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Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report
From
Integrated Disease Surveillance Programme
National Health Mission

In This Issue:

ADD Outbreak, SBS Nagar, Punjab

02

Surveillance Data (Maps & Charts)

08

Action from Field

23

Glossary

23

ACUTE DIARRHEAL DISEASE OUTBREAK INVESTIGATION
DISTRICT SBS (SHAHEED BHAGAT SINGH) NAGAR, PUNJAB

BACKGROUND:

Shaheed Bhagat Singh Nagar is a district located on East side of Punjab which is headquartered in Nawanshahr. Cases of ADD were reported from Ward/ Village Begampur, CHC Saroya on 5th June. The population of affected area is 1068.

It was reported that the first case happened on 1st June. It was told to MO-IC of CHC that there are 28 cases of ADD in the affected locality. On hearing the information, lab technician along with local health personal surveyed the area for preliminary study. During this survey houses of the reported cases were visited and the clinical histories were taken. 12 new cases were found during the survey.

DETAILS OF INVESTIGATION:

Realizing the gravity of situation, a District RRT consisting of Dist. Epidemiologist, SMO CHC Saroya, SI and field workers visited the affected area to undertake outbreak investigation. A preliminary case definition was formalized for surveillance purposes –

“Passage of 3 or more loose watery stools (with or without vomiting) in the past 24 hours”

(Source: Case definitions-P form (2019)

<https://idsp.nic.in/WriteReadData/1892s/74671171431562916311.pdf>

The affected persons along with their family members were interviewed to elicit detailed history. In addition, environmental studies were undertaken in the affected village. It was seen that many houses were using Pumps/Motors for drawing water. On assessing them it was realized that negative pressure may be created and the contaminated water from the drain/sewerage may be getting mixed with the drinking water.

Another thing noticed by the team was that chlorine dosing pump in the main water tank from where the water is circulated to the whole village was not in working condition which shows that the chlorination was not done properly.

Fig. 1: House-to-house survey by local health team



A preliminary report (EWS with the line list of patients) was sent to the State Surveillance Unit, Punjab regarding the same.

6 water Samples were taken and sent to the State Chemical Lab, Kharar for testing. 5 stool samples were collected and sent to PHL, SBS Nagar for bacteriological analysis.

A letter was issued to the Rural Water Supply and Sanitation Dept. and they were instructed to coordinate with the health team and search for any point of water mixing and to take the required remedial actions immediately. It was further instructed to submit the action taken report to the Civil Surgeon's office.

The supply of water to village was stopped immediately and alternate source (water tanker) was deputed for providing potable water.

The supply of water by the Rural Water Supply and Sanitation Dept. was started from 12th June after taking all the required necessary action.

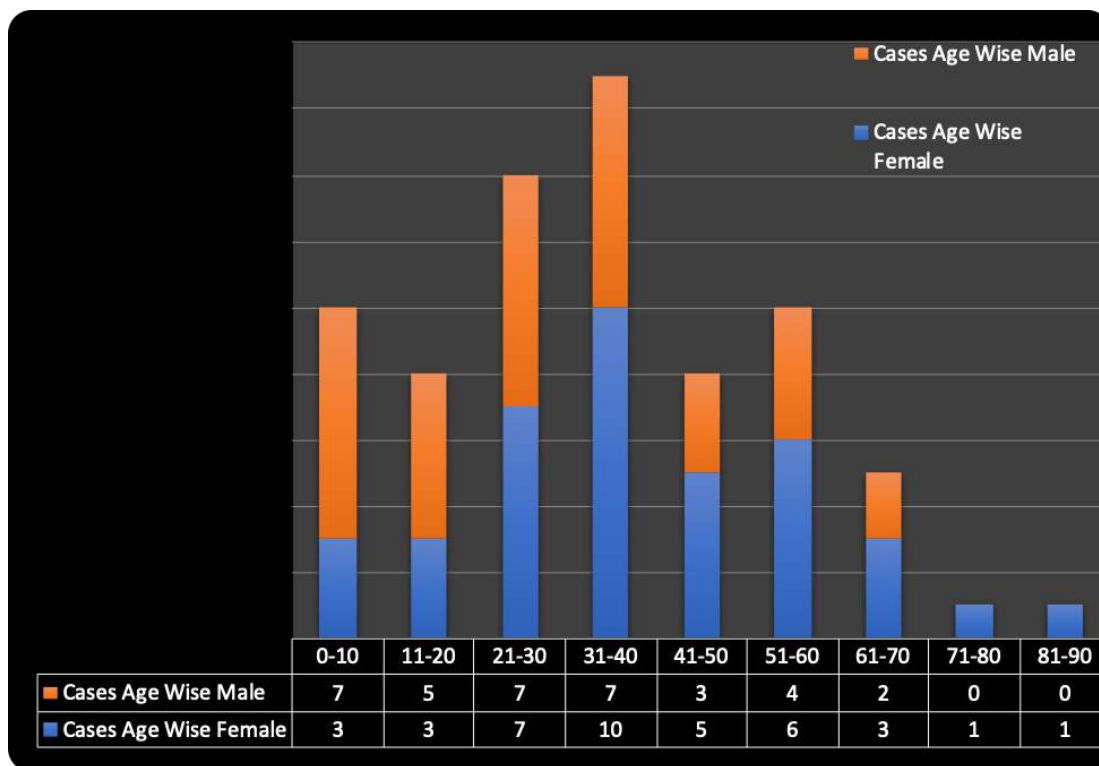
DESCRIPTIVE EPIDEMIOLOGY:

Following were the main points of descriptive studies –

S. No.	Date	Cases
1	04-06-2020	27
2	05-06-2020	12
3	06-06-2020	15
4	07-06-2020	12
5	08-06-2020	6
5	09-06-2020	0
6	10-06-2020	2
7	11-06-2020	0
8	12-06-2020	0

Age & Sex Distribution of Cases			
Age	Female	Male	total
0-10	3	7	10
11-20	3	5	8
21-30	7	7	14
31-40	10	7	17
41-50	5	3	8
51-60	6	4	10
61-70	3	2	5
71-80	1	0	1
81-90	1	0	1

Fig. 2: Gender Wise Distribution of Cases



Gender Wise Distribution of Cases	
Female	Male
39	35

Attack Rate: In epidemiology, the **attack rate** is the percentage of the population that contracts the disease in an at risk population during a specified time interval.

The term is defined as the number of exposed persons infected with the disease divided by the total number of exposed persons.

Here in this outbreak, there were 74 people taken ill out of 1068 population, the attack rate is

$$74/1068 \approx 0.07$$

or about 7%.

High Risk age groups was identified to be between ages 31 and 40

LABORATORY DIAGNOSIS:

Out of 5 stool samples, all tested positive for *Enteropathogenic E.coli*.

Out of 6 water samples tested, all was found “Not potable for human consumption”.

INTERPRETATION:

It was concluded that this an outbreak of Acute Diarrheal Disease due to *Enteropathogenic E.coli*.

CONTROL MEASURES:

1. Active case search was continued in the area, survey went on for many days until no new case was reported for at least 6 days.
2. Health Education given regarding consumption of well-cooked food and safe drinking water. IEC also imparted regarding personal hygiene, hand washing etc.
3. All the cases were put under medical supervision till they completely recovered.
4. Medical team was put on duty for 24X7 for any emergency.
5. Follow up of the patients was done regularly.
6. Daily reporting of the status and the follow up of the patients was done till all the patients completely recovered.
7. Health Awareness campaign started in affected & surrounding villagers.
8. Alternate source of supply was provided till the regular supply was properly fixed.
9. Chlorine tablets and pamphlets about the water borne diseases were distributed in affected areas.
10. The block health team was instructed to continue the house to house survey and monitor the situation until the outbreak is under control and search for any further suspected cases of the same.

