Disease Alert
प्रकोप चेतावनी

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

July 2019

Inside

Chickenpox Outbreak Report from District Pulwama, Jammu & Kashmir

Regarding Chickenpox

Chickenpox or varicella is an acute, highly infectious disease caused by varicella-zoster virus (VZV). It occurs primarily among children under 10 years of age. It is worldwide in distribution and occurs in both epidemic and endemic forms. It is highly communicable. The secondary attack rate in household contacts approaches 90 percent. It shows a seasonal trend with peak incidence during winter and spring, or in coolest, driest months in tropics. Periodic large outbreaks occur with an inter-epidemic cycle of 2-5 years.

Incubation period

The average incubation period is about 15 days (range: 7-21 days)

Route of transmission

The virus causing chickenpox is transmitted from person-to-person by droplet infection and droplet nuclei through coughing or sneezing of infected person. The portal of entry of virus is either upper respiratory tract or conjunctiva. Most patients are infected by 'face-to-face' (personal) contact. It can also be spread by touching the lesions containing virus particles that arise from chickenpox blisters. The virus can also cross placental barrier during pregnancy and result into congenital varicella.

Progression of clinical symptoms

Chickenpox typically causes 'pleomorphic rash', that is, all stages of the rash (papules, vesicles and crusts) may be seen simultaneously at one time in the same area. The rashes are symmetrical in distribution. Besides rash, tiredness, pain in back, shivering and mild fever may be present. Temperature rises with each fresh crop of rash.

Complications

Usually occur in immunosuppressed patients and may also occur in normal children and adults. Includes haemorrhages (varicella haemorrhagical), pneumonia, encephalitis, acute cerebellar ataxia and Reye's syndrome (acute encephalopathy associated with fatty degeneration of the viscera especially liver). Congenital birth defects may be seen during pregnancy.

Control measures

Notifications, isolation of patients for about 6 days after onset of rash and disinfection of articles soiled by nose and throat discharges.

Prevention and Treatment

Vaccination (Varicella vaccine or combined MMRV)is the safest way to prevent chickenpox in children and adults. Varicella-Zoster Immunoglobulin (VZIG) within 72 hours of exposure in suspectible individuals particularly immunosuppressed persons is recommended. Antiviral drugs like Acyclovir may be given in complicated cases or as prescribed by the doctor. The patient is advised to consume plenty of fluids

Profile of District Pulwama

The population of District Pulwama has a population of 5.70 lacs as per 2011 census. The total literacy rate of the district is at 65%. It has four Medical Blocks: Pulwama, Pampore, Rajpora & Tral with one (01) District Hospital, Two(02) SDH, One (01) CHC, One (01) TB Clinic, Nineteen (19) PHC's, Twenty-nine (29) NTPHC's and Ninety six (96) Sub Centers. The total number of villages in district are 331.

Details of Investigation by RRT

The affected village Tengpuna has population of 1775 and is located in Block Pulwama, about 5 Km away from District Headquarter. The said village is having no health facility and falls under S/C Pathan which is half (0.5) kilometer away from the village.

On 20th June 2019 (fore-noon), District Surveillance Unit-Pulwama obtained information regarding occurrence of suspected chickenpox cases at this villege.

On 21st June 2019, the Outbreak Investigation Team initiated investigation that comprised of Epidemiologist-IDSP, Pulwama, Health Educator-DHQ Pulwama, BHW-DHQ Pulwama, CHO-Block Pulwama and Data Manager-IDSP Pulwama.

Fig.1: Spot Map of Chickenpox Outbreak at District Pulwama, Jammu & Kashmir

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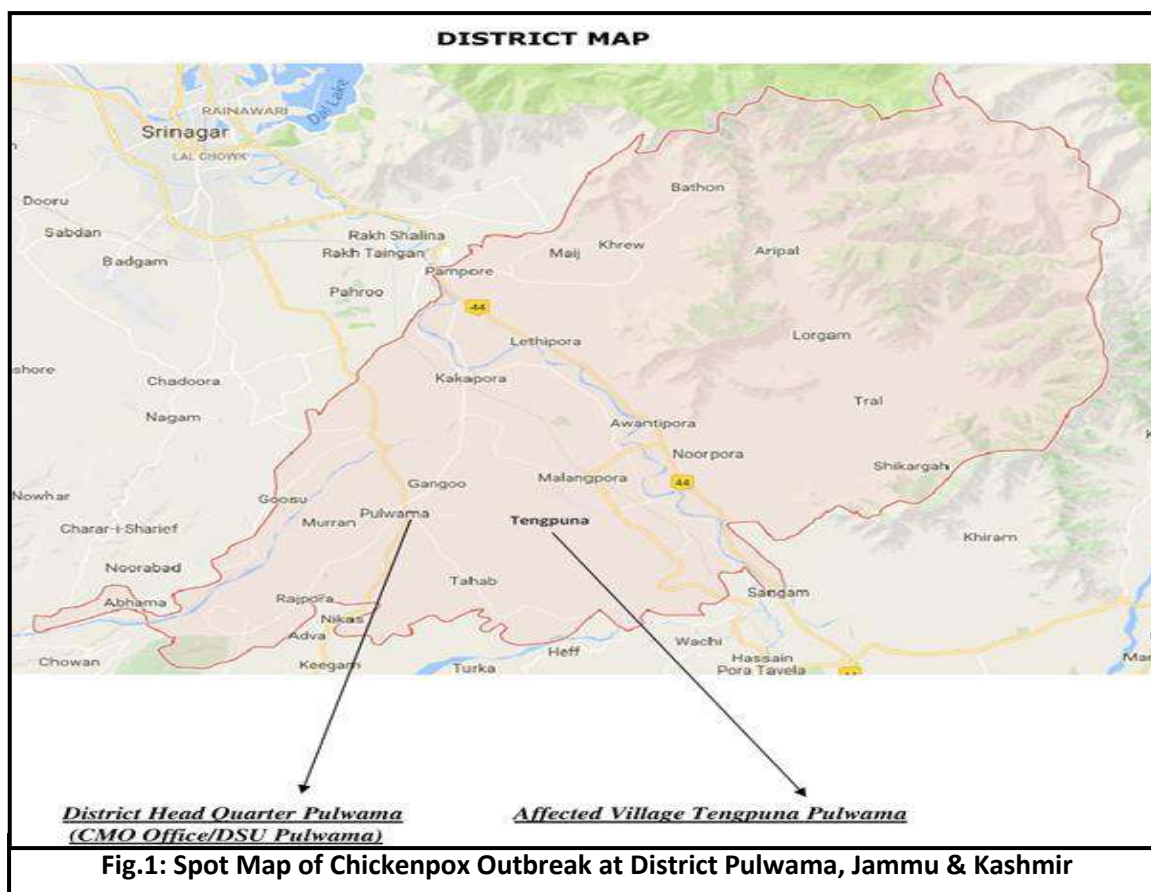
Methods

The investigation team adopted both Epidemiological and Environmental Methods to do the investigation

Epidemiological Methods

a) Cases with febrile illness with acute onset of diffuse (generalized) maculopapulovesicular rash without other apparent cause were screened. Interviews with cases and their caregivers were undertaken.
b) The current attack rate of cases were compared with the background by reviewing weekly IDSP data for the year 2018 and 2019.
c) Outbreak was described with respect to time, place and person.

Environmental Methods

The team examined the houses to look for overcrowding and the ventilation of the rooms.

Results

The following are the main deductions by investigation team -

Epidemiological Results:

a) Rates of chickenpox cases occurrence were definitely in excess of the background rate.
b) The team identified 11 probable cases with no deaths.
c) Cases from age group of 5 to 25 years were found.
d) Mostly Children were affected.
e) Four (04) children with active lesions were identified.
f) First case was reported on 17th June 2019. As the isolation of cases was not done, the disease being highly contagious was spread among close contacts.
g) During 18th–20th June, total eleven (11) cases were reported between the age group from 5-25 years.

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Environmental Results:

a) It was found that the houses with patients were overcrowded with less ventilation.

