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Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report
From
Integrated Disease Surveillance Programme
National Health Mission

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JAPANESE ENCEPHALITIS OUTBREAK INVESTIGATION

DISTRICT GODDA, JHARKHAND

BACKGROUND:

Acute encephalitis syndrome (AES) is defined as acute onset of fever with a change in mental status (including symptoms such as confusion, disorientation, coma) and/or new onset of seizure. JE is caused by a virus belonging to family Flaviviridae and vector being Culex mosquito (Culex vishnui and Culex tritaeniorhynchus).

Children are more commonly affected with an overall case fatality rate quite high around 30-40%. JE is primarily transmitted to those who are living in close proximity to rice fields and family living nearby ownership of pigs.

JEV transmission in India shows two epidemiological patterns i.e. in northern regions, transmitted during May to September and in southern regions, with sporadic outbreaks throughout the year, peaking at the start of the rainy season.

DETAILS OF INVESTIGATION:

It came to attention of DSU, Godda that few cases of suspected JE have been admitted to St Lukes hospital in the end of August, 2020. The cases were all were children under the age of 10 years presenting with sudden onset fever and seizure and neck rigidity. These were clinical features indicating Acute Encephalitis Syndrome.

On getting the information, and RRT was constituted with DSO, Dist. Epidemiologist, Clinician, Pediatrician, and Veterinary consultant of the district.

The team visited hospital on 1st September and interviewed the patients as well as treating physicians.

It came to light that similar cases were also reported from another hospital, i.e. Sunrise Hospital from Asanbani, Godda.

A case definition has been formulated and active search for new cases was started. The definition was as follows -

“Acute onset fever and change in mental status (unconsciousness, confusion, disorientation, coma) with or without convulsion and with or without aphonia.”

Fig. 1: Treatment of affected children



Fig. 2: Treatment & Rehabilitation of affected children



It came to light that there were previous instances of JE in nearby places last year. As per the clinical features and other observations, they were suspect Japanese Encephalitis.

Fig. 3: Showing date wise distribution of JE cases from different Villages/Hospitals of District Godda

Date	No. of JE cases
26/08/2020	0
27/08/2020	1
28/08/2020	2
29/08/2020	1
30/08/2020	1
01/09/2020	4
02/09/2020	1

Fig. 4: Graph of timeline of cases

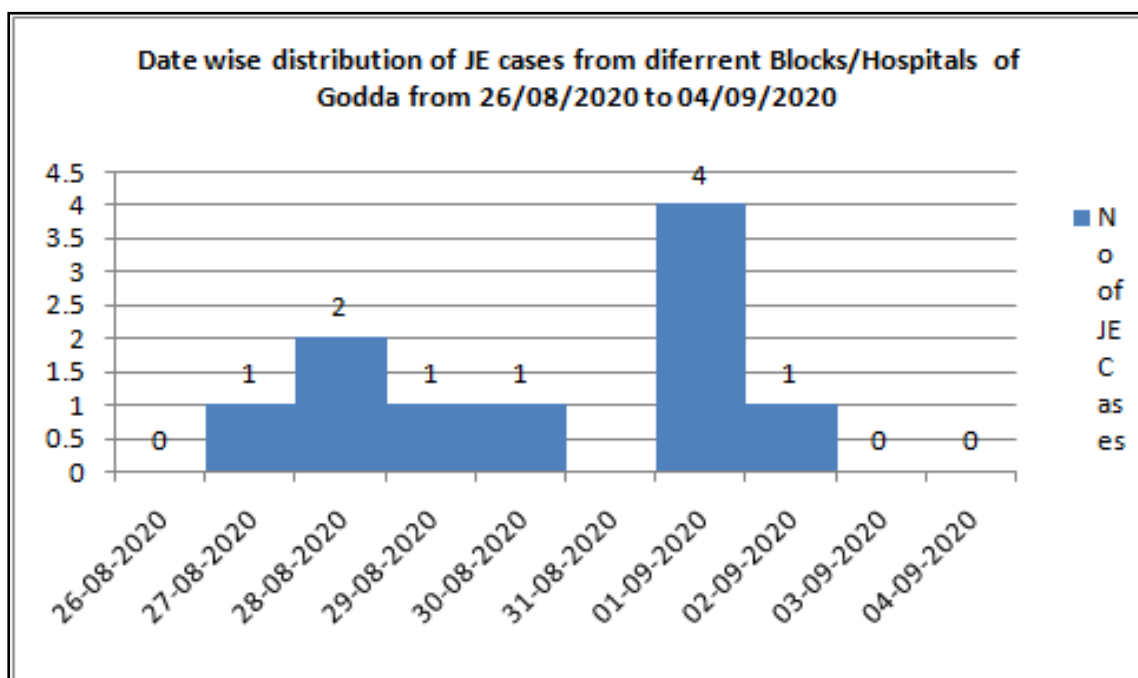
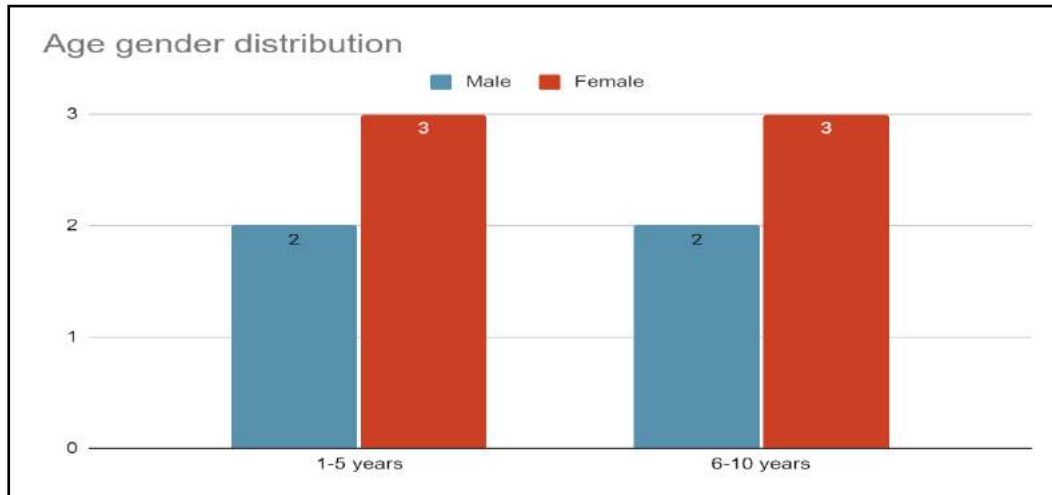


Fig. 5: Graph of age and gender wise distribution of cases



The RRT then visited the villages of the patients and an active case search was conducted by a proper case definition, but no other such cases were detected.

All the villagers were educated about the prognosis of the disease and ANM and Sahia were directed to report such cases to DSU on a daily basis.

Fig. 6: Field investigations by RRT



Afterwards, the RRT visited the concerned HSC, PHC and CHC for verification of such suspected cases from OPD and IPD registers. However, no suspected cases were elicited.

Fig. 7: Interviews conducted in field by RRT members



Active search was done in the community also for the similar clinical features, in the villages of block-Sunderpahari. Although no such other cases were detected.

LABORATORY DIAGNOSIS:

Blood samples from 6 patients, sent to RIMS, Ranchi were positive for Japanese Encephalitis.

INTERPRETATION

Based on epidemiological investigations & lab results, this was a confirmed outbreak of Japanese Encephalitis.

