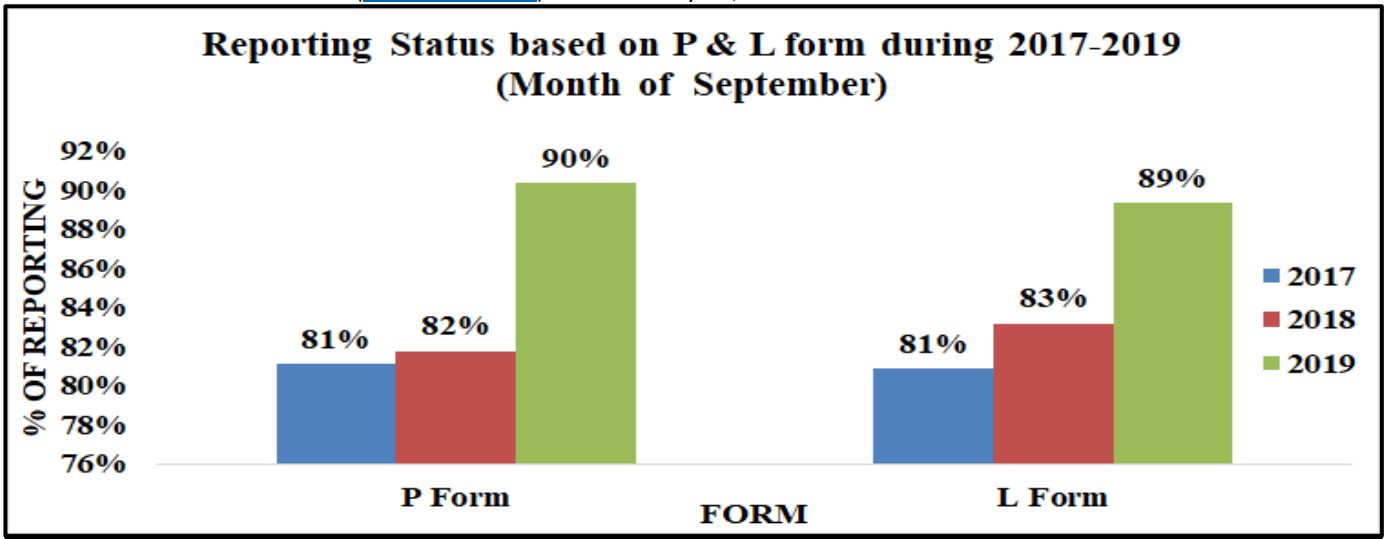


Fig. 8: RU wise reporting based on P & L form during September 2017 - 2019

As shown in Fig 8, in September 2017, 2018 and 2019, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 81%, 82% and 90% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 81%, 83% 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 9: State/UT wise P form completeness % for September 2019

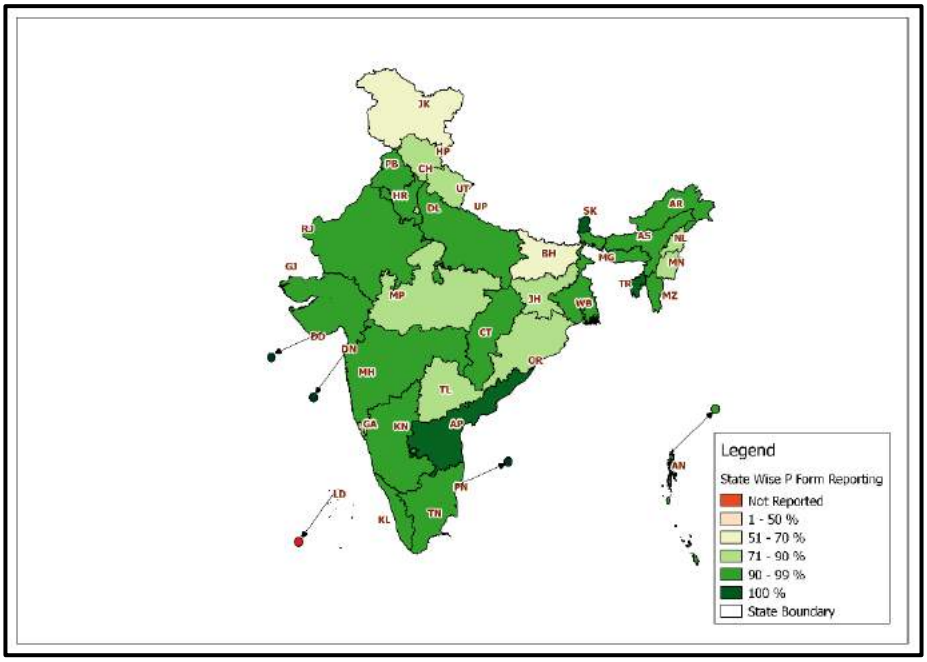
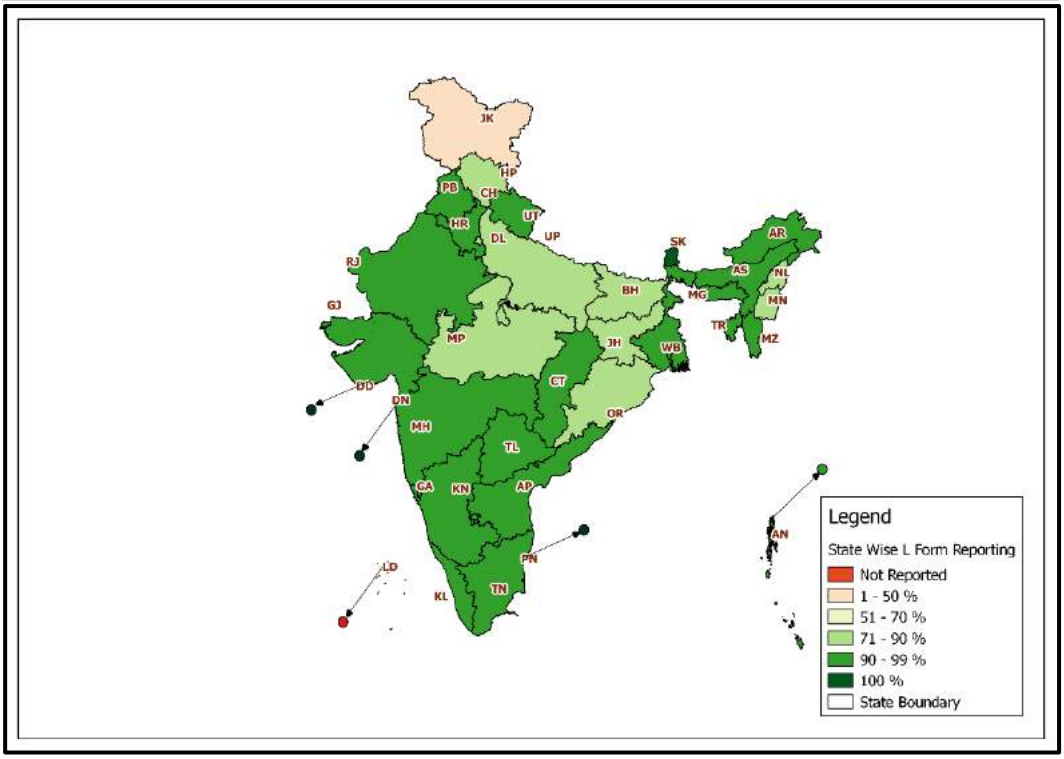