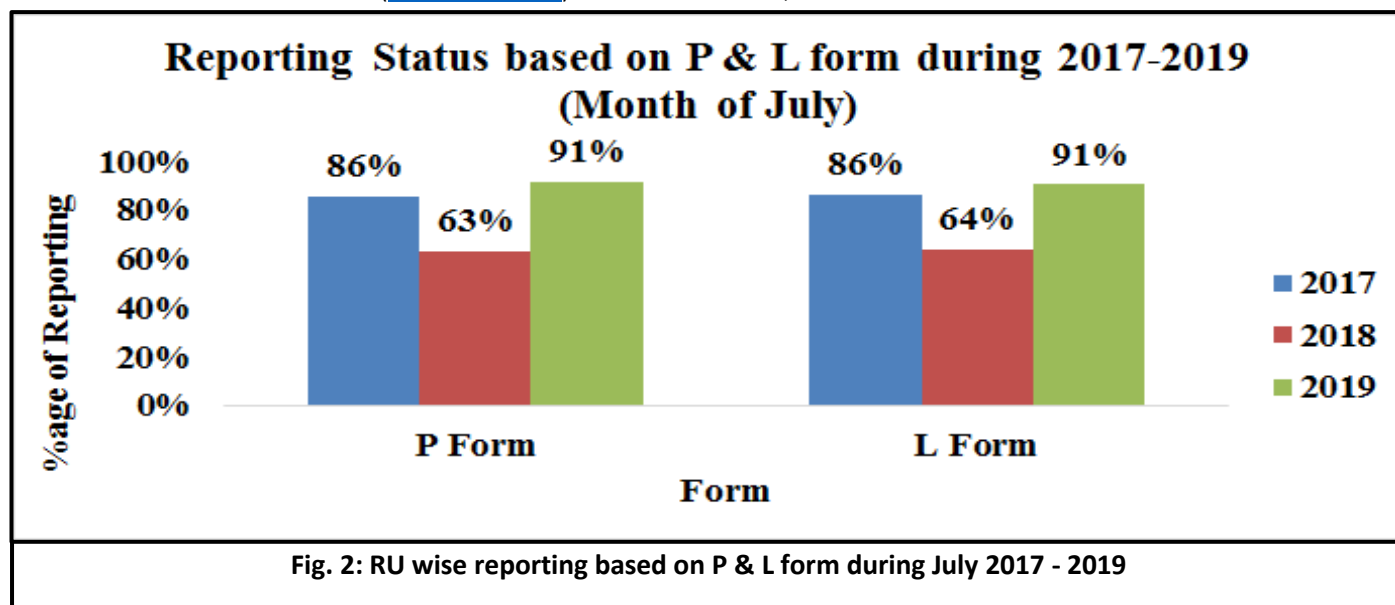**Actions taken & Recommendations:**

1. District medical team provided standard case management to the patients.
2. Preventive measures including health education to the community about the disease was undertaken.
3. Isolation of the affected children was advised to patients so as to prevent the spread of disease.
4. Advisory regarding Chickenpox in the form of pamphlets (IEC) were distributed and pasted on the walls for information to the general public.
5. No new cases were reported after 20th June 2019 due to institution of containment measures.
6. The local health staff was advised to have continuous vigil over the situation and to respond accordingly.

Conclusion:

This Chickenpox outbreak was most likely due to droplet infection among close contacts. The surveillance was carried out by the team of Block Medical Officer, Pulwama and no new case was subsequently reported.

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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 July 2017 - 2019***

* Data extracted from IDSP Portal (www.idsp.nic.in) as on December 30, 2019.

Reporting Status based on P & L form during 2017-2019 (Month of July)

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

As shown in Fig 2, in July 2017, 2018 and 2019, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 86%, 63% and 91% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 86%, 64% and 91% 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.

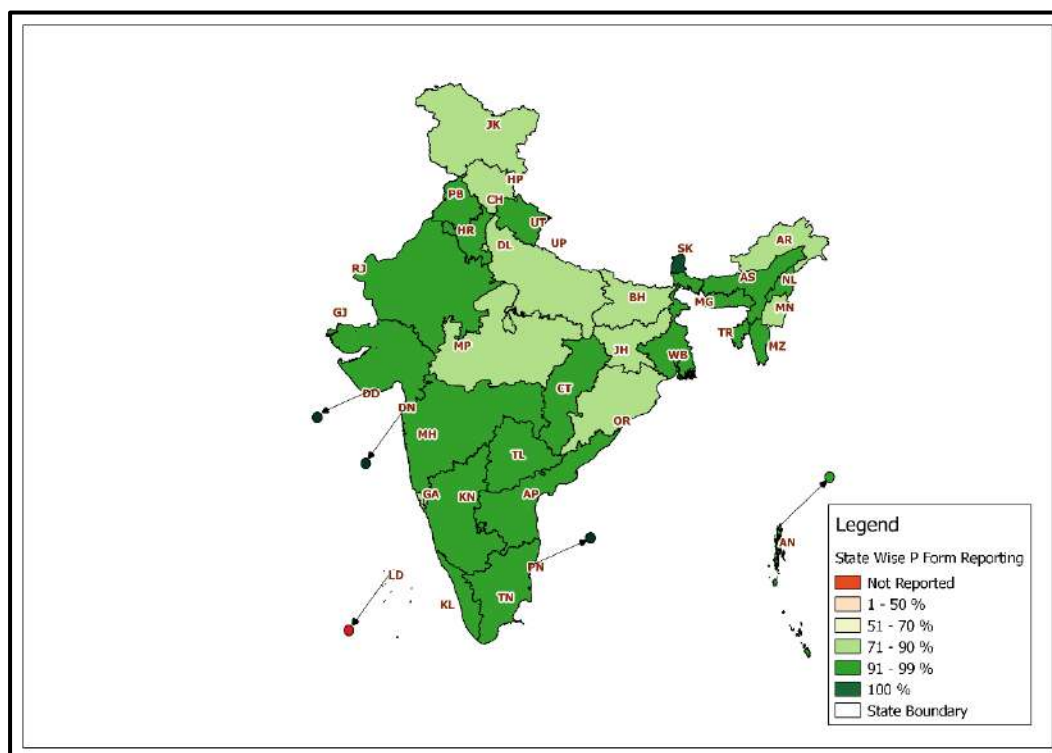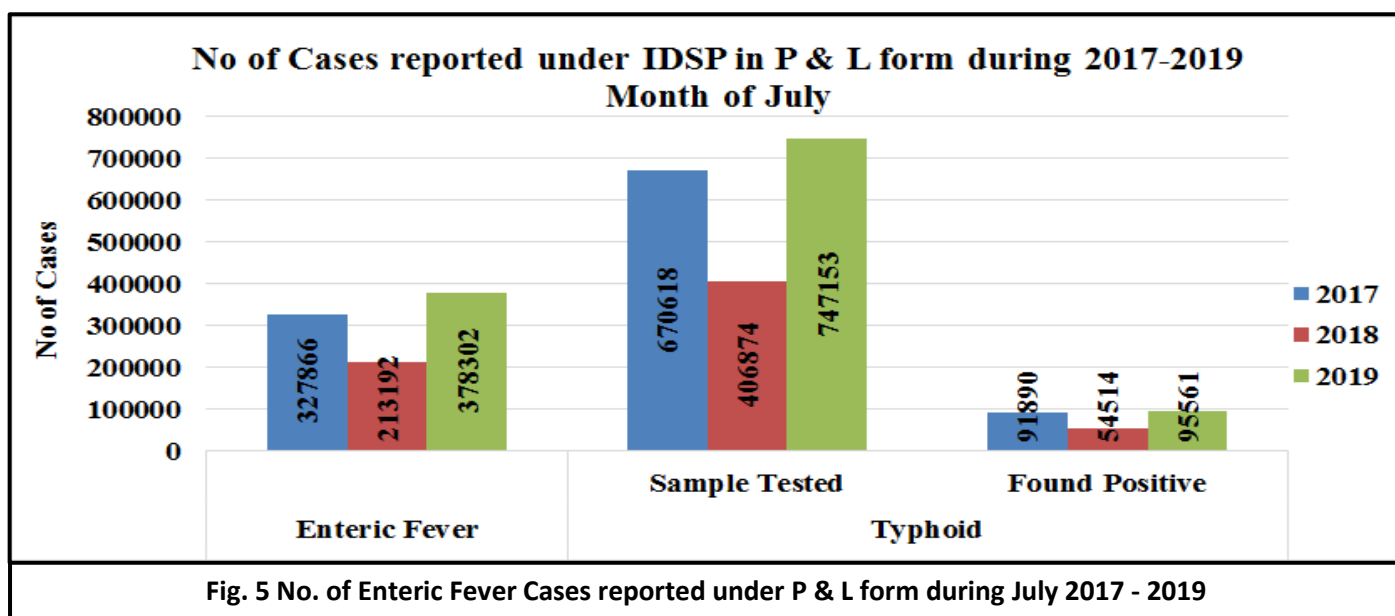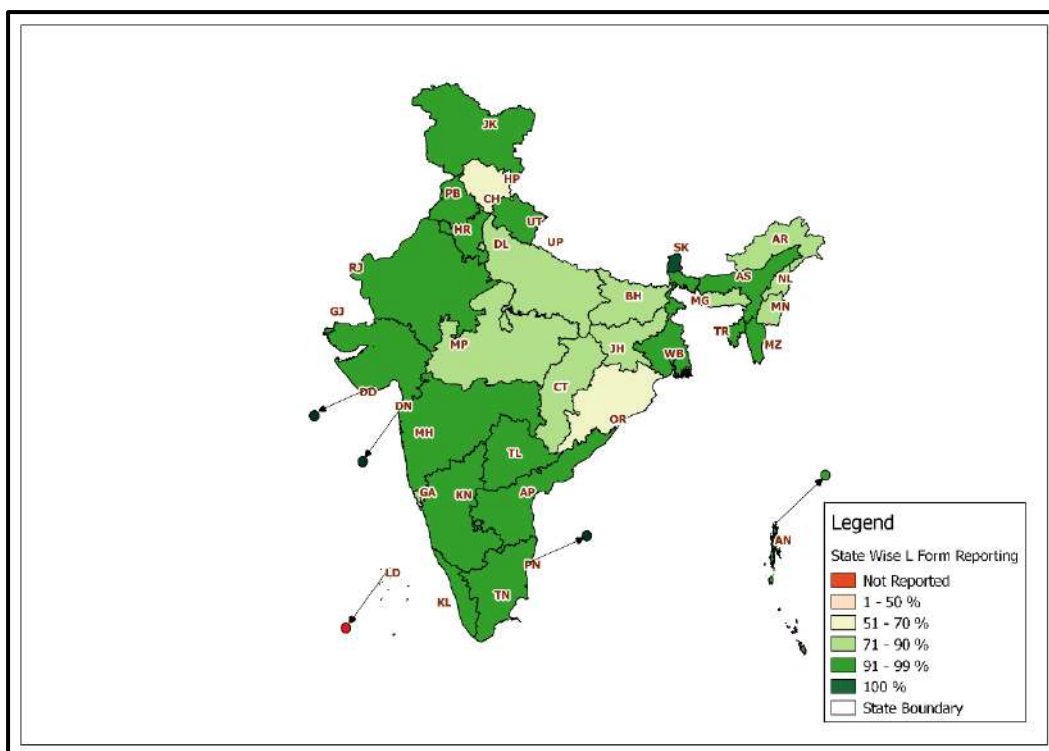**Fig 3: State/UT wise P form completeness % for July 2019**