CONTROL MEASURES

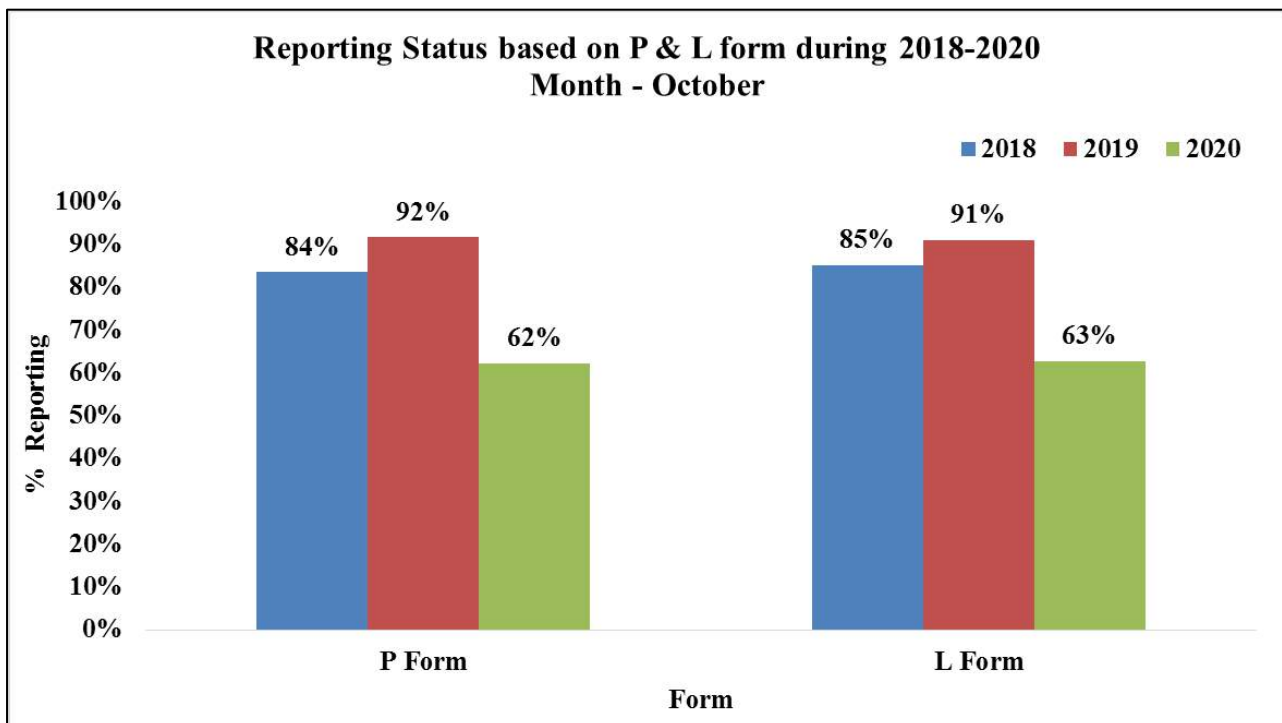
1. All the cases were provided symptomatic treatment. Fortunately, no fatalities were reported.
2. Health facilities of the area were instructed to report suspected cases of AES immediately.
3. Active house to house search for new cases done by ANMs and ASHAs in nearby villages, with the case definition.
4. Surveillance activities continued for 2 months.
5. IEC activities done in the area.
6. Mosquito control measures like fogging had been done in villages.
7. LLINs were distributed in that area.

CONCLUSION:

As similar outbreaks are occurring in the districts and neighbouring districts, within the past few years, surveillance activities need to be strengthened for acute encephalitis syndrome. Japanese encephalitis vaccination should be carried out in these districts.

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue Leptospirosis, Dengue, Chikungunya, Leptospirosis and Seasonal Influenza A (H1N1) During August 2018 - 2020*

Fig. 8: RU-wise reporting based on P & L forms during October 2020



As shown in Fig. 8, in October 2018, 2019 and 2020, the ‘P’ form reporting percentage (i.e. % RU reporting out of total in P form) was 84%, 92% and 62% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 85%, 91% and 63% 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 decreased in October 2020 compared to the same month in previous years for both P and L forms, thereby compromising on the quality of surveillance data.

Fig. 9: State/UT wise P form completeness % for October 2020

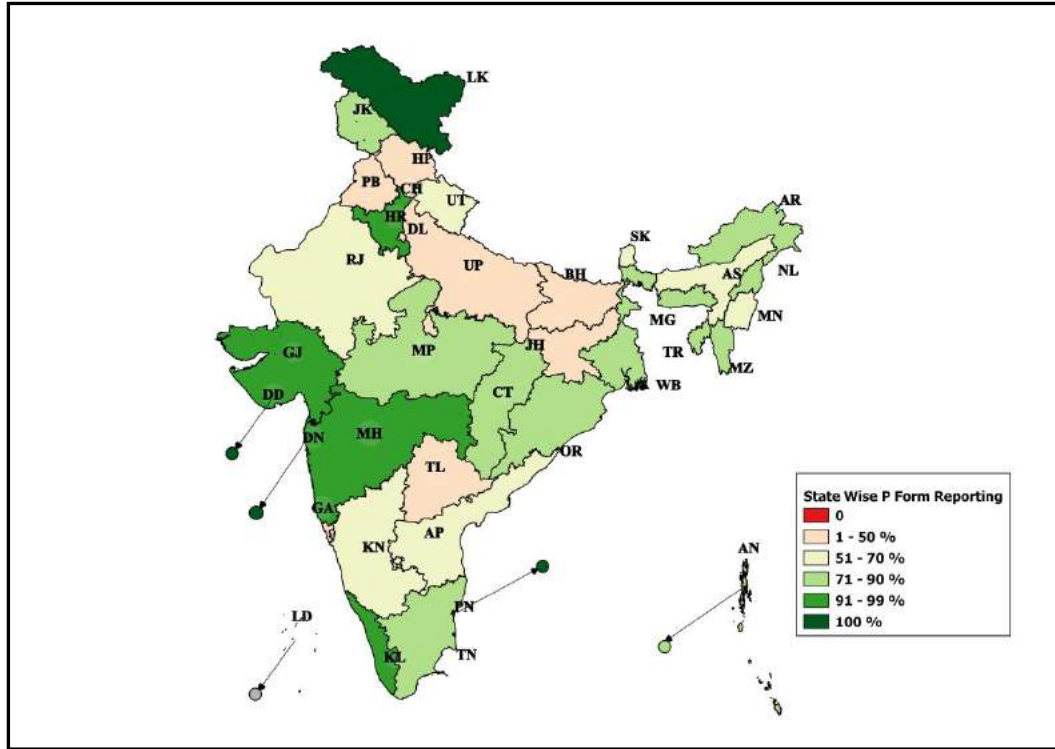


Fig. 10: State/UT wise L form completeness % for October 2020

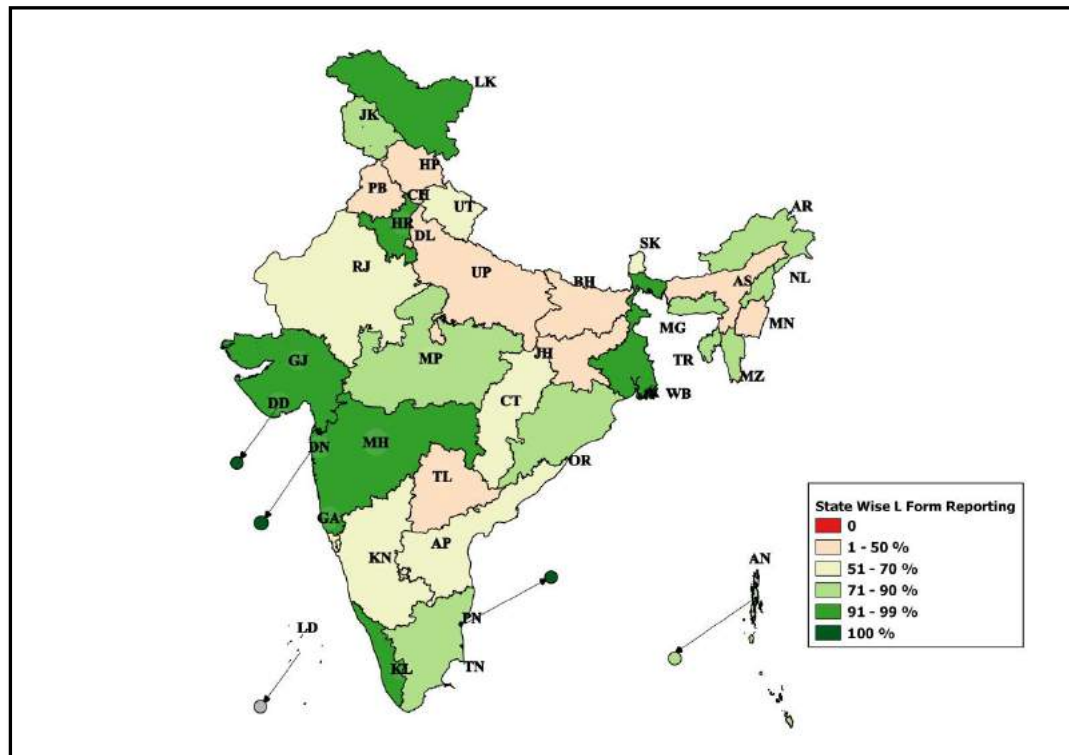
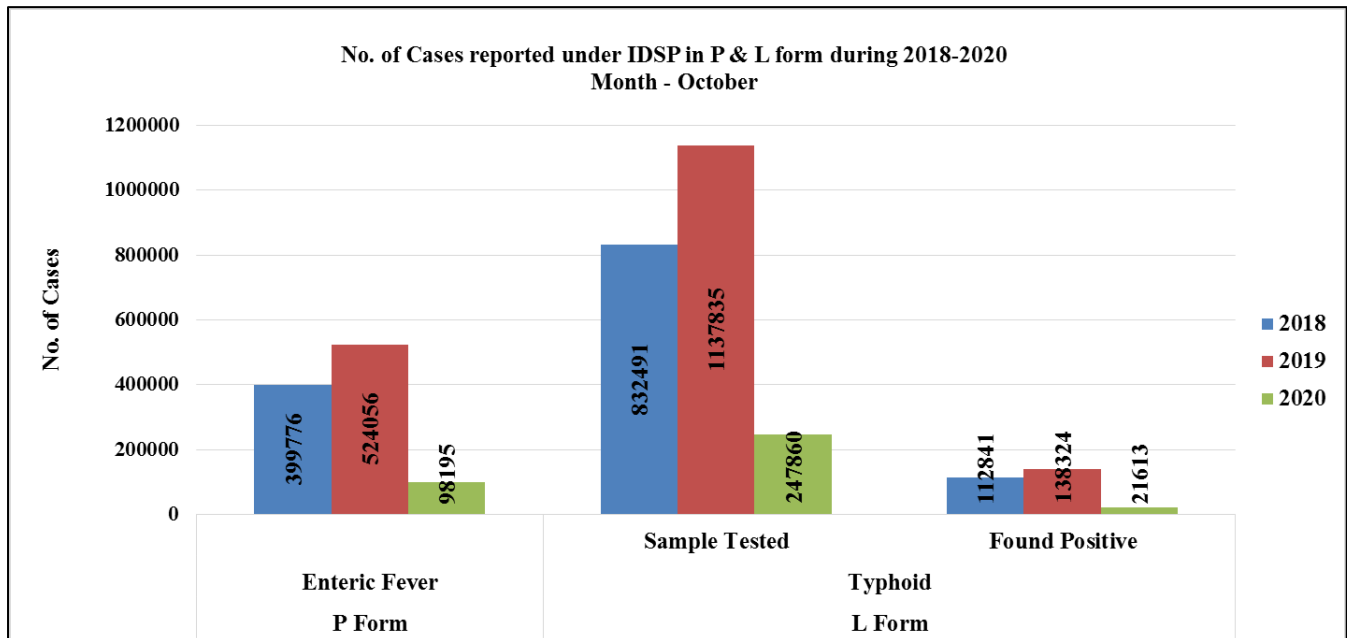