Fig 10: State/UT wise L form completeness % for September 2019



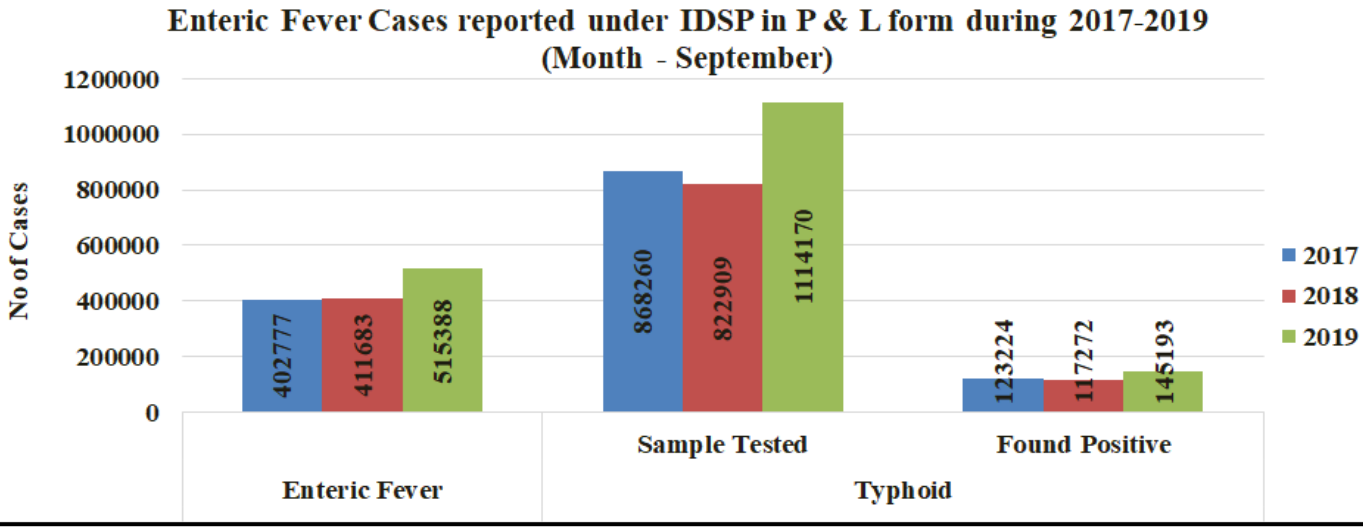


Fig. 11 No. of Enteric Fever Cases reported under P & L form during August 2017 - 2019

As shown in Fig 11, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 402777 in September 2017; 411683 in September 2018 and 515388 in September 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in September 2017; 868260 samples were tested for Typhoid, out of which 123224 were found positive. In September 2018; out of 822909 samples, 117272 were found to be positive and in September 2019, out of 1114170 samples, 145193 were found to be positive.

Sample positivity has been 14.19%, 14.25% and 13.03% in September 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 12: State/UT wise Presumptive Enteric fever cases and outbreaks for September 2019

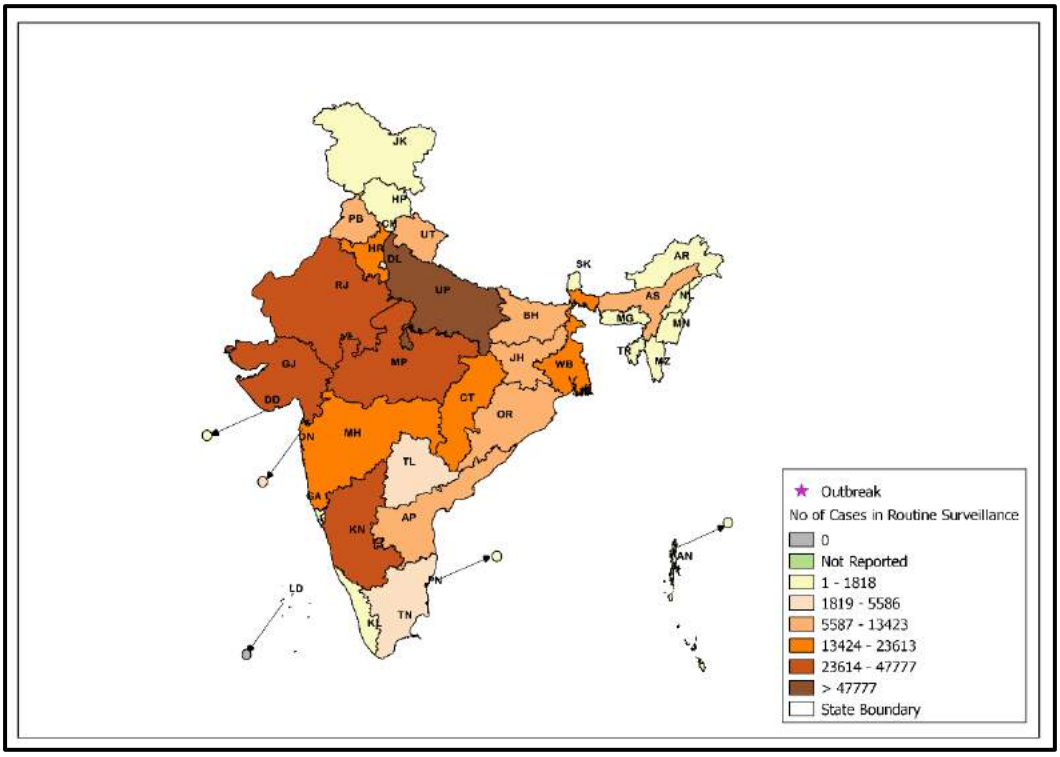
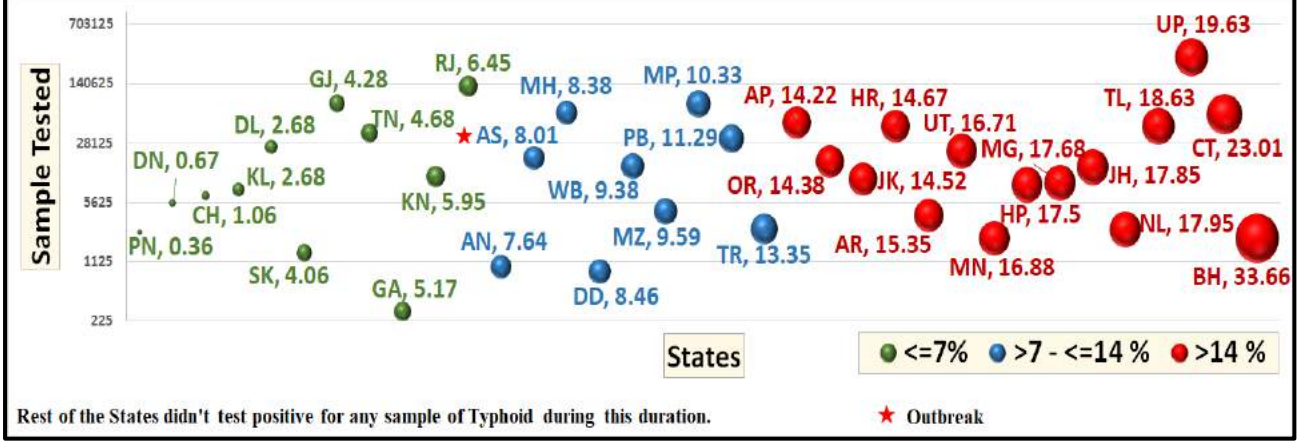


Fig 13: State/UT wise Lab Confirmed Typhoid cases and outbreaks for September 2019