Fig. 3: Organization of Medical Camp at CHC, Saroya

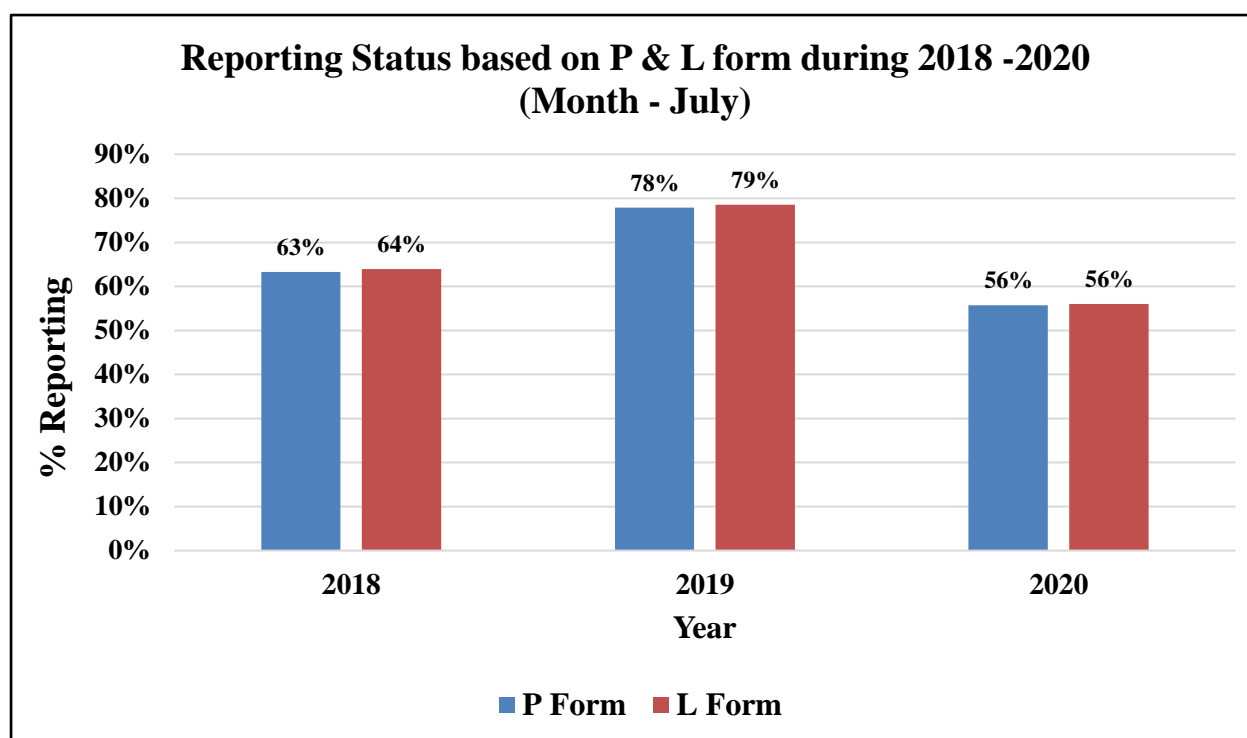


CONCLUSIONS:

The reason behind the outbreak was probably consumption of contaminated water. The reason for the same was possible intermixing of sewage with drinking water.

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

Fig. 4: RU wise reporting based on P & L form during July 2018 – 2020



As shown in Fig 4, in July 2018, 2019 and 2020, the ‘P’ form reporting percentage (i.e. % RU reporting out of total in P form) was 63%, 78% and 56% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 64%, 79% and 56% 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 slightly decreased in both P and L form in 2020 because of ongoing CoVID-19 pandemic.