Fig. 11: No. of Enteric Fever Cases reported under P & L form during October 2018 - 2020



As shown in Fig. 11, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 399776 in October 2018; 524056 in October 2019 and 98195 in October 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in October 2018; 832491 samples were tested for Typhoid, out of which 112841 were found positive. In October 2019; out of 1137835 samples, 138324 were found to be positive and in October 2020, out of 247860 samples, 21613 were found to be positive.

Sample positivity has been 14%, 12% and 9% in October month of 2018, 2019 & 2020 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 & outbreaks for October 2020

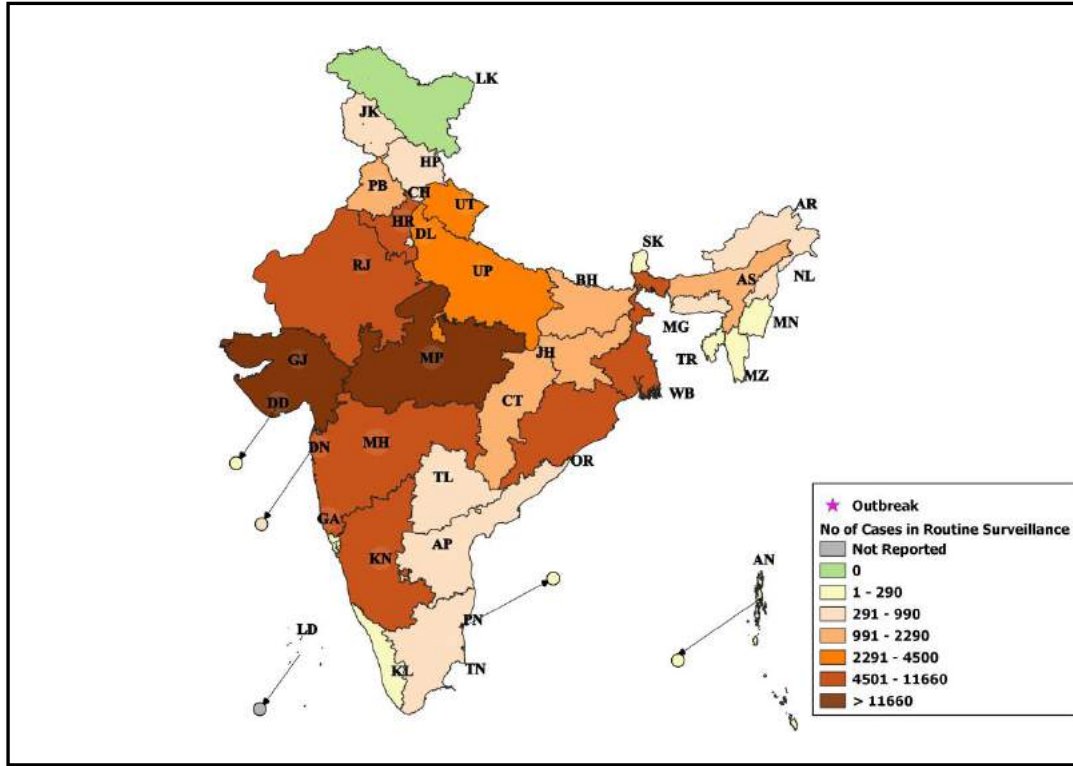


Fig. 13: State/UT wise Lab Confirmed Typhoid cases and outbreaks for October 2020

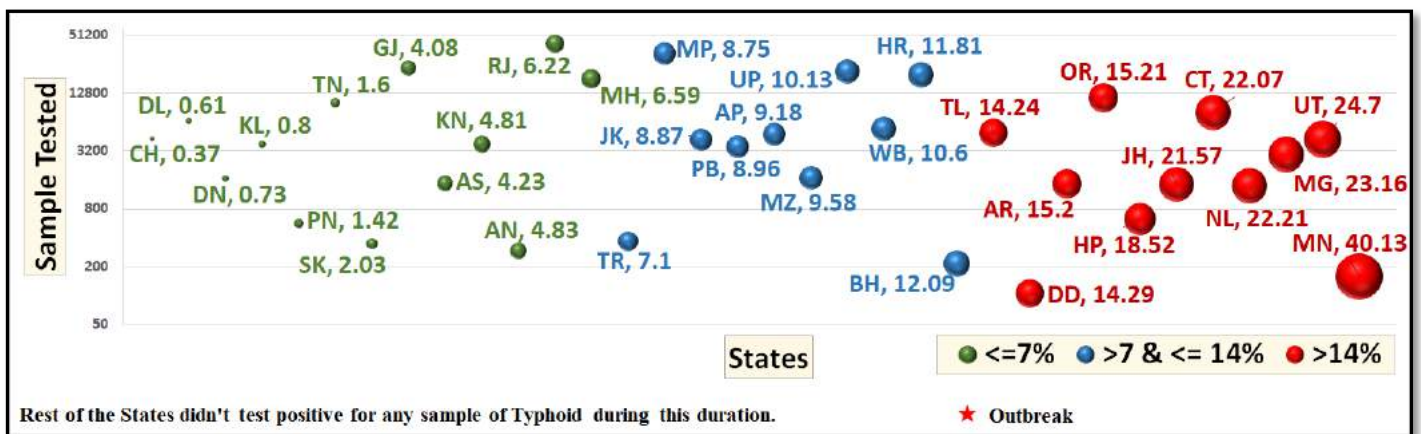
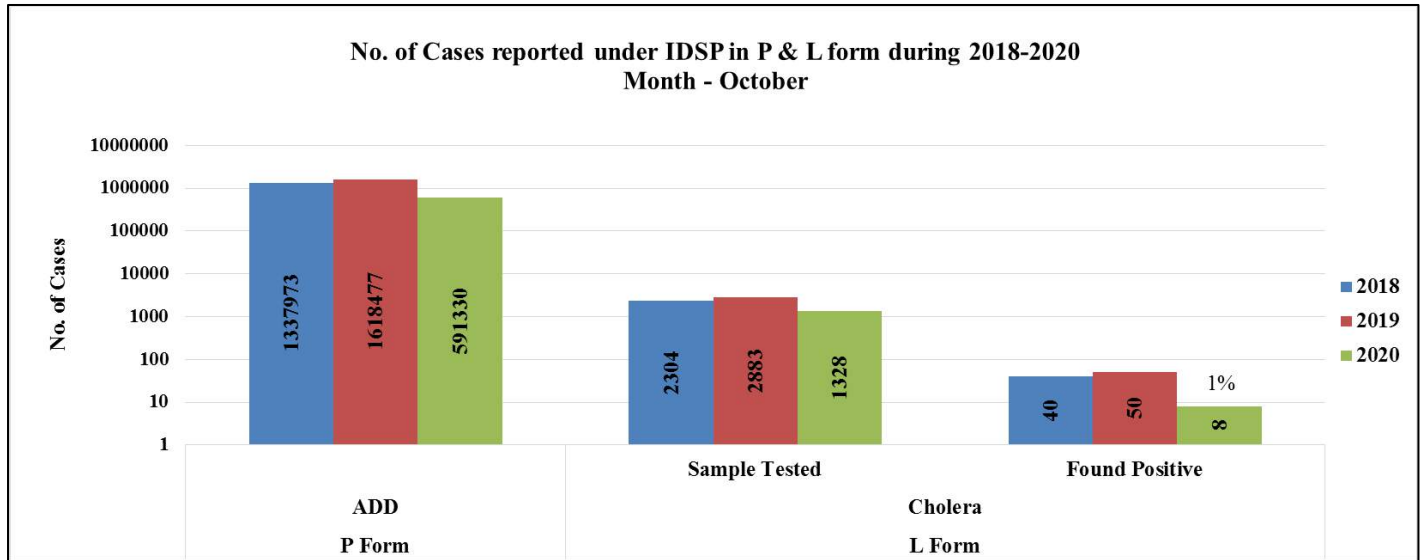