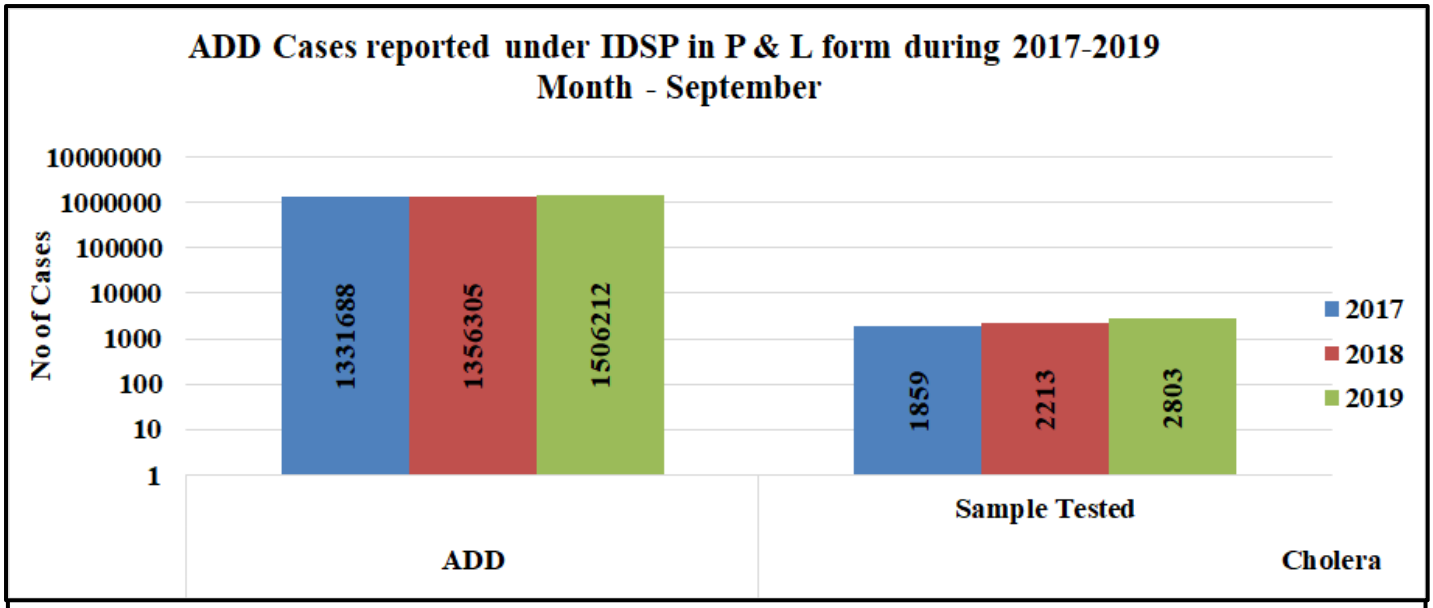


Fig. 14: No. of ADD Cases reported under IDSP in P Form & Cholera Cases in L form during September 2017 - 2019

As shown in Fig 14, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1331688 in September 2017; 1356305 in September 2018 and 1506212 in September 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in September 2017, 1859 samples were tested for Cholera out of which 29` tested positive; in September 2018, out of 2213 samples, 45 tested positive for Cholera and in September 2019, out of 2803 samples, 64 tested positive.

Sample positivity of samples tested for Cholera has been 1.56%, 2.03% and 2.28% in September month of 2017, 2018 & 2019 respectively.

Fig 15: State/UT wise Presumptive ADD cases and outbreaks for September 2019

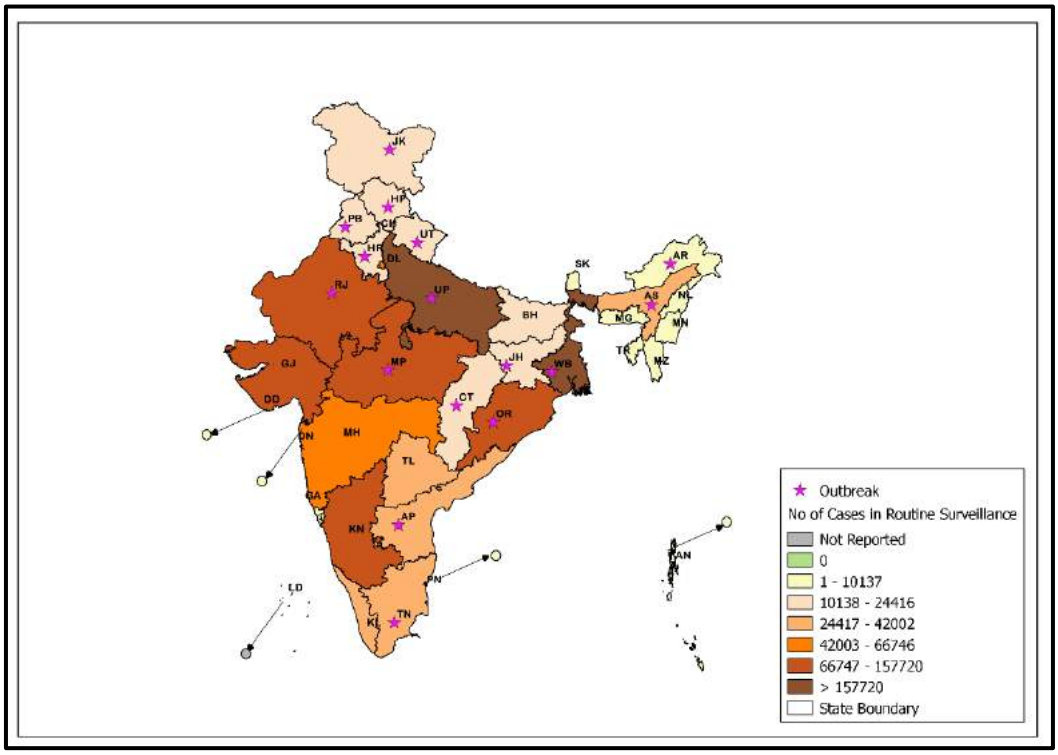
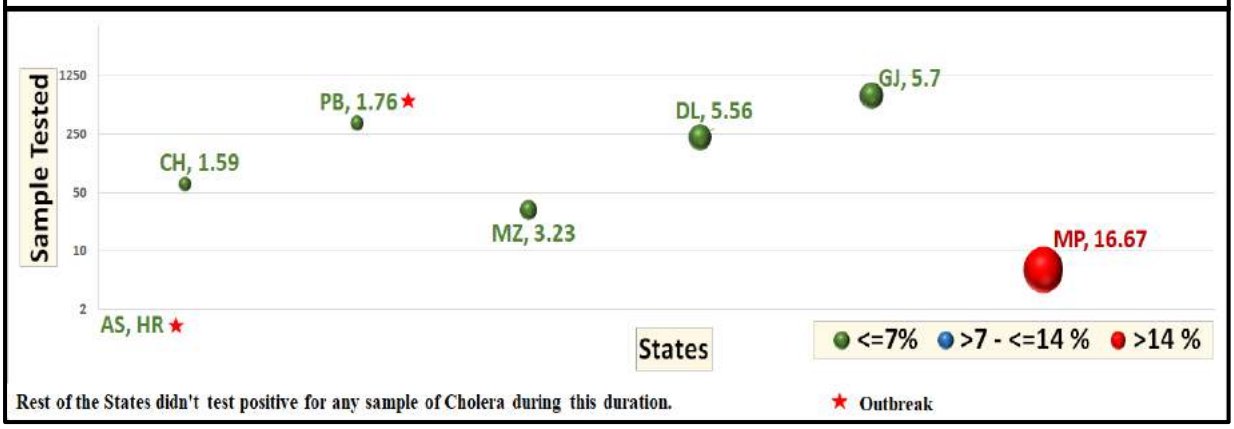