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

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

As shown in Fig 5, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 327866 in July 2017; 213192 in July 2018 and 378302 in July 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2017; 670618 samples were tested for Typhoid, out of which 91890 were found positive. In July 2018; out of 406874 samples, 54514 were found to be positive and in July 2019, out of 747153 samples, 95561 were found to be positive.

Sample positivity has been 13.70%, 13.40% and 12.79% in July 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.

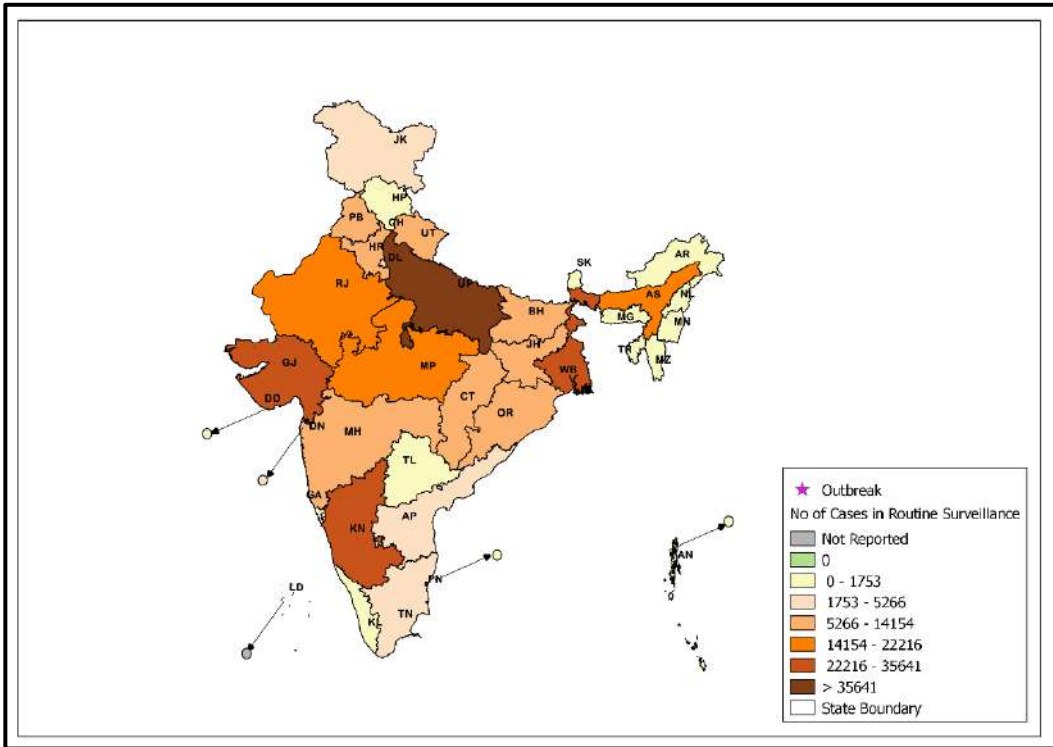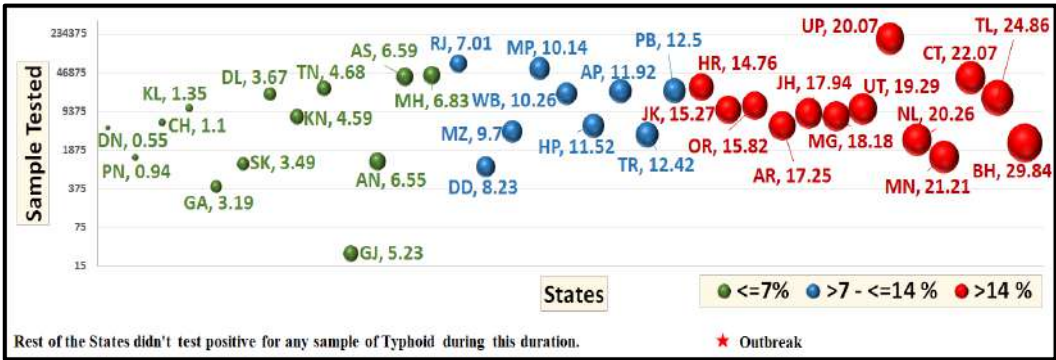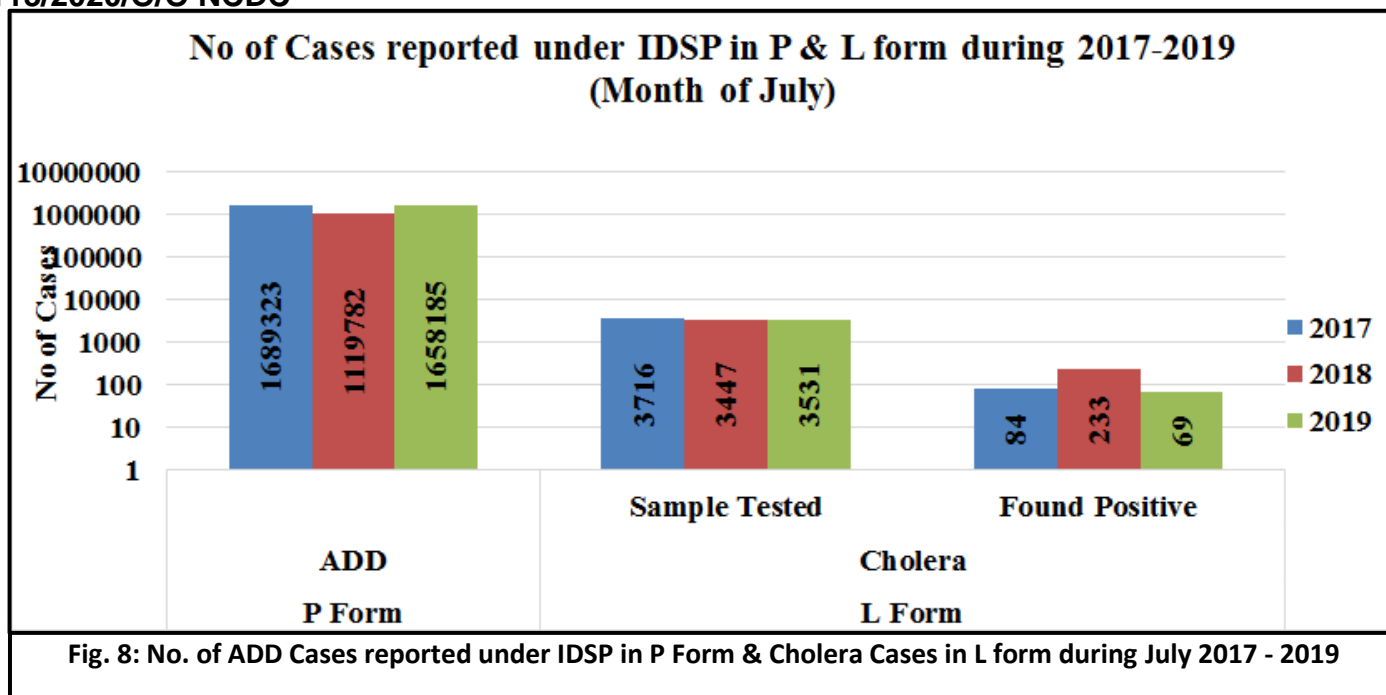**Fig 6: State/UT wise Presumptive Enteric fever cases and outbreaks for July 2019**