Fig. 14: No. of ADD Cases reported under IDSP in P Form & Lab confirmed Cholera cases in L form during October 2018 - 2020



As shown in Fig. 14, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1337973 in October 2018; 1618477 in October 2019 and 591330 in October 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in October 2018, 2304 samples were tested for Cholera out of which 40 tested positive; in October 2019, out of 2883 samples, 50 tested positive for Cholera and in October 2020, out of 1328 samples, 08 tested positive.

Sample positivity of samples tested for Cholera has been 2.0%, 2.0% and 1.0% in October month of 2018, 2019 & 2020 respectively.

Fig. 15: State/UT wise Presumptive ADD cases and outbreaks for October 2020

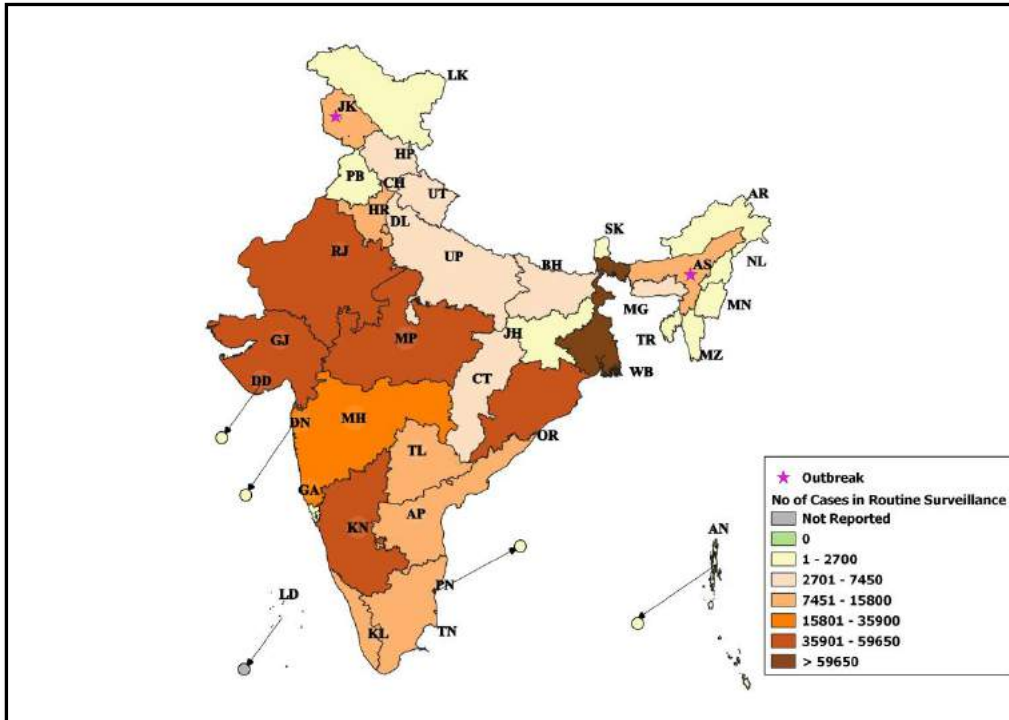


Fig. 16: State/UT wise Lab Confirmed Cholera cases and outbreaks for October 2020

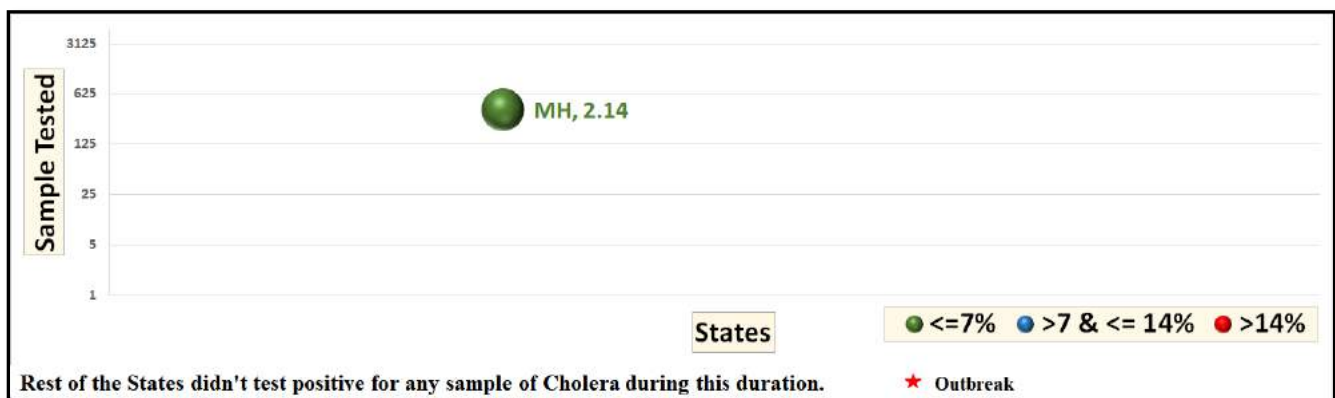
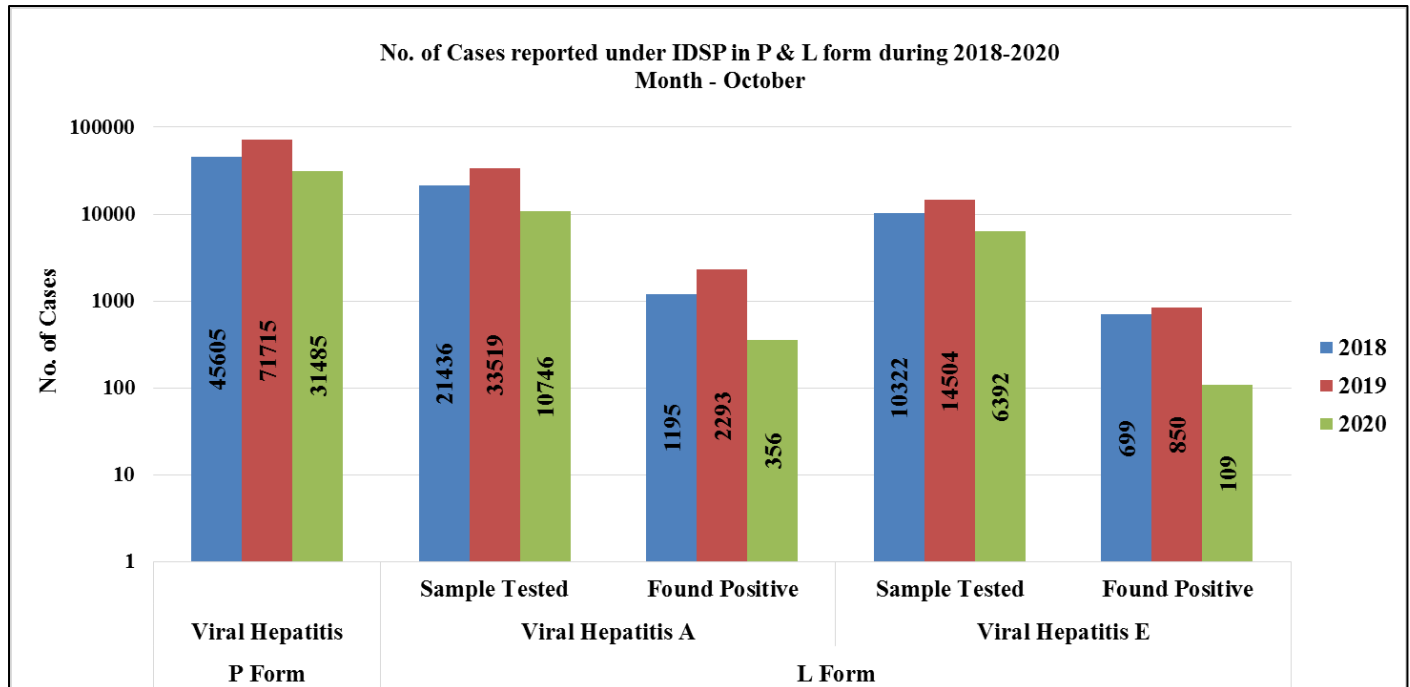


Fig. 17: No. of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during October 2018 - 2020



As shown in Fig. 17, the number of presumptive Viral Hepatitis cases was 45605 in October 2018, 71715 in October 2019 and 31485 in October 2020. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in October 2018; 21436 samples were tested out of which 1195 were found positive. In October 2019 out of 33519 samples, 2293 were found to be positive and in October 2020, out of 10746 samples, 356 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6%, 7% and 3% in October month of 2018, 2019 & 2020 respectively.