Fig 16: State/UT wise Lab Confirmed Cholera cases and outbreaks for September 2019



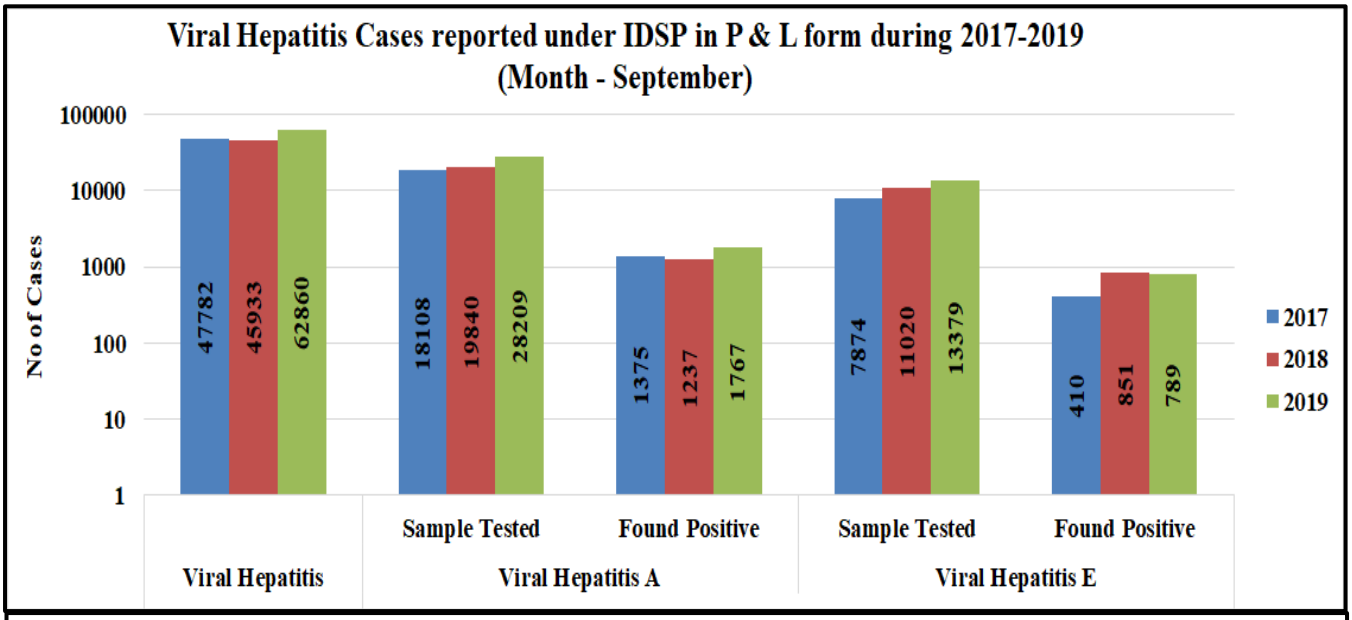


Fig 17: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during September 2017 - 2019

As shown in Fig17, the number of presumptive Viral Hepatitis cases was 47782 in September 2017, 45933 in September 2018 and 62860 in September 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 September 2017; 18108 samples were tested out of which 1375 were found positive. In September 2018 out of 19840 samples, 1237 were found to be positive and in September 2019, out of 28209 samples, 1767 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 7.59%, 6.23% and 6.26% in September month of 2017, 2018 & 2019 respectively.

As reported in L form for Viral Hepatitis E, in September 2017; 7874 samples were tested out of which 410 were found positive. In September 2018; out of 11020 samples, 851 were found to be positive and in September 2019, out of 13379 samples, 789 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 5.21%, 7.72% and 5.90% in September month of 2017, 2018 & 2019 respectively.