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

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

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

As shown in Fig 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1689323 in July 2017; 1119782 in July 2018 and 1658185 in July 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2017, 3716 samples were tested for Cholera out of which 84 tested positive; in July 2018, out of 3447 samples, 233 tested positive for Cholera and in July 2019, out of 3531 samples, 69 tested positive.

Sample positivity of samples tested for Cholera has been 2.26%, 6.76% and 1.95% in July month of 2017, 2018 & 2019 respectively.

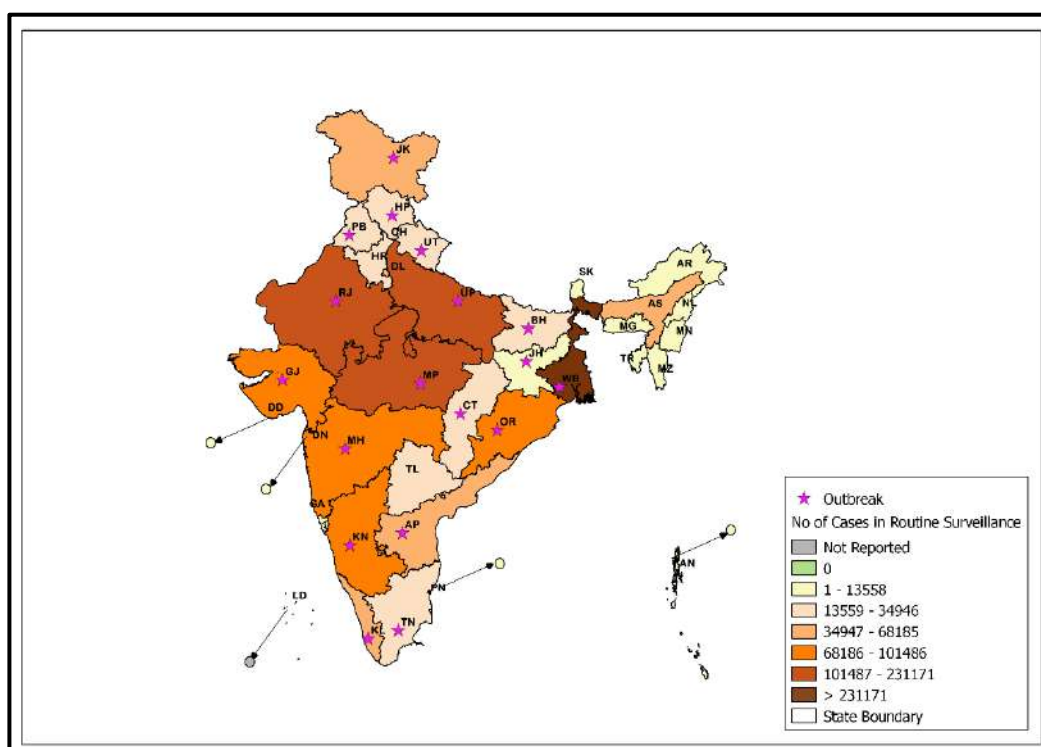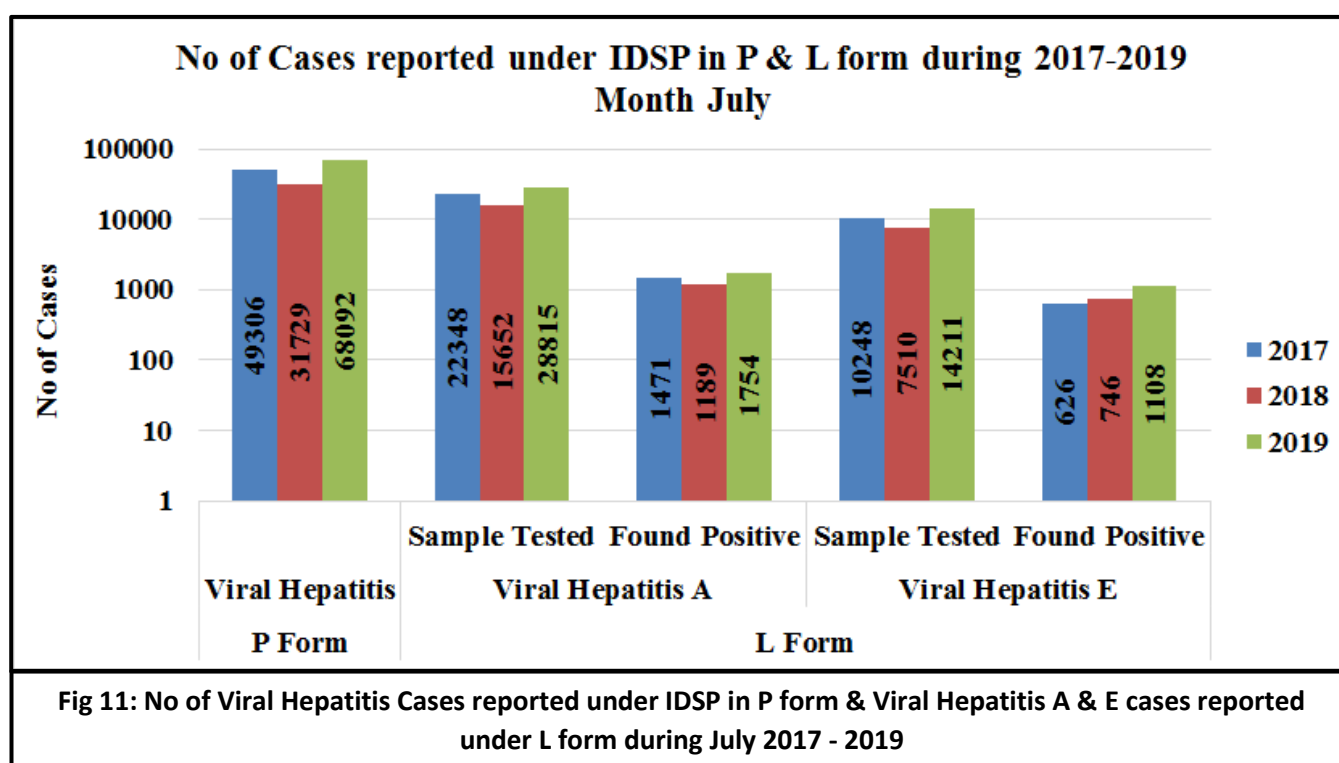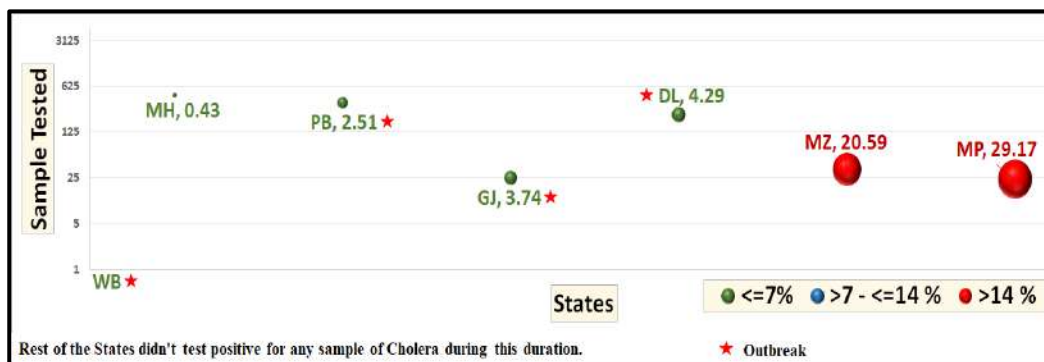**Fig 9: State/UT wise Presumptive ADD cases and outbreaks for July 2019**