As reported in L form for Viral Hepatitis E, in October 2018; 10322 samples were tested out of which 699 were found positive. In October 2019; out of 14504 samples, 850 were found to be positive and in October 2020, out of 6392 samples, 109 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 7%, 6% and 2% in October month of 2018, 2019 & 2020 respectively.

Fig. 18: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for October 2020

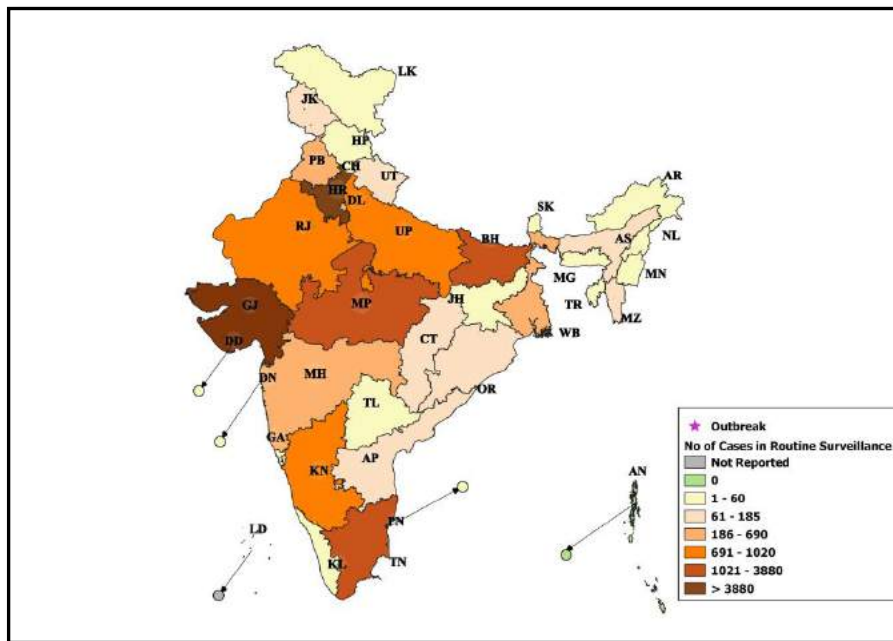


Fig. 19: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for October 2020

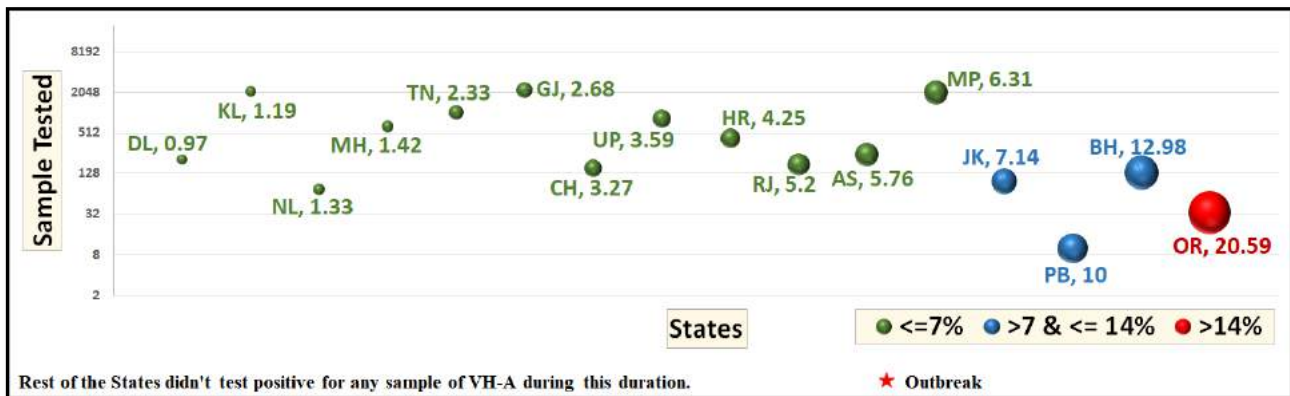


Fig. 20: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for October 2020

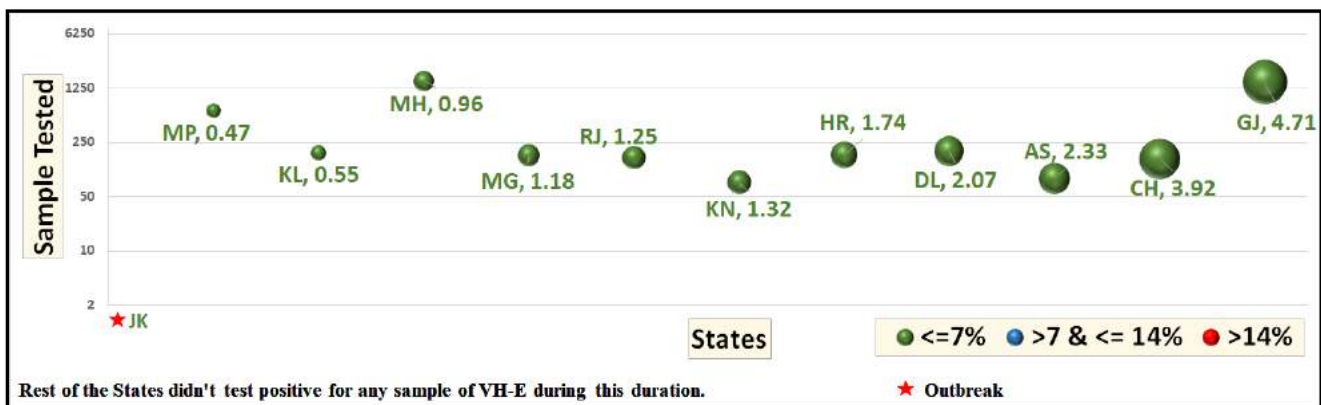
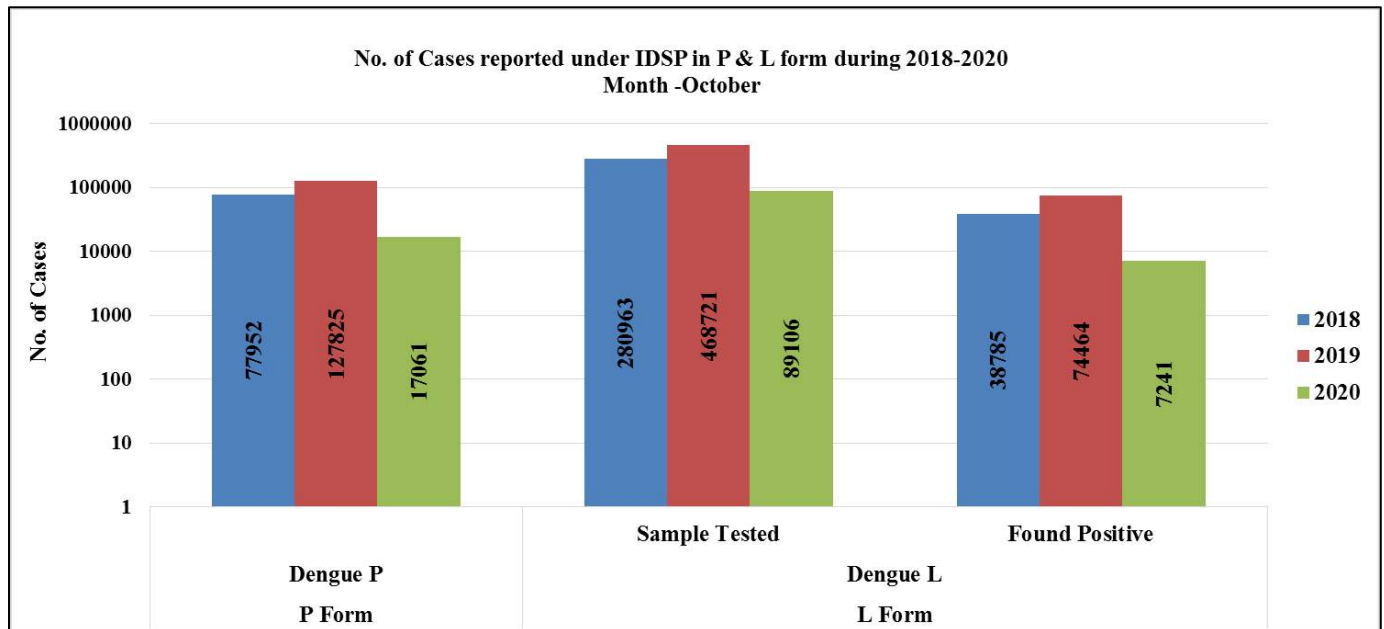


Fig. 21: No. of Dengue cases reported under IDSP in P & L form during October 2020



As shown in Fig. 21, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 77952 in October 2018; 127825 in October 2019 and 17061 in October 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in October 2018; 280963 samples were tested for Dengue, out of which 38785 were found positive. In October 2019; out of 468721 samples, 74464 were found to be positive and in October 2020, out of 89106 samples, 7241 were found to be positive.