Fig. 5: State/UT wise P form completeness % for July 2020

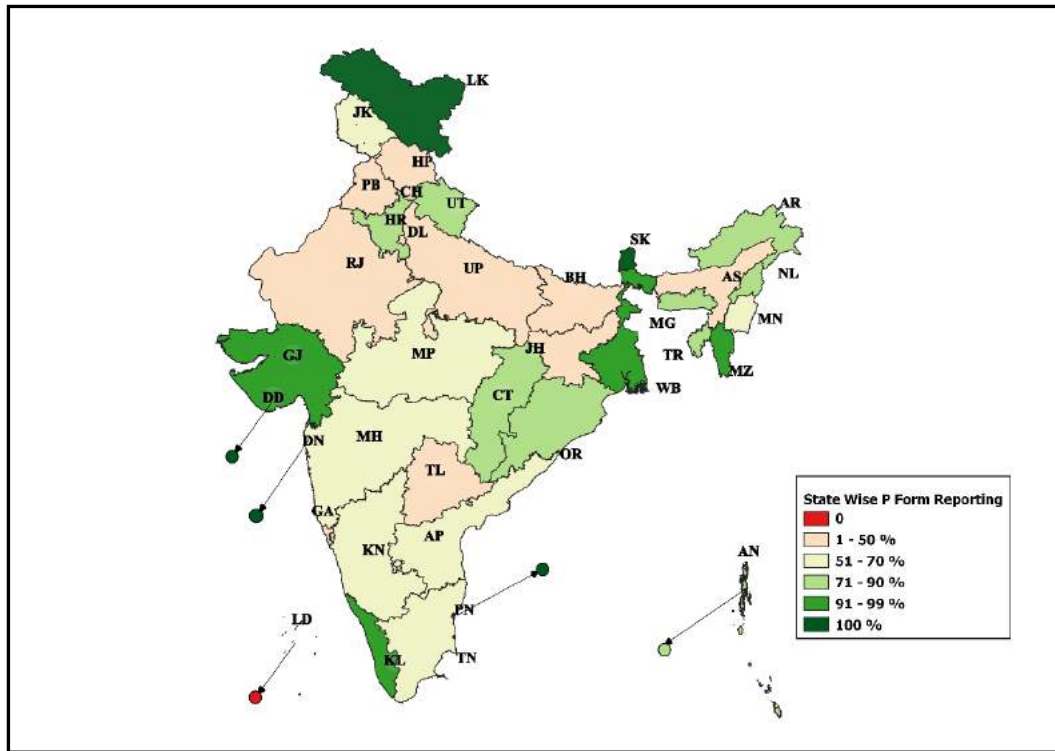


Fig. 6: State/UT wise L form completeness % for July 2020

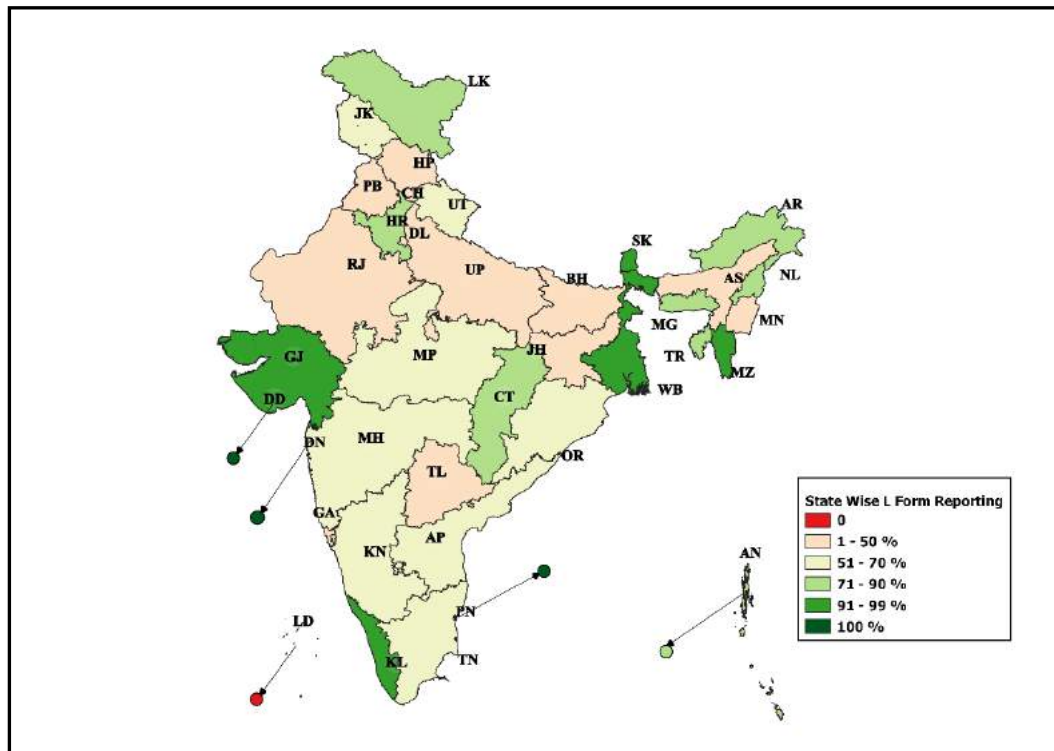
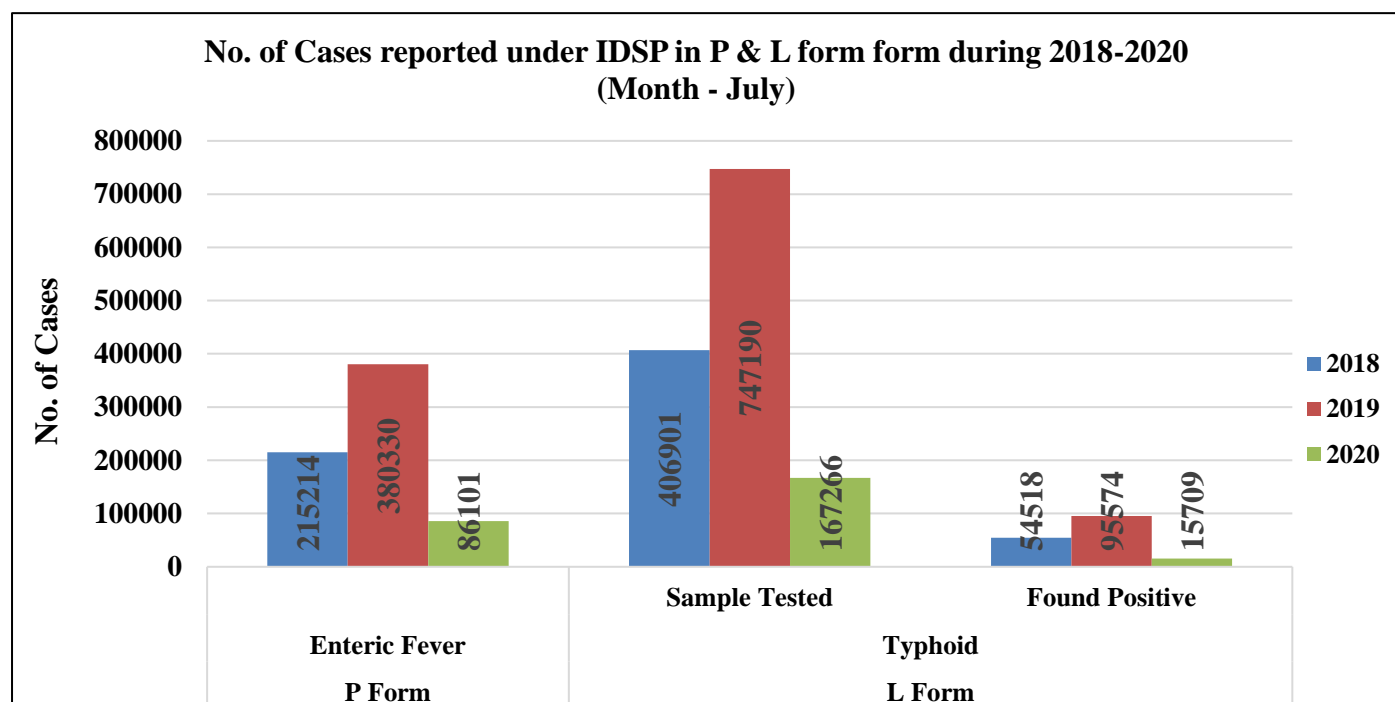


Fig. 7: No. of Enteric Fever Cases reported under P & L form during July 2018 - 2020



As shown in Fig. 7, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 215214 in July 2018; 380330 in July 2019 and 86101 in July 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2018; 406901 samples were tested for Typhoid, out of which 54518 were found positive. In July 2019; out of 747190 samples, 95574 were found to be positive and in July 2020, out of 167266 samples, 15709 were found to be positive.

Sample positivity has been 13.40%, 12.79% and 9.39% in July month of 2019, 2018 & 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. 8: State/UT wise Presumptive Enteric fever cases and outbreaks for July 2020