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

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

As shown in Fig 11, the number of presumptive Viral Hepatitis cases was 49306 in July 2017, 31729 in July 2018 and 68092 in July 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 July 2017; 22348 samples were tested out of which 1471 were found positive. In July 2018 out of 15652 samples, 1189 were found to be positive and in July 2019, out of 28815 samples, 1754 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6.58%, 7.60% and 6.09% in July month of 2017, 2018 & 2019 respectively.

As reported in L form for Viral Hepatitis E, in July 2017; 10248 samples were tested out of which 626 were found positive. In July 2018; out of 7510 samples, 746 were found to be positive and in July 2019, out of 14211 samples, 1108= were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 6.11%, 9.93% and 7.80% in July month of 2017, 2018 & 2019 respectively.

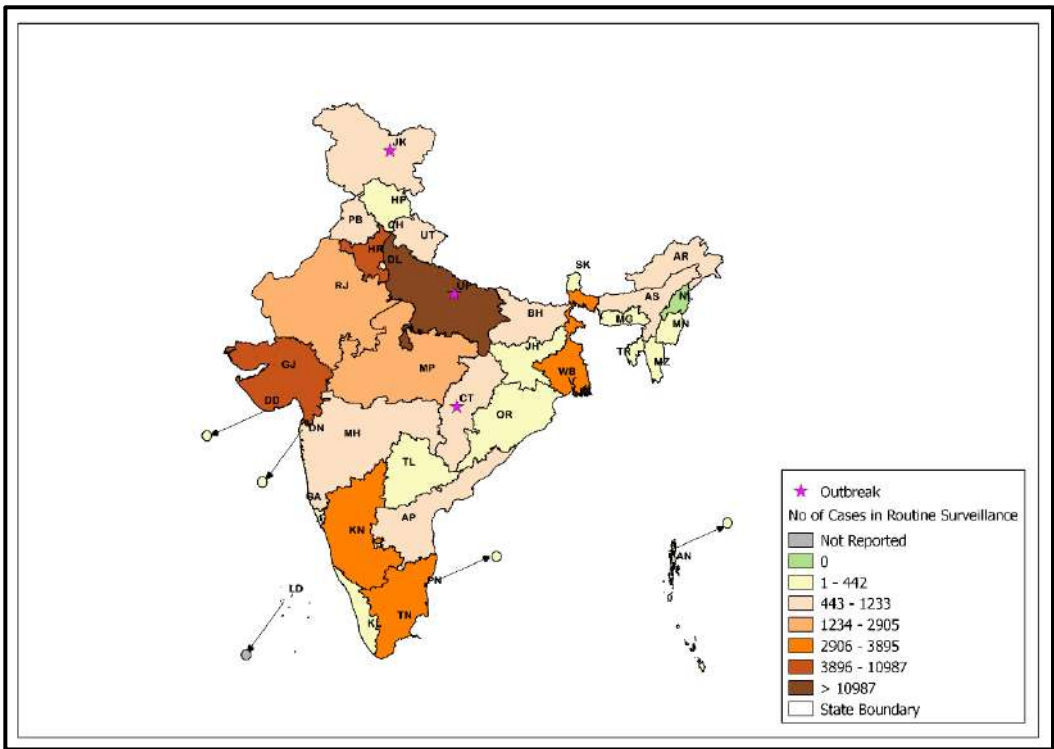**Fig 12: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for July 2019**

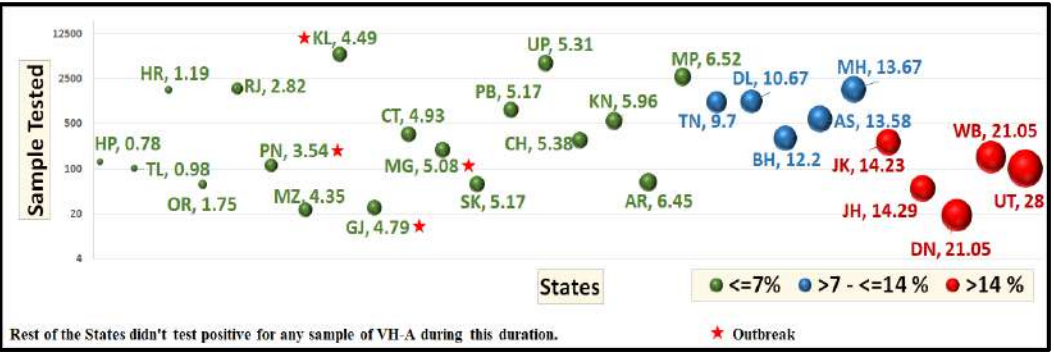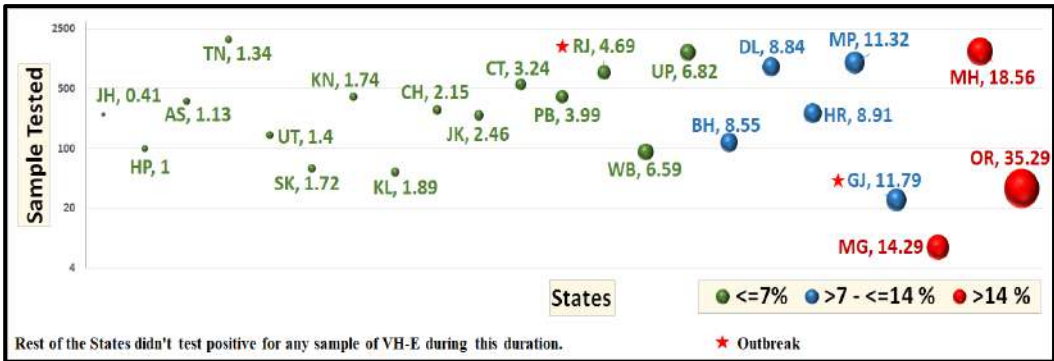**Fig 13: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for July 2019**