Sample positivity of samples tested for Dengue has been 14%, 16% and 8% in October month of 2018, 2019 & 2020 respectively.

Fig. 22: State/UT wise Lab Confirmed Dengue cases and outbreaks for October 2020

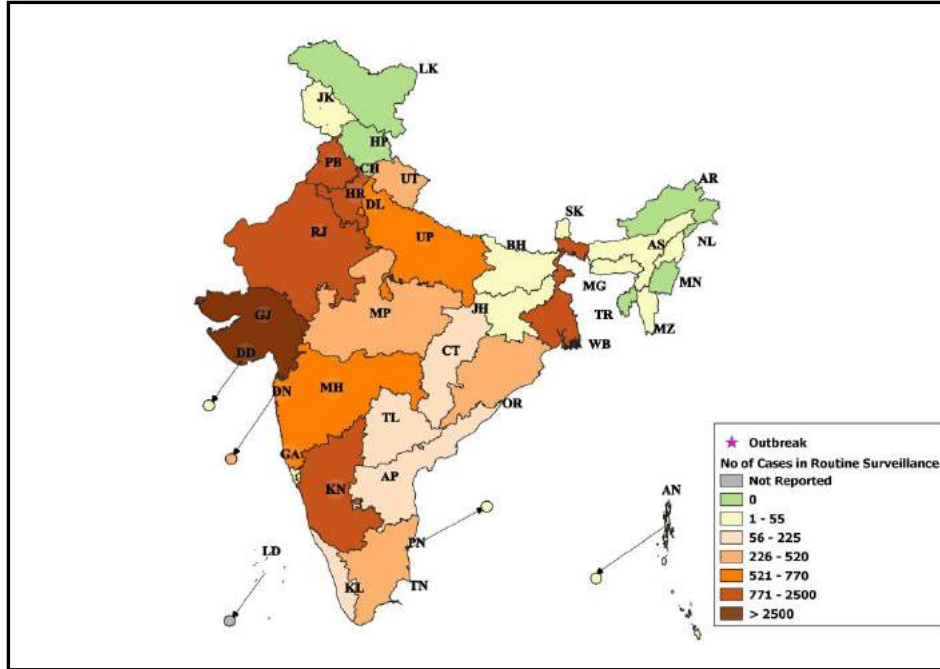


Fig. 23: State/UT wise Presumptive Dengue cases and outbreaks for October 2020

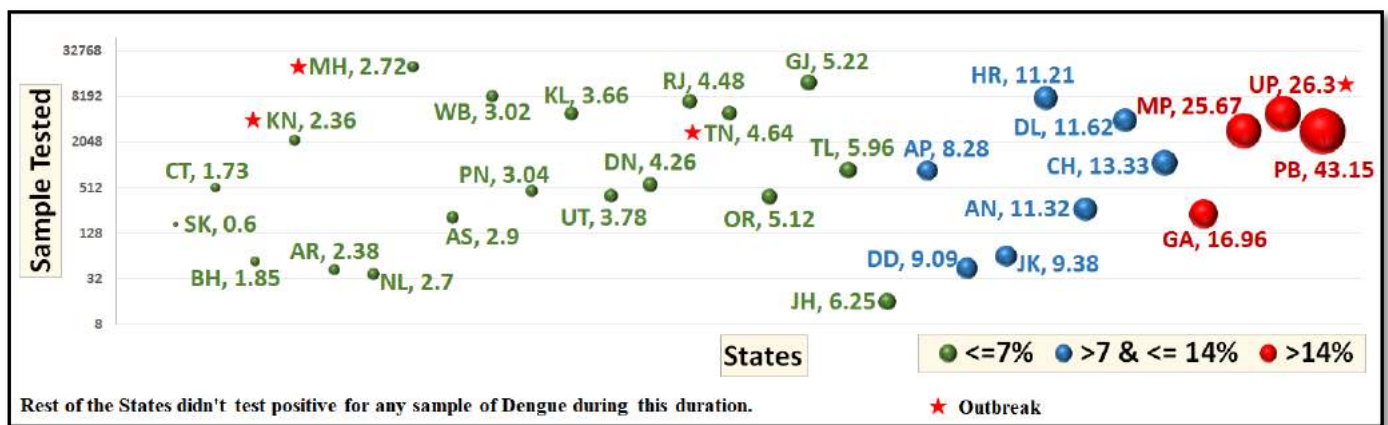
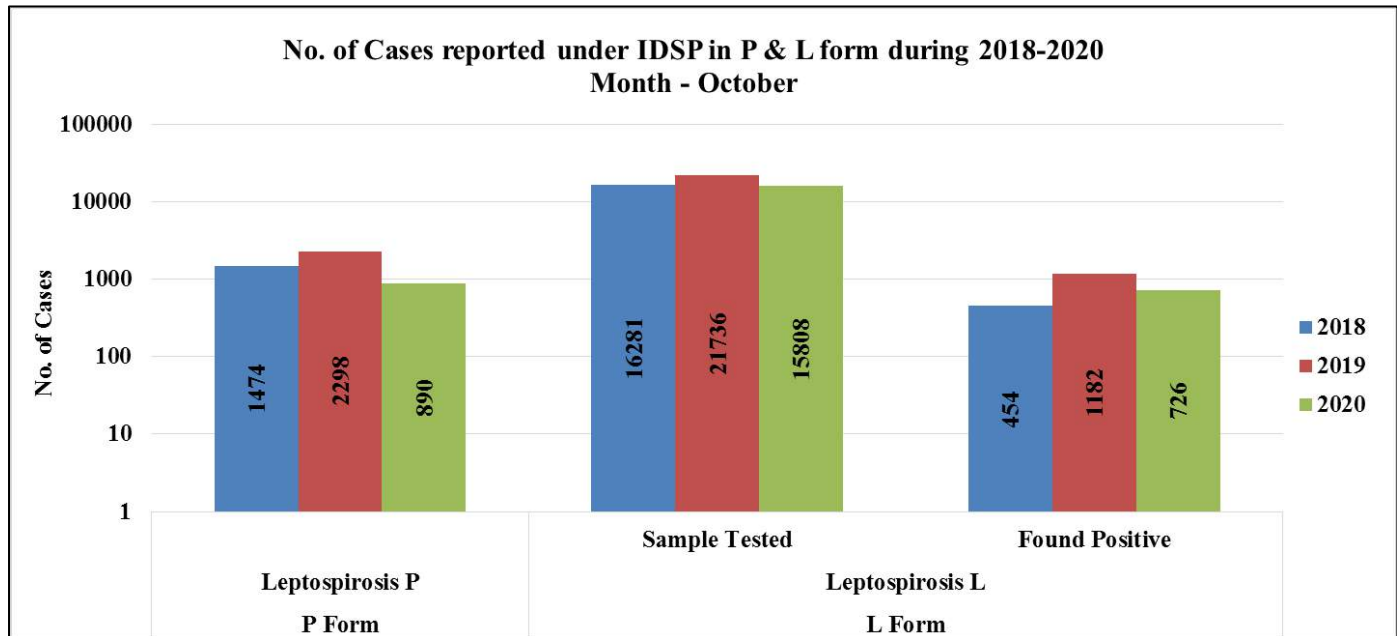


Fig. 24: No. of Leptospirosis Cases reported under IDSP in P & L form during October 2018 – 2020



As shown in Fig. 24, number of presumptive Leptospirosis cases, as reported by States/UTs in ‘P’ form was 1474 in October 2018; 2298 in October 2019 and 890 in October 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in October 2018; 16281 samples were tested for Leptospirosis, out of which 454 were found positive. In October 2019; out of 21736 samples, 1182 were found to be positive and in October 2020, out of 15808 samples, 726 were found to be positive.