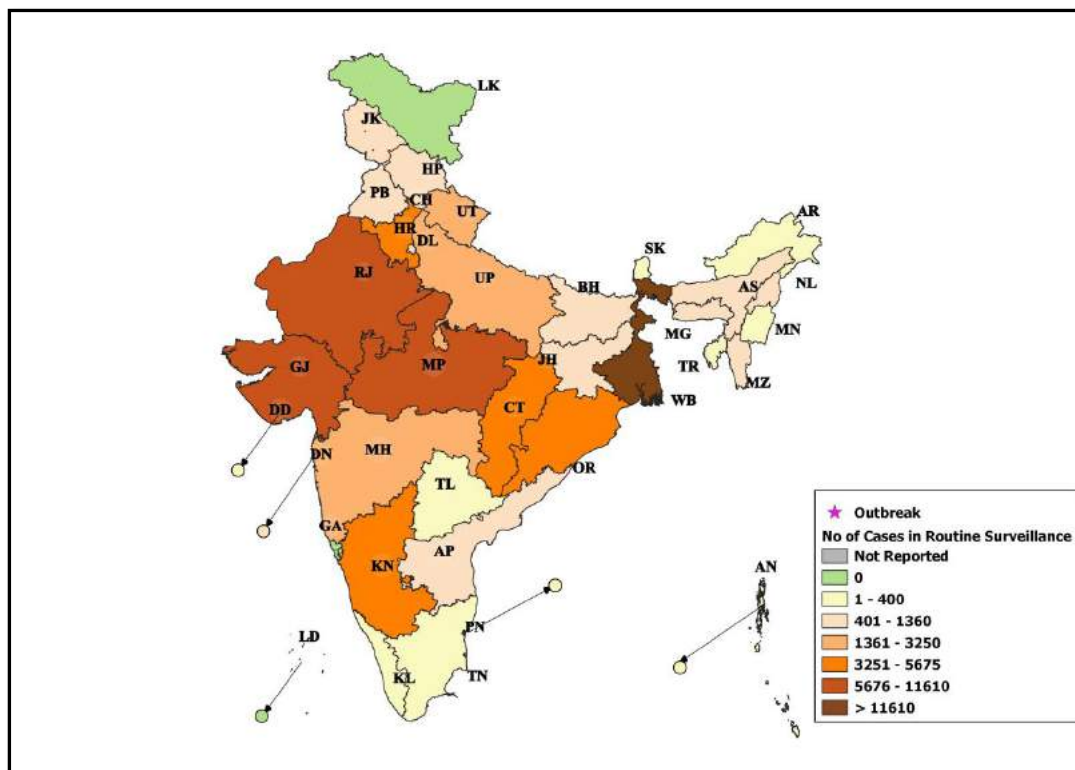


Fig. 9: State/UT wise Lab Confirmed Typhoid cases and outbreaks for July 2020

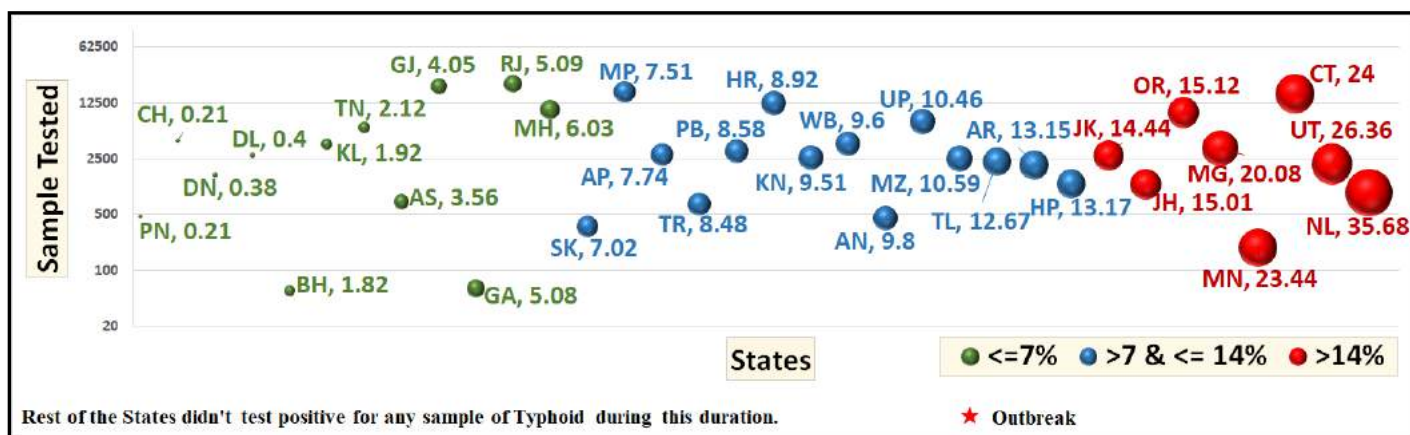