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

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

Fig 15: No. of Dengue Cases reported under IDSP in P & L form during July 2019
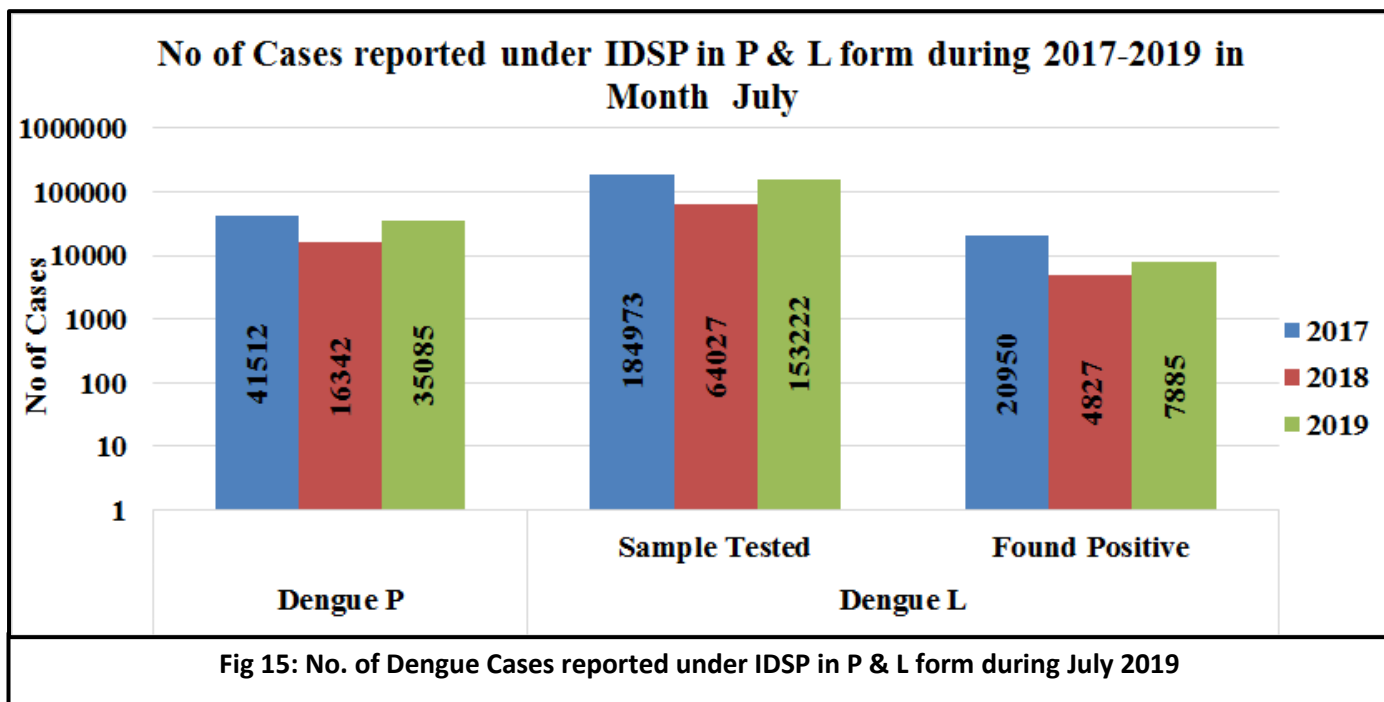
As shown in Fig 15, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 41512 in July 2017; 16342 in July 2018 and 35085 in July 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2017; 184973 samples were tested for Dengue, out of which 20950 were found positive. In July 2018; out of 64027 samples, 4827 were found to be positive and in July 2019, out of 153222 samples, 7885 were found to be positive.

Sample positivity of samples tested for Dengue has been 11.33%, 7.54% and 5.15% in July month of 2017, 2018 & 2019 respectively.

Fig 16: State/UT wise Presumptive Dengue cases and outbreaks for July 2019
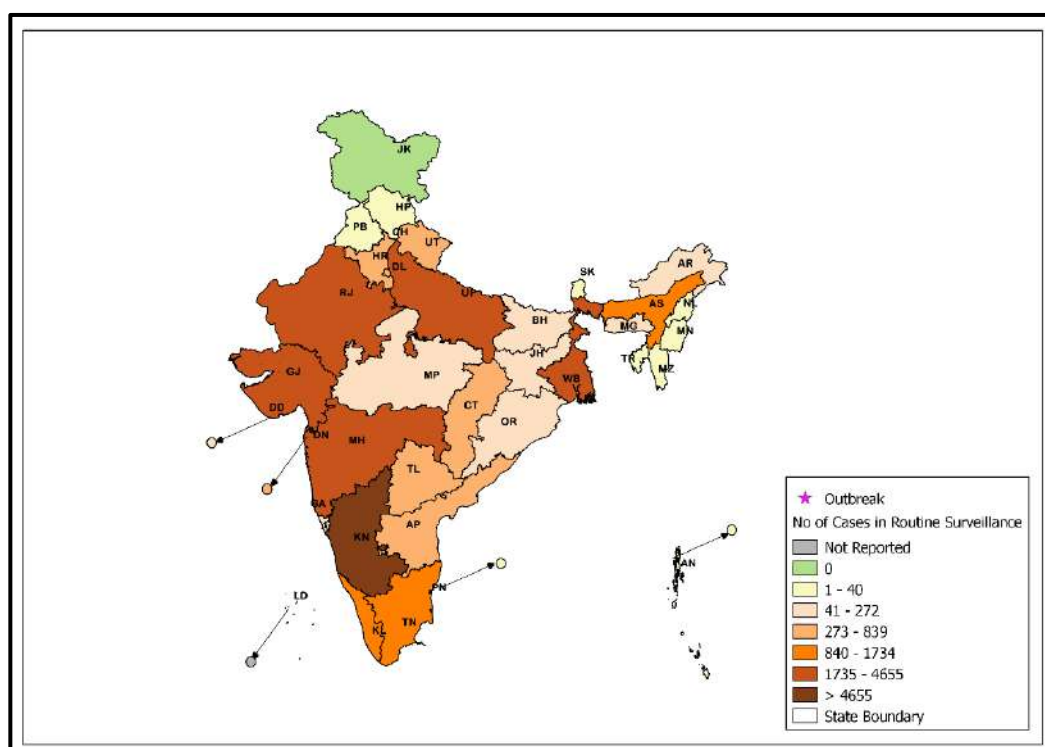
Fig 17: State/UT wise Lab Confirmed Dengue cases and outbreaks for July 2019
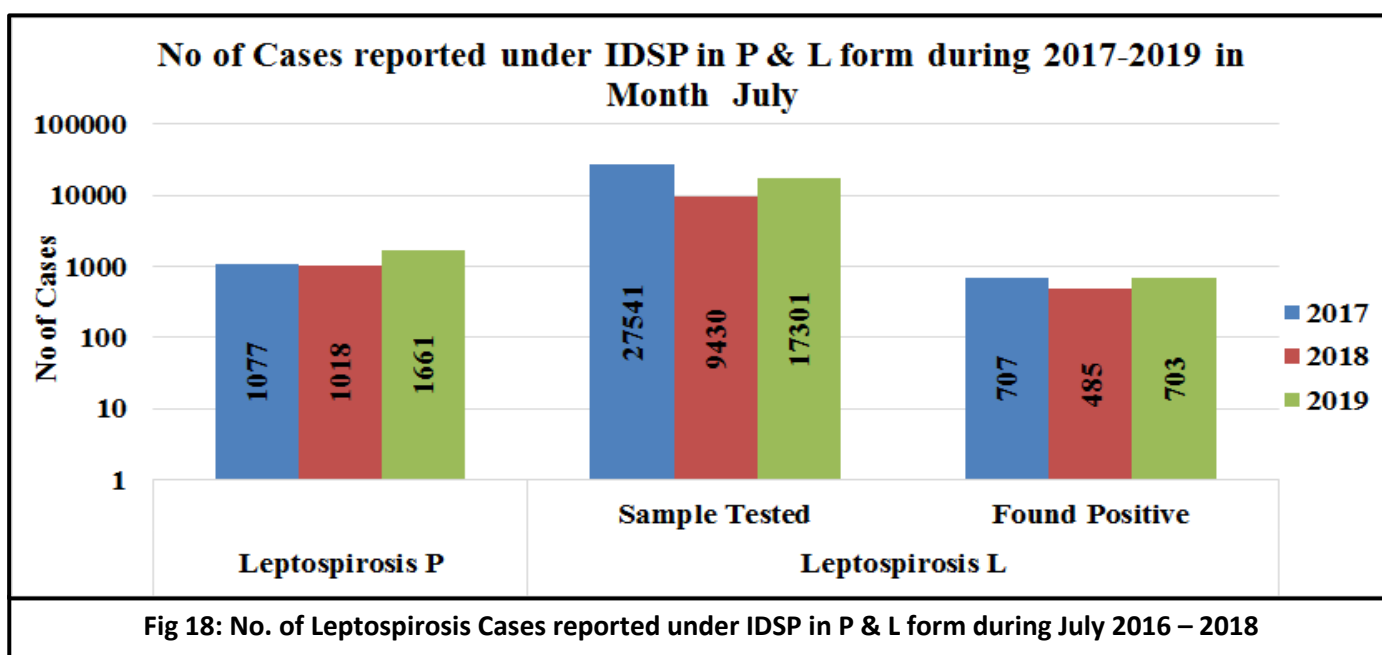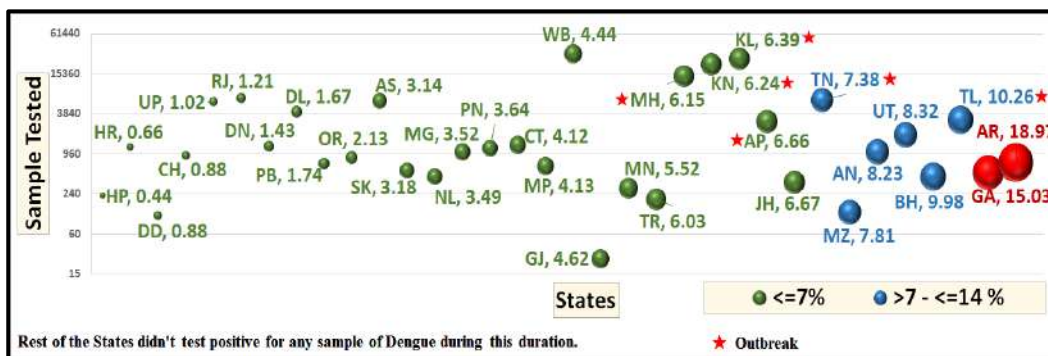