Fig 18: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for September 2019

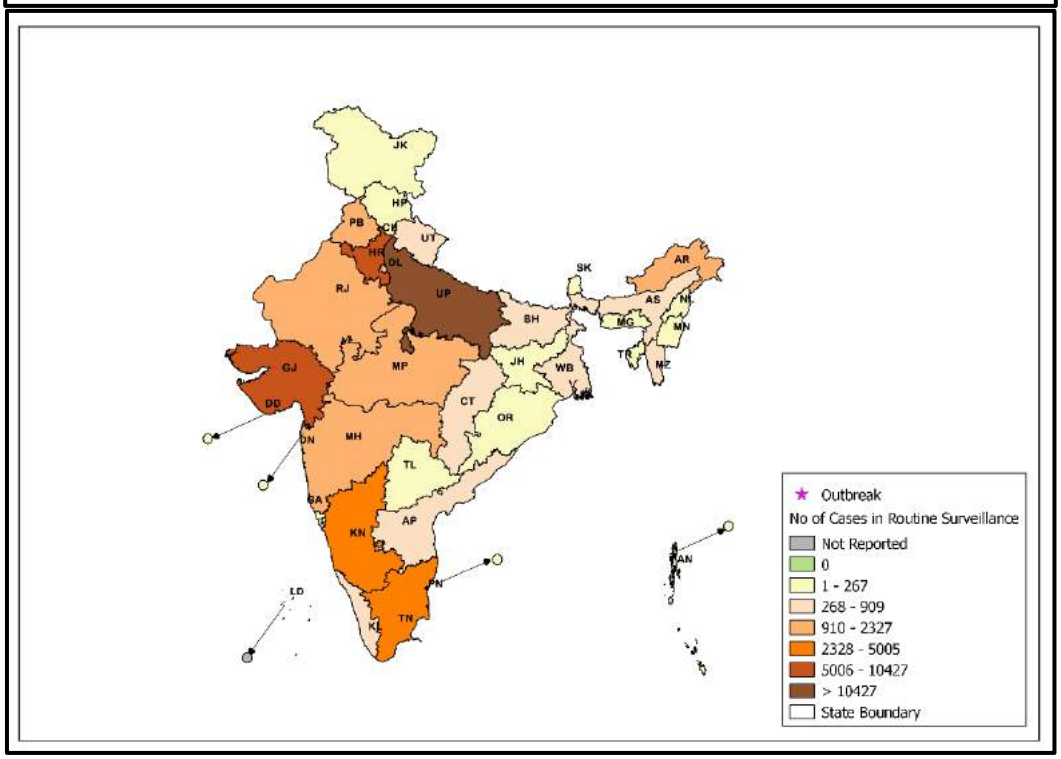


Fig 19: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for September 2019

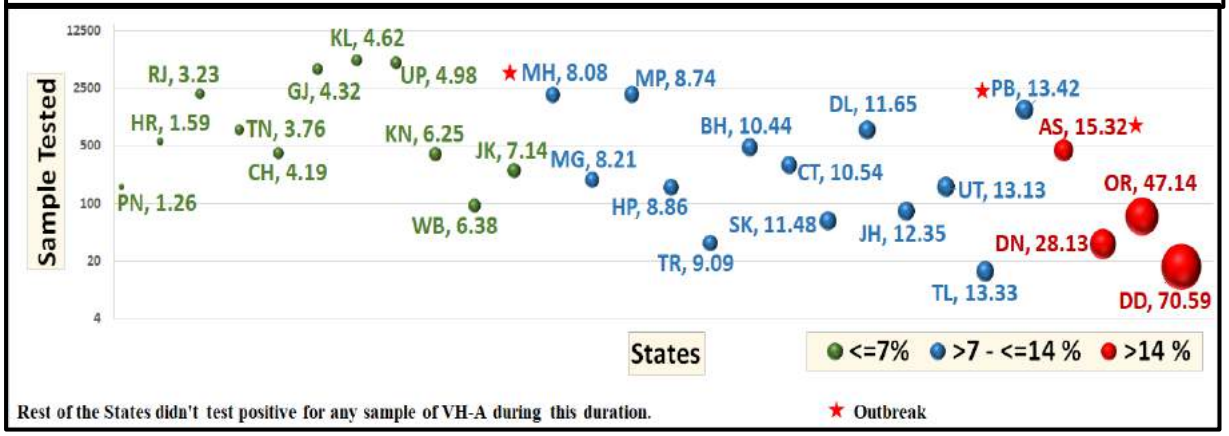
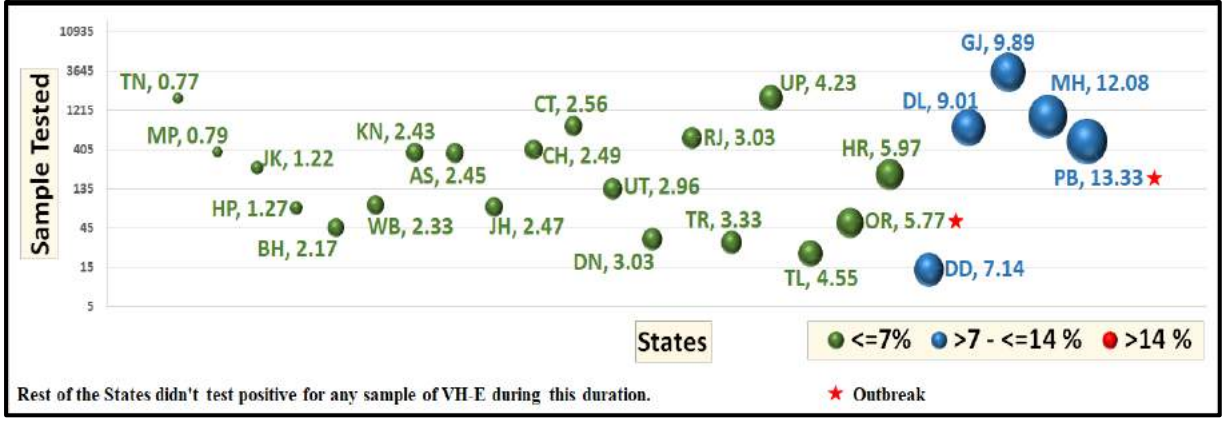


Fig 20: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for September 2019



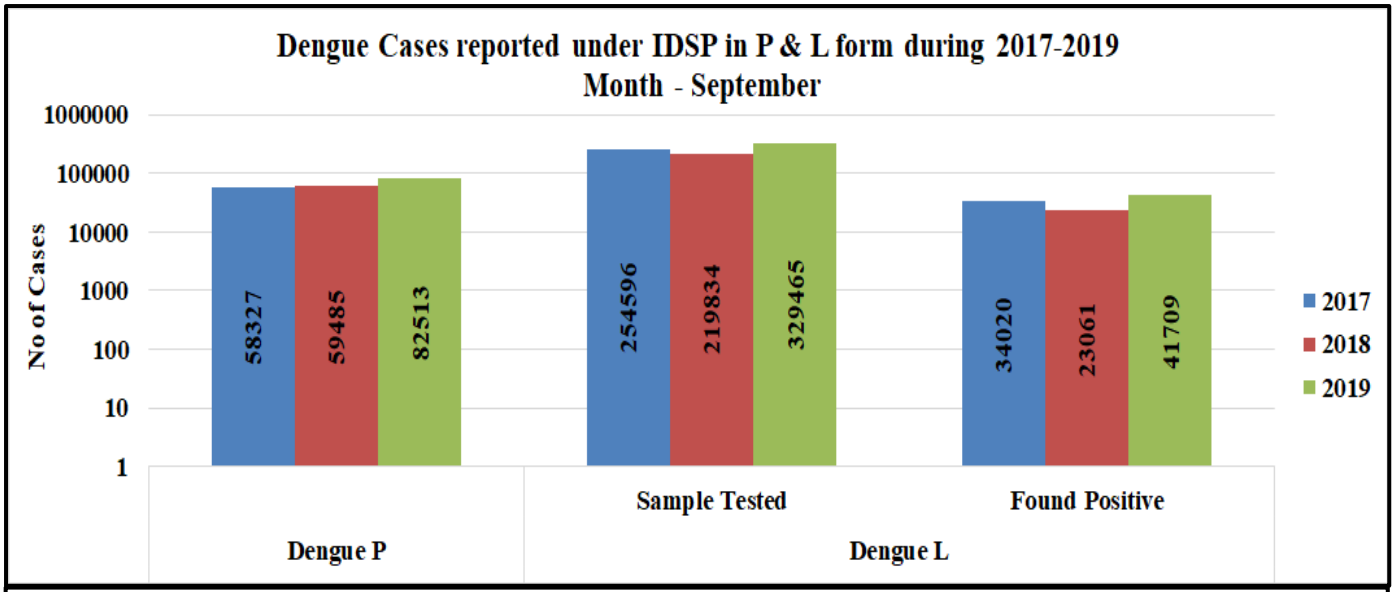


Fig 21: No. of Dengue Cases reported under IDSP in P & L form during September 2017 - 2019

As shown in Fig21, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 58327 in September 2017; 59485 in September 2018 and 82513 in September 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in September 2017; 254596 samples were tested for Dengue, out of which 34020 were found positive. In September 2018; out of 219834 samples, 23061 were found to be positive and in September 2019, out of 329465 samples, 41709 were found to be positive.

Sample positivity of samples tested for Dengue has been 13.36%, 10.49% and 12.66% in September month of 2017, 2018 & 2019 respectively**.**