Sample positivity of samples tested for Dengue has been 3%, 5% and 5% in October month of 2018, 2019 & 2020 respectively.

Fig. 25: State/UT wise Presumptive Leptospirosis cases and outbreaks for October 2020

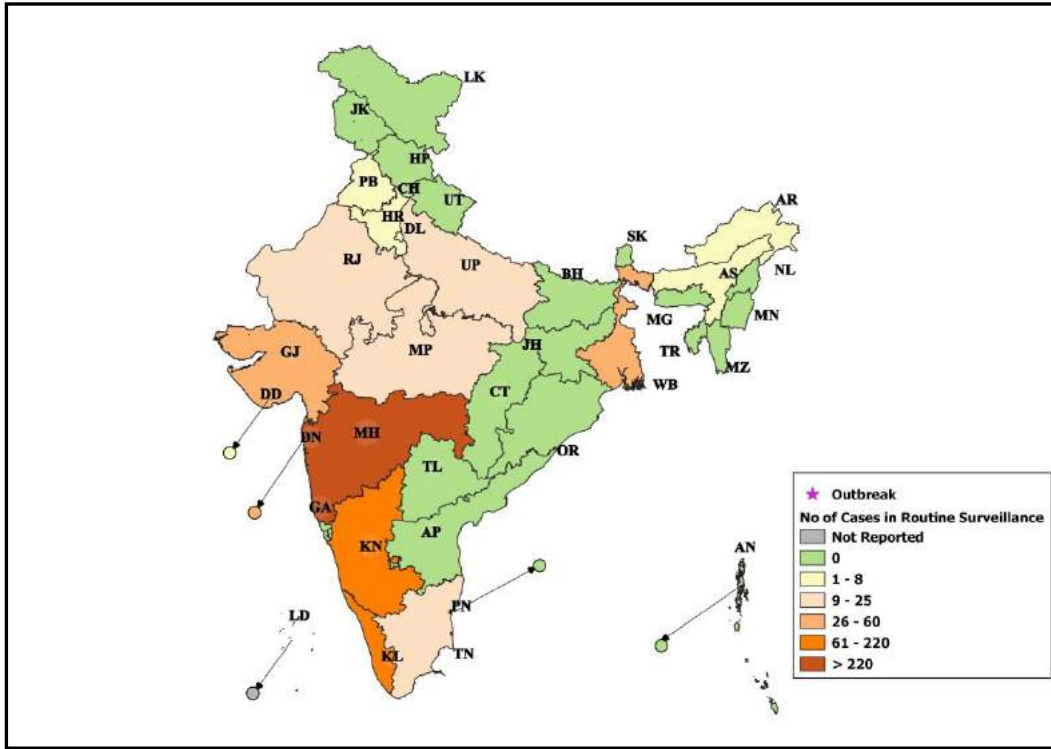


Fig. 26: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for October 2020

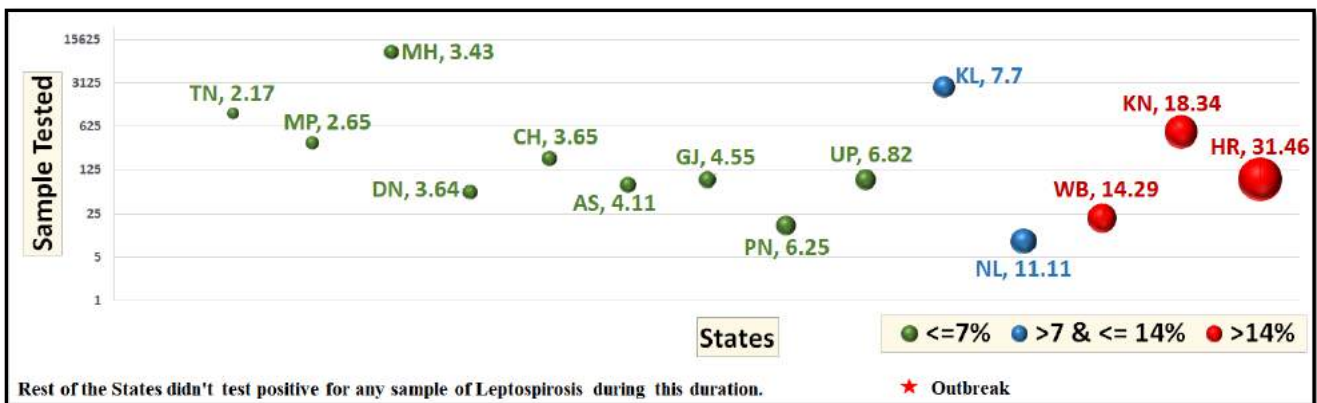
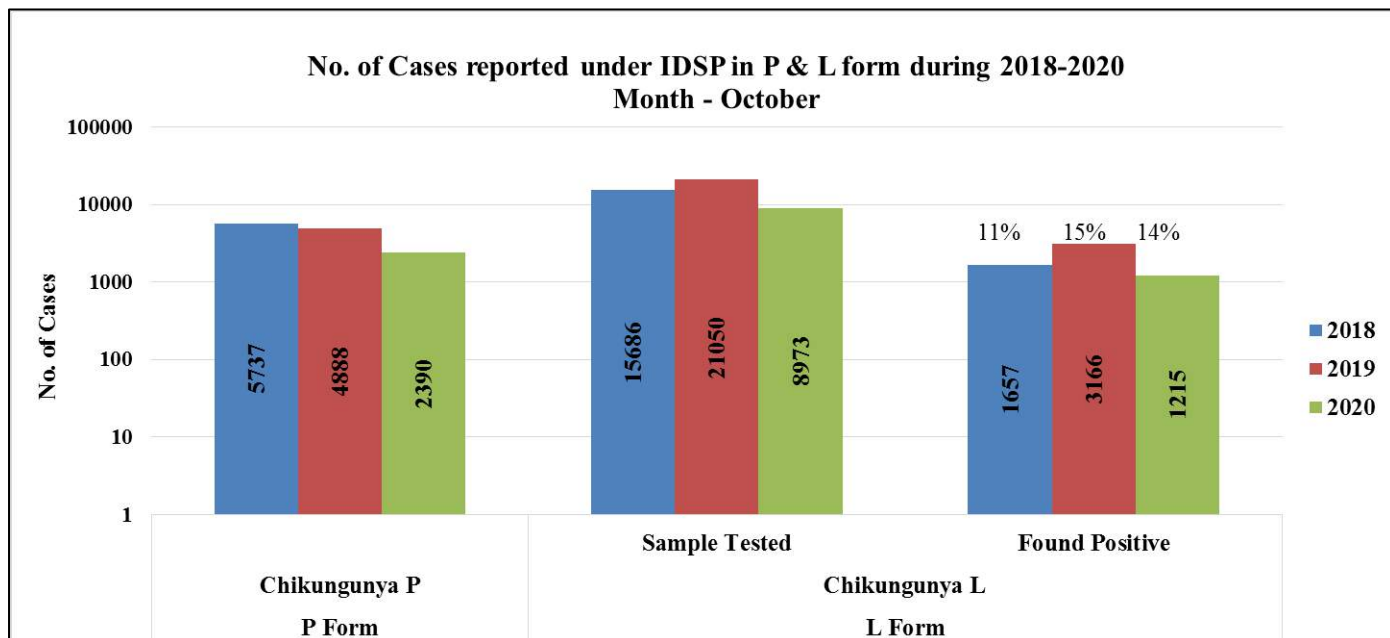


Fig. 27: No. of Chikungunya Cases reported under IDSP in P & L form during October 2018 - 2020



As shown in Fig. 27, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 5737 in October 2018; 4888 in October 2019 and 2390 in October 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in October 2018; 15686 samples were tested for Chikungunya, out of which 1657 were found positive. In October 2019; out of 21050 samples, 3166 were found to be positive and in October 2020, out of 8973 samples, 1215 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 11%, 15% and 14% in October month of 2018, 2019 & 2020 respectively.