Fig 18: No. of Leptospirosis Cases reported under IDSP in P & L form during July 2016 – 2018

As shown in Fig 18, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1077 in July 2017; 1018 in July 2018 and 1661 in July 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2017; 27541 samples were tested for Leptospirosis, out of which 707 were found positive. In July 2018; out of 9430 samples, 485 were found to be positive and in July 2019, out of 17301samples, 703 were found to be positive.

Sample positivity of samples tested for Dengue has been 2.57%, 5.14% and 4.06% in July month of 2017, 2018 & 2019 respectively.

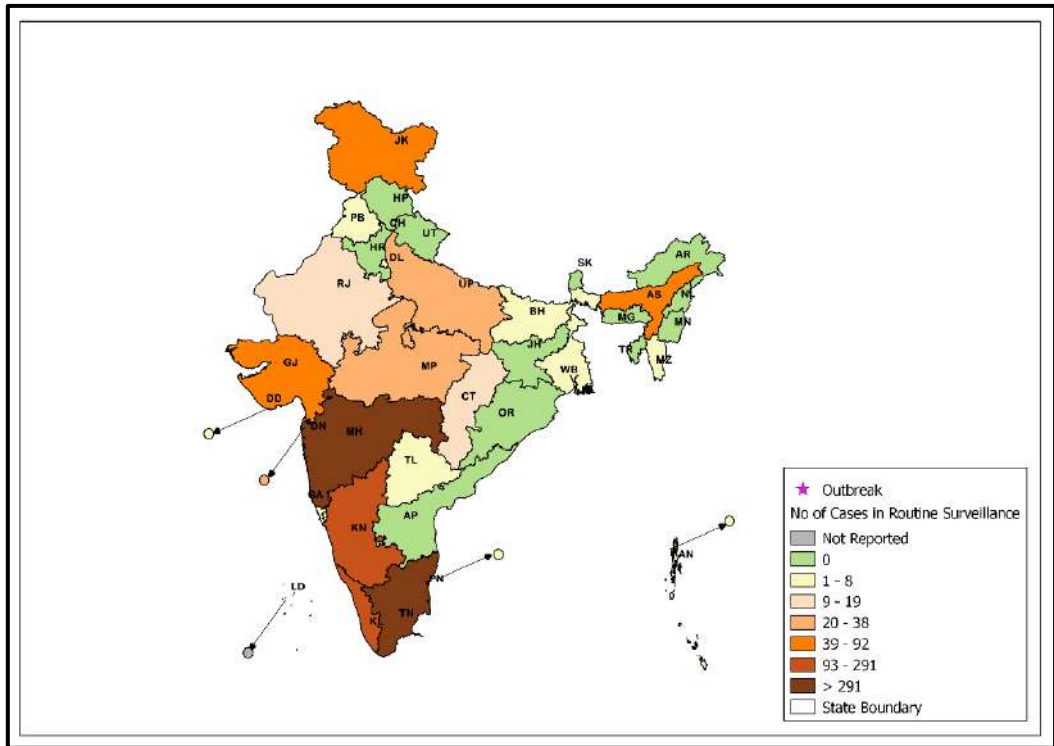Fig 19: State/UT wise Presumptive Leptospirosis cases and outbreaks for July 2019
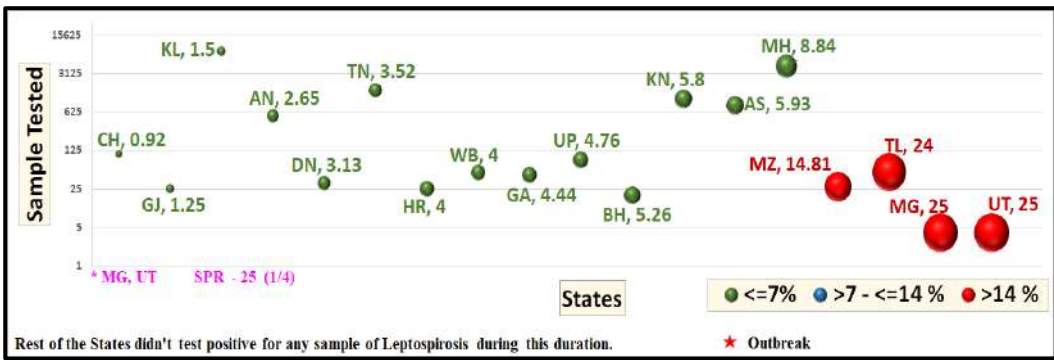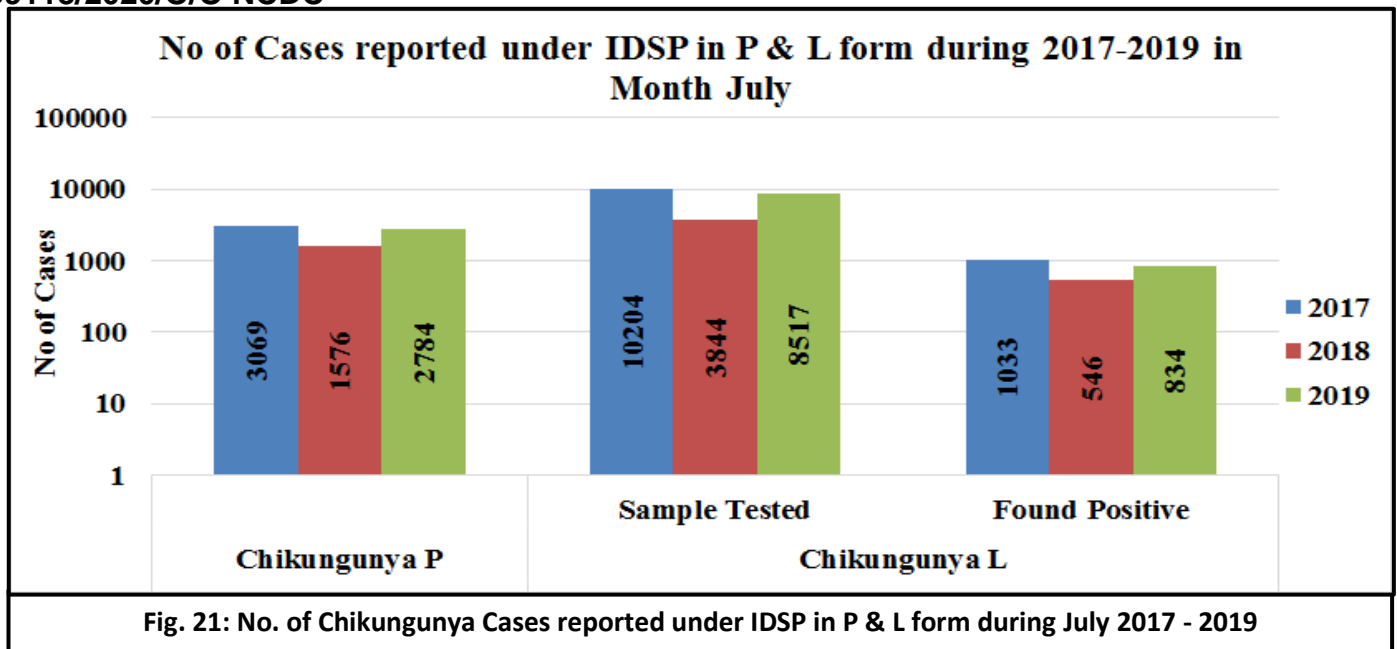

Fig 20: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for July 2019

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

As shown in Fig 21, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 3069 in July 2017; 1576 in July 2018 and 2784 in July 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2017; 10204 samples were tested for Chikungunya, out of which 1033 were found positive. In July 2018; out of 3844 samples, 546 were found to be positive and in July 2019, out of 8517 samples, 834 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 10.12%, 14.20% and 9.79% in July month of 2017, 2018 & 2019 respectively.