Fig 22: State/UT wise Presumptive Dengue cases and outbreaks for September 2019

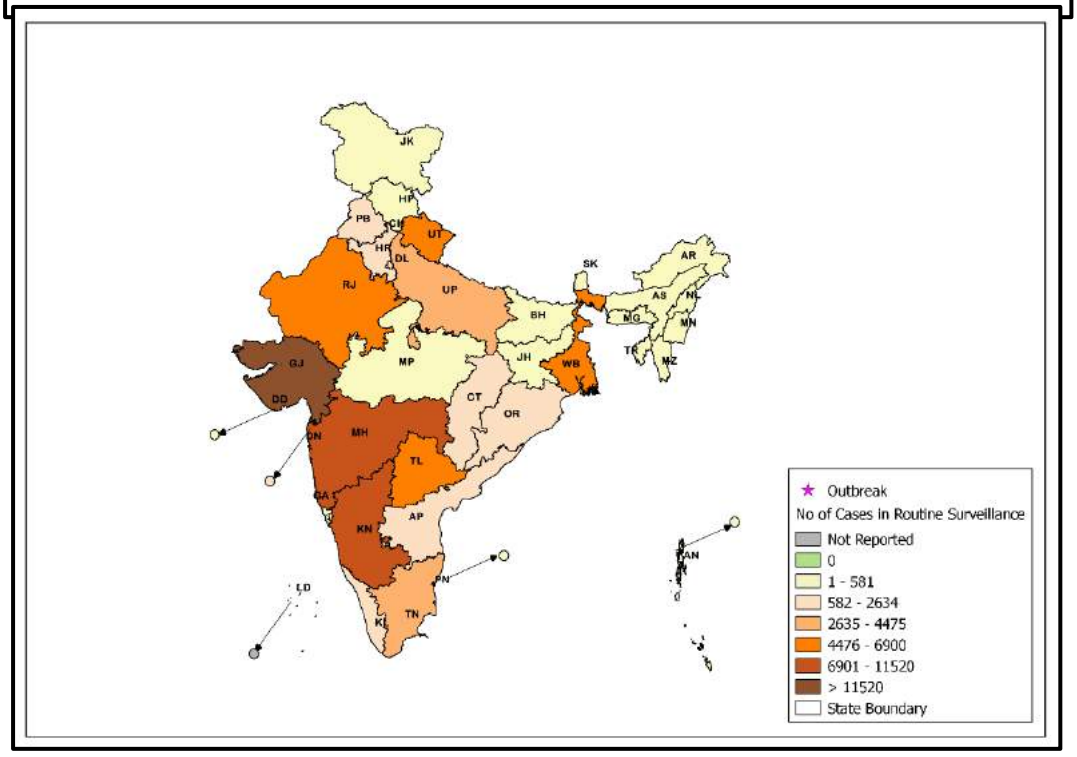
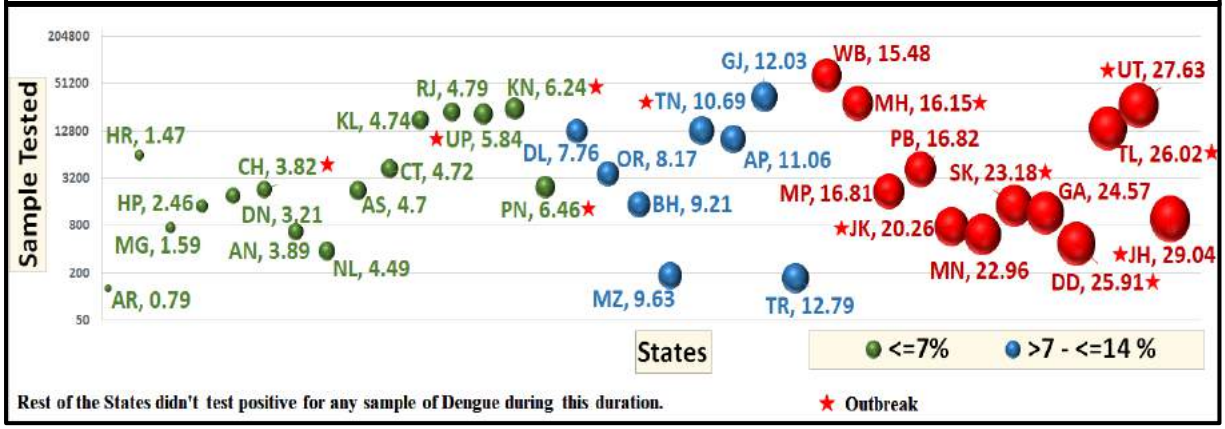


Fig 23: State/UT wise Lab Confirmed Dengue cases and outbreaks for September 2019



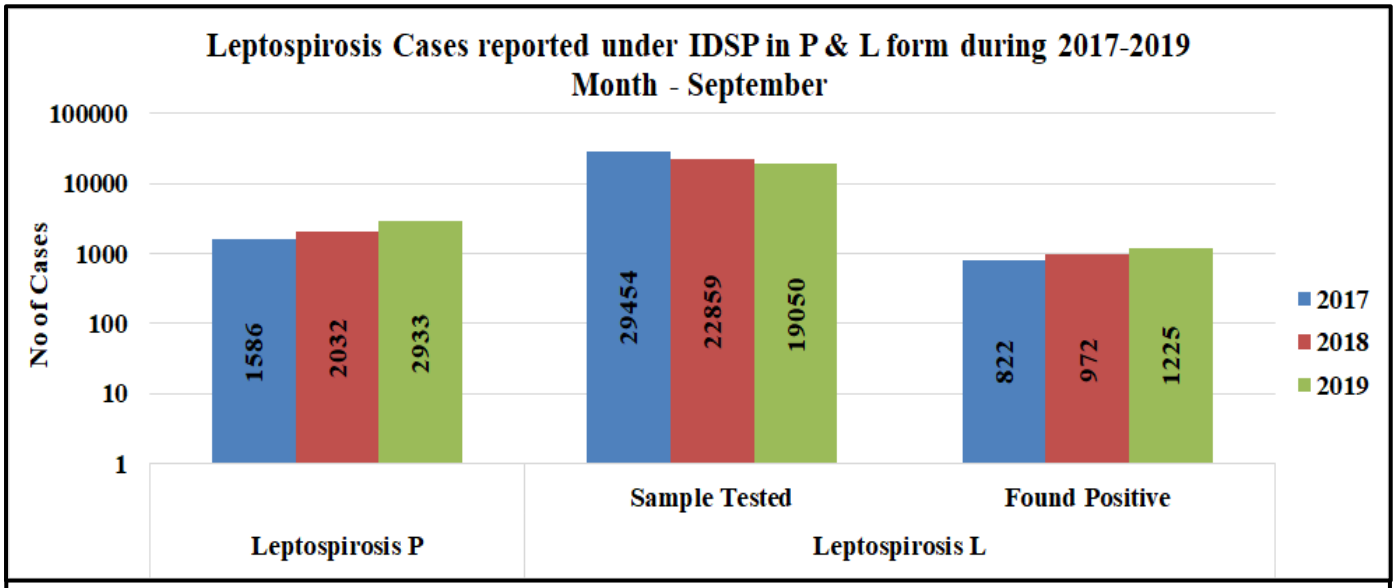


Fig 24: No. of Leptospirosis Cases reported under IDSP in P & L form during Sptember 2017 – 2019

As shown in Fig24, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1586 in September 2017; 2032 in September 2018 and 2933 in September 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in September 2017; 29454 samples were tested for Leptospirosis, out of which 822 were found positive. In September 2018; out of 22859 samples, 972 were found to be positive and in September 2019, out of 19050 samples, 1225 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 2.79%, 4.25% and 6.43% in September month of 2017, 2018 & 2019 respectively.

Fig 25: State/UT wise Presumptive Leptospirosis cases and outbreaks for September 2019