Fig. 28: State/UT wise Presumptive Chikungunya cases and outbreaks for October 2020

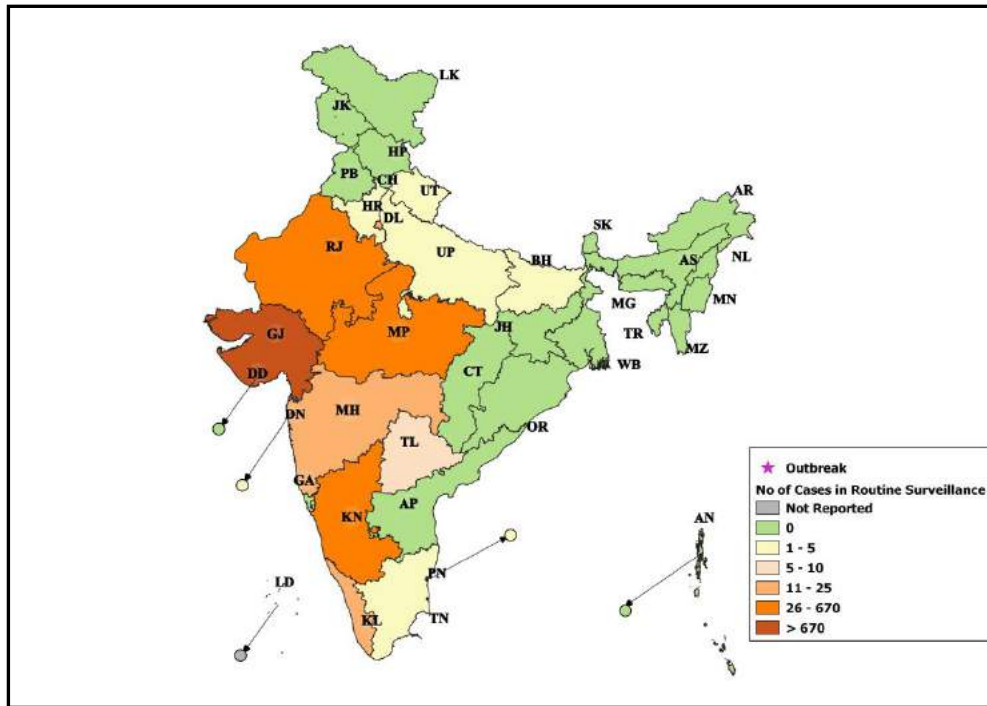


Fig. 29: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for October 2020

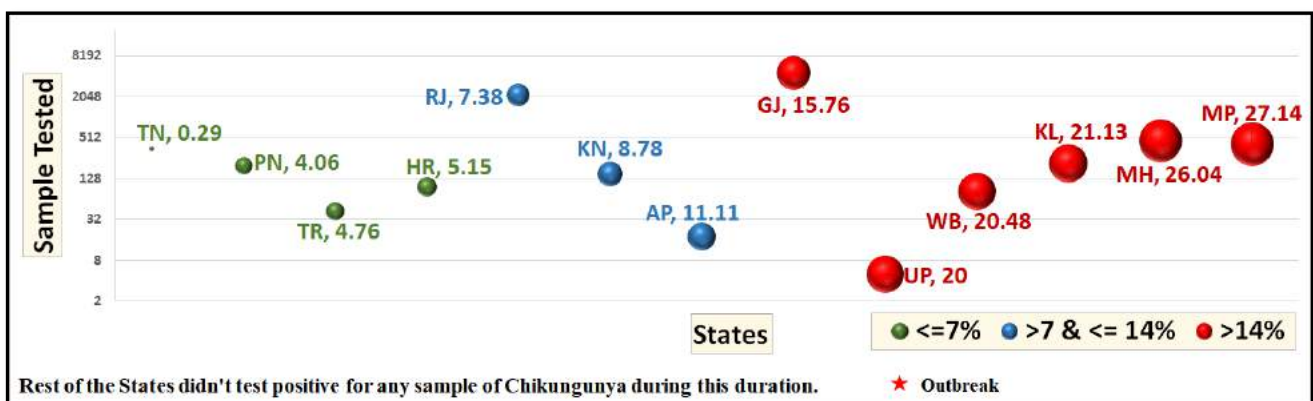
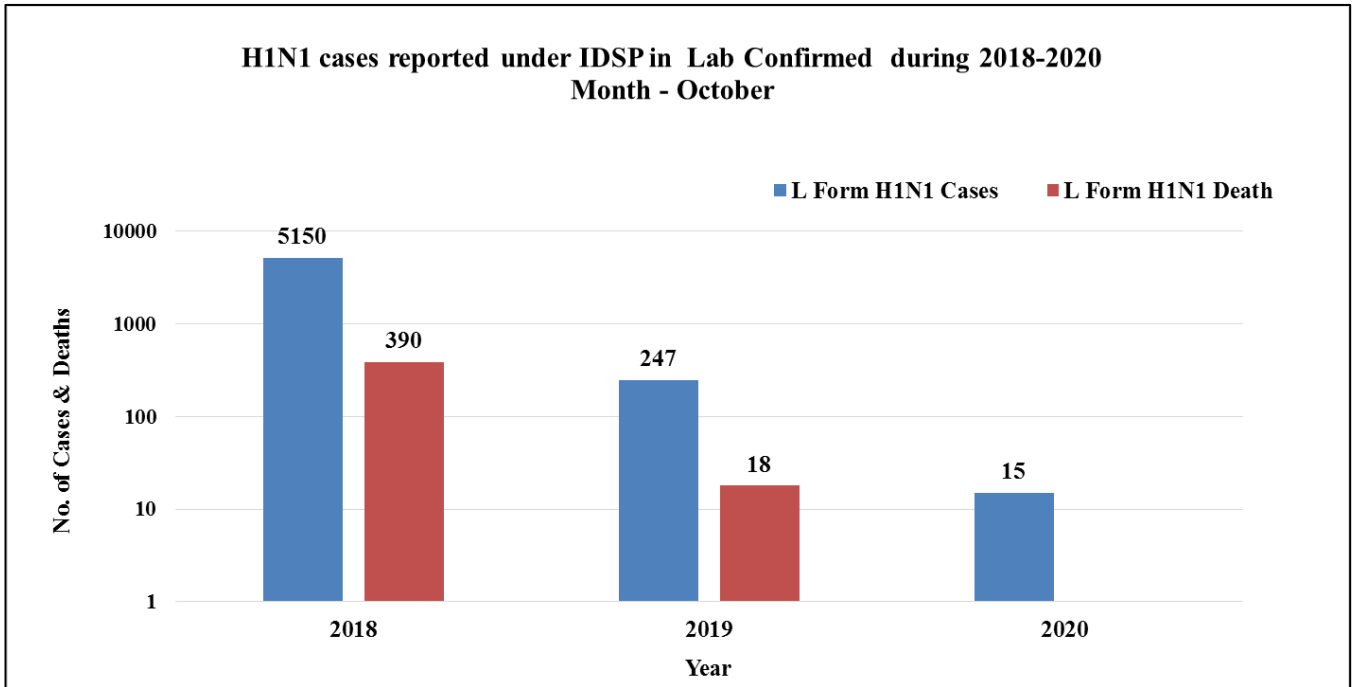


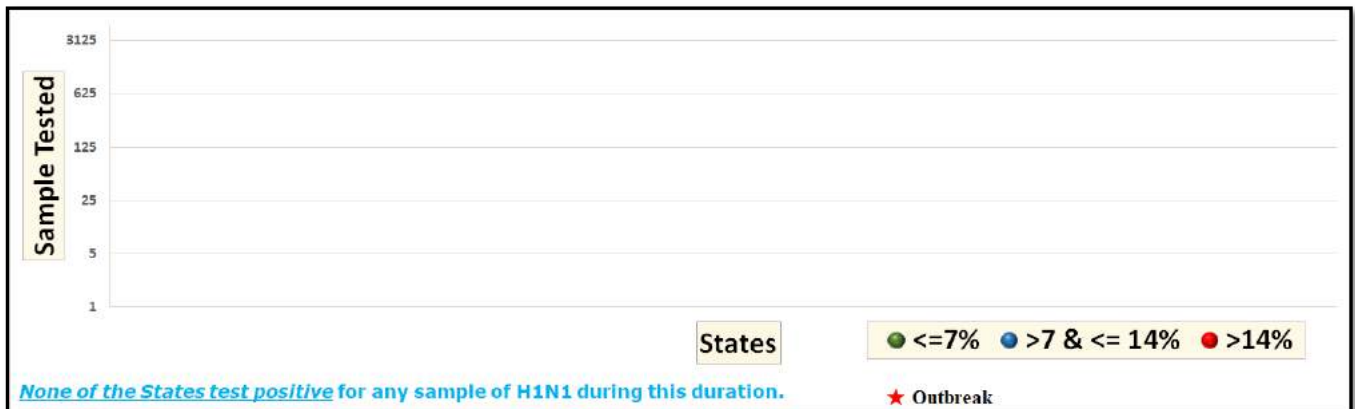
Fig. 30: H1N1 cases reported under IDSP in L Form during 2018-2020 in October 2020



As shown in Fig.30, as reported in L form, in October 2018, there were 5150 cases and 390 deaths. In October 2019, there were 247 cases and 18 deaths; and in October 2020, there were 15 cases and 0 deaths.

Case fatality rates for H1N1 were 7.57%, 7.29% and 0% in October month of 2018, 2019 & 2020 respectively.

Fig. 31: State/UT wise H1N1 cases and outbreaks for October 2020



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.

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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: dinricd@nic.in & idsnp-npo@nic.in

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