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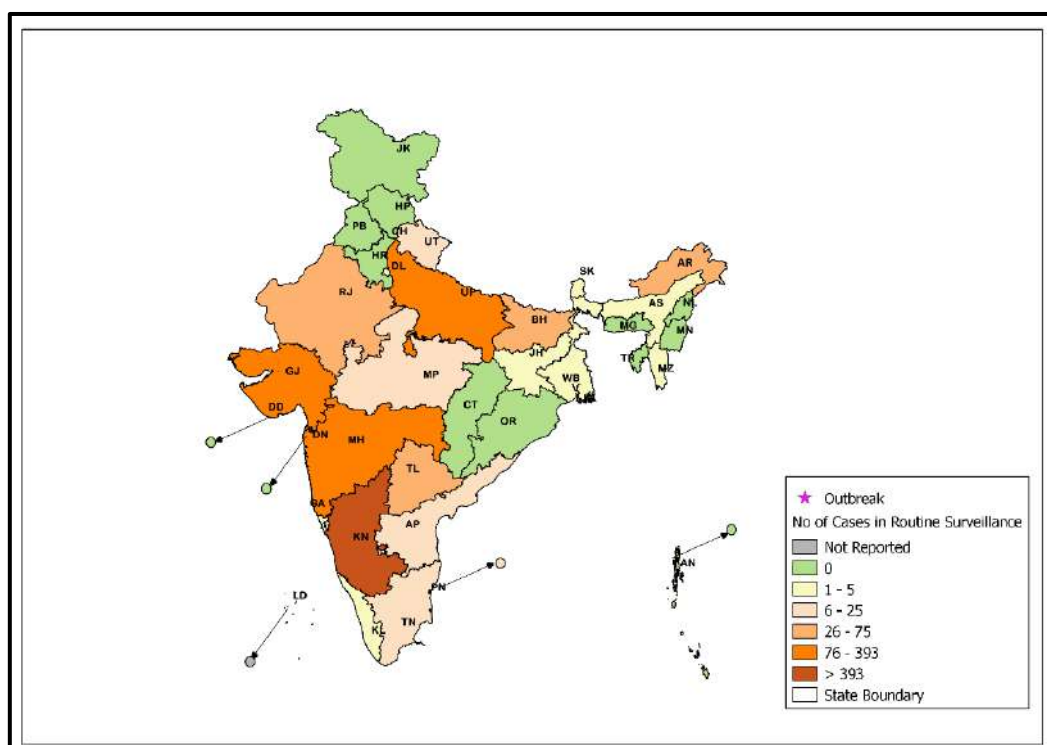

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Fig 23: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for July 2019
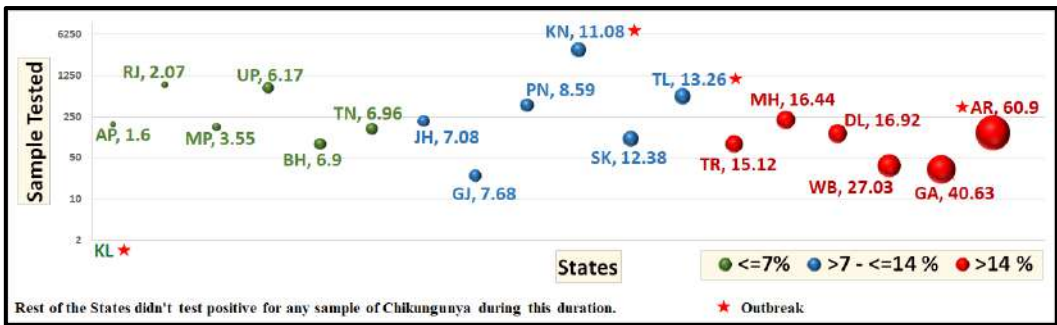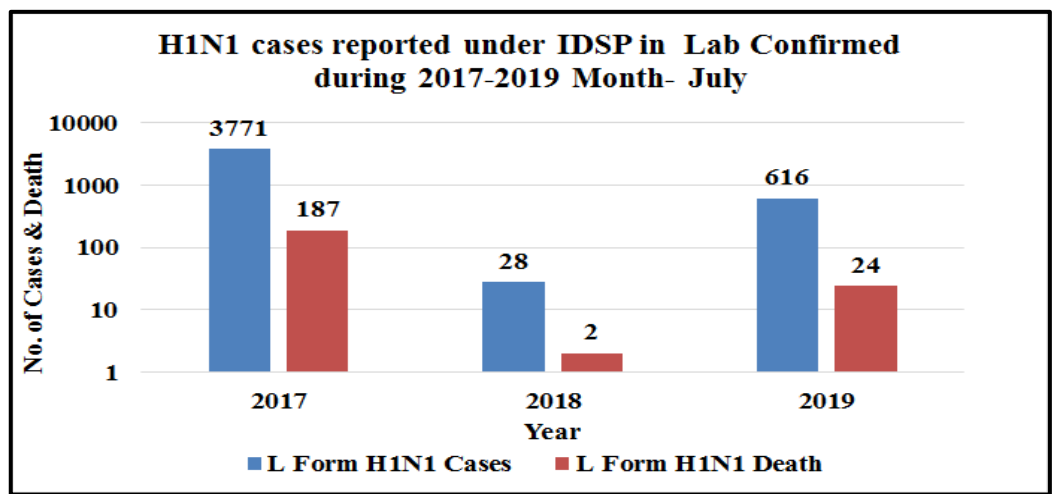

Fig 24: H1N1 cases reported under IDSP in L Form during 2017-2019 in July 2019

As reported in L form, in July 2017; there were 3771 cases and 187 deaths. In July 2018; there were 28 cases and 2 deaths and in July 2019, there were 616 cases and 24 deaths.

Case fatality rate for H1N1 were 4.96%, 7.14% and 3.90% in July month of 2016, 2017 & 2018 respectively.

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

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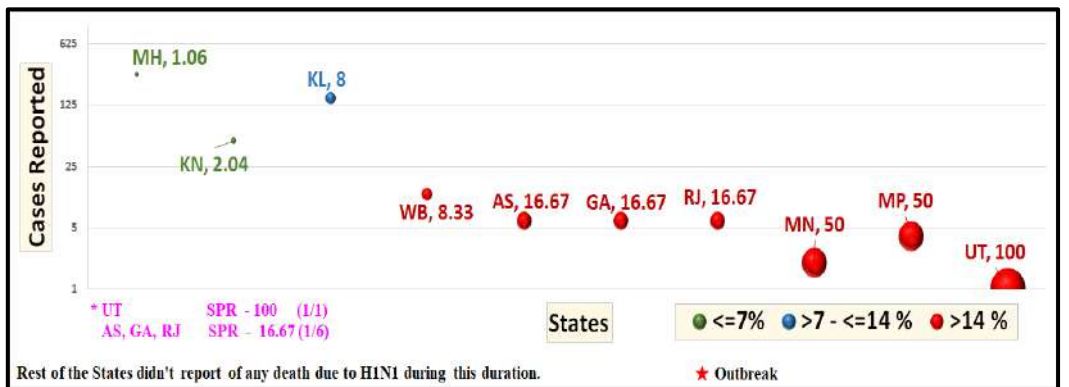
Glossary:

- **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.

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