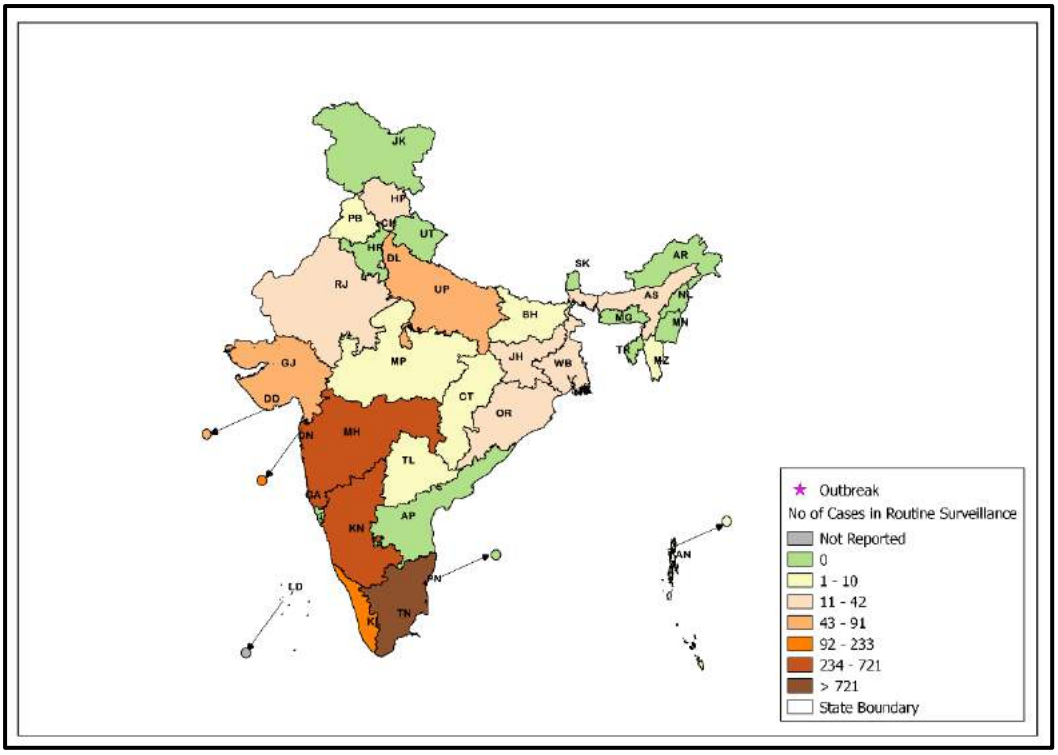
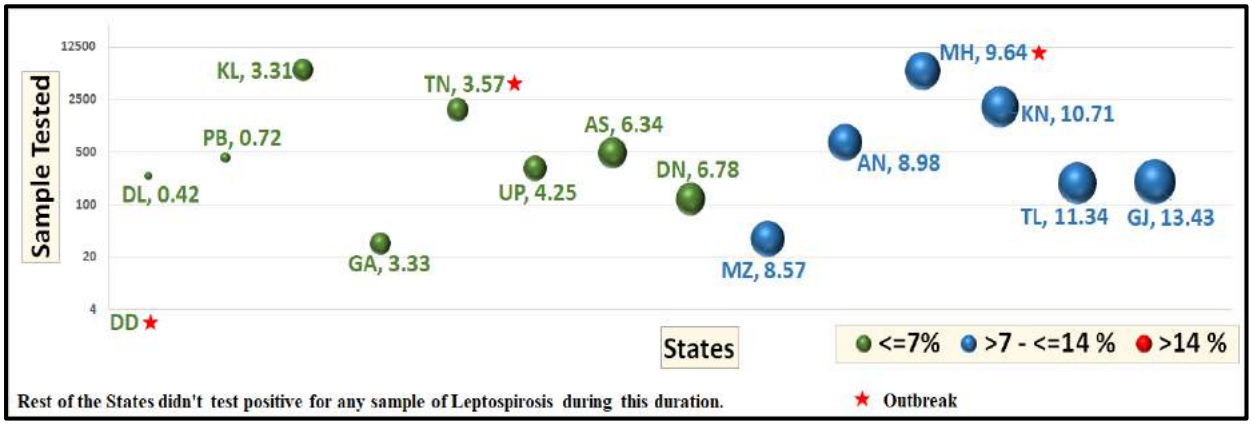


Fig 26: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for September 2019



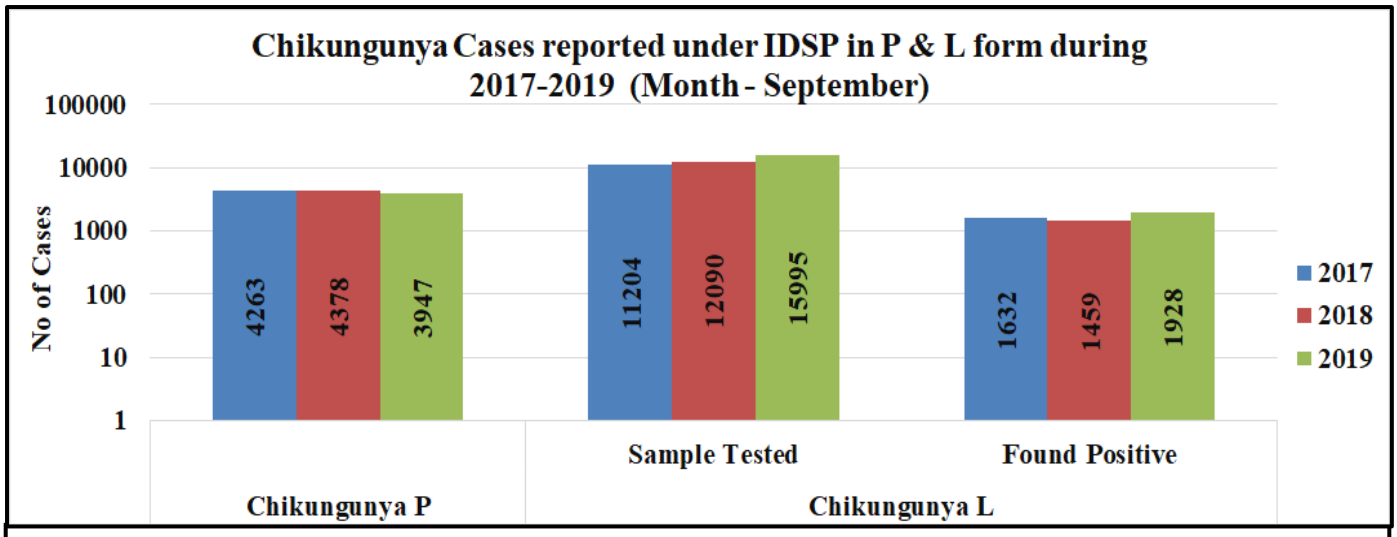


Fig. 27: No. of Chikungunya Cases reported under IDSP in P & L form during September 2017 - 2019

As shown in Fig27, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 4263 in September 2017; 4378 in September 2018 and 3947 in September 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in September 2017; 11204 samples were tested for Chikungunya, out of which 1632 were found positive. In September 2018; out of 12090 samples, 1459 were found to be positive and in September 2019, out of 15995 samples, 1928 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 14.57%, 12.07% and 12.05% in September month of 2017, 2018 & 2019 respectively.

Fig 28: State/UT wise Presumptive Chikungunya cases and outbreaks for September 2019

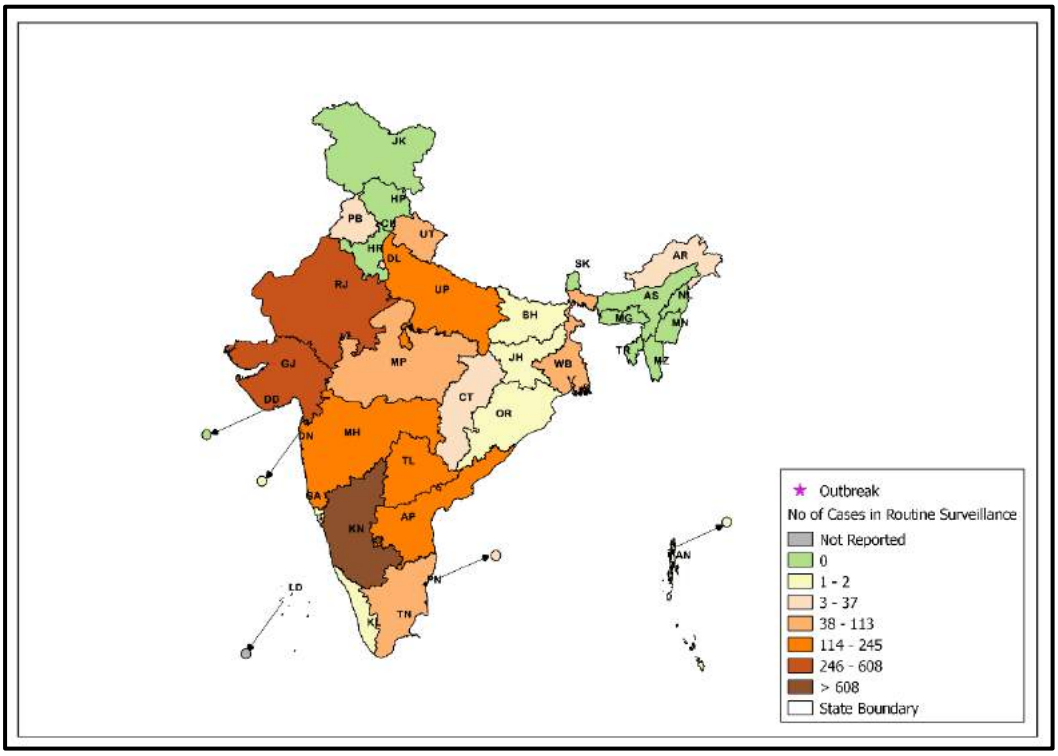


Fig 29: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for September 2019

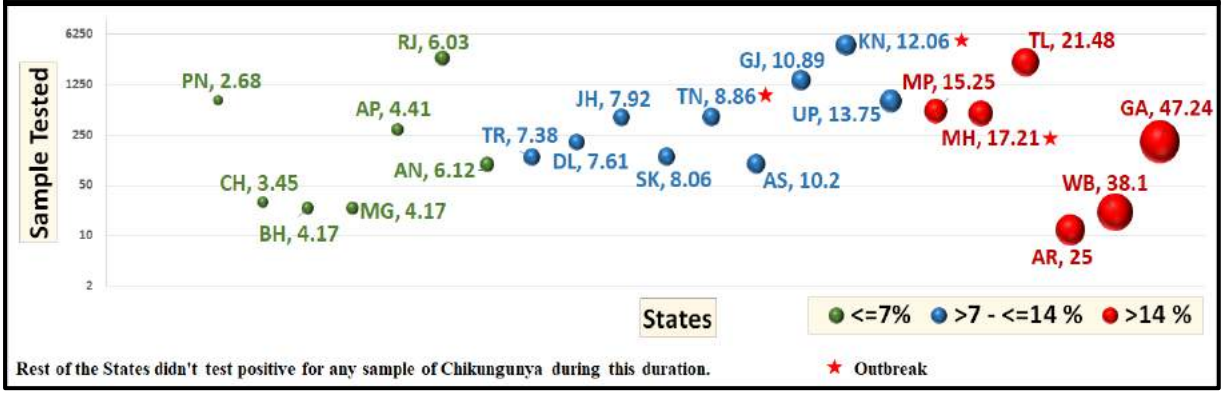
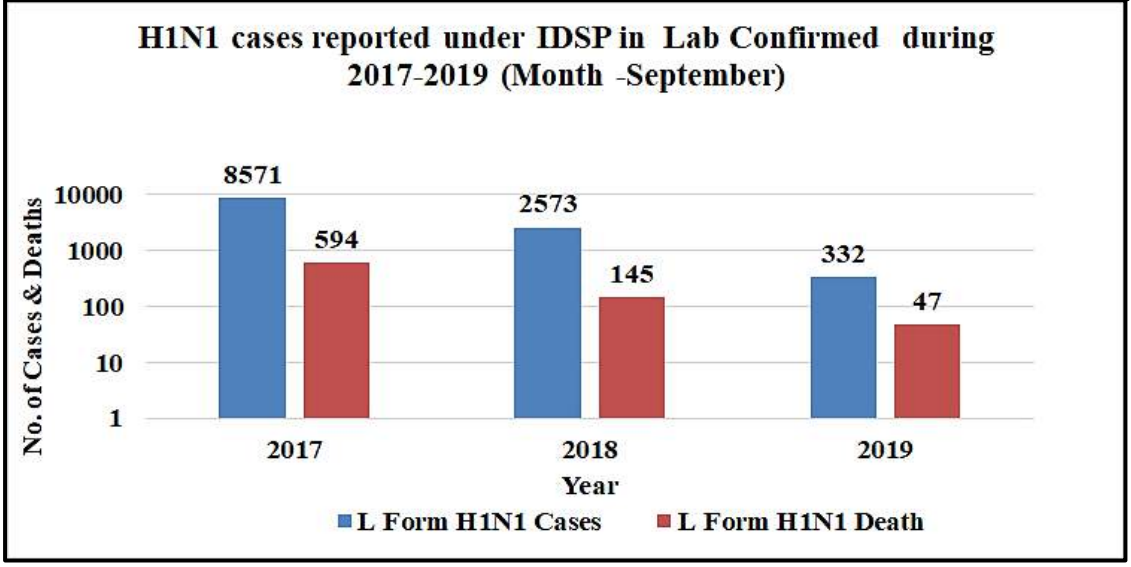


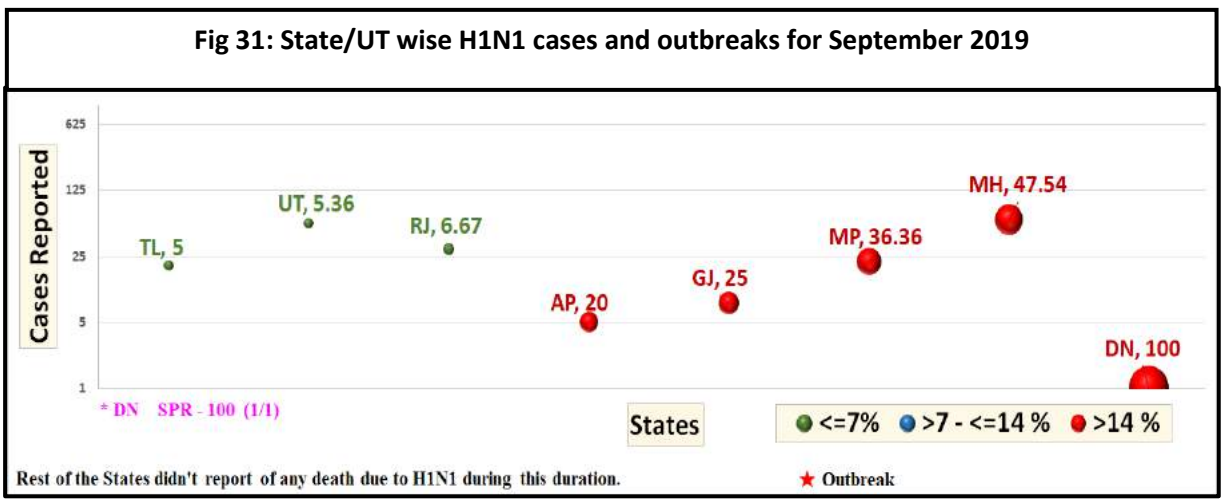
Fig 30: H1N1 cases reported under IDSP in L Form during 2017-2019 in September 2019



As reported in L form, in September 2017; there were 8571 cases and 594 deaths. In September 2018; there were 2573 cases and 145 deaths and in September 2019, there were 332 cases and 47 deaths.

Case fatality rate for H1N1 were 6.93%, 5.63% and 14.16% in September month of 2016, 2017 & 2018 respectively.

Fig 31: State/UT wise H1N1 cases and outbreaks for September 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

- 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.

Acknowledgement:

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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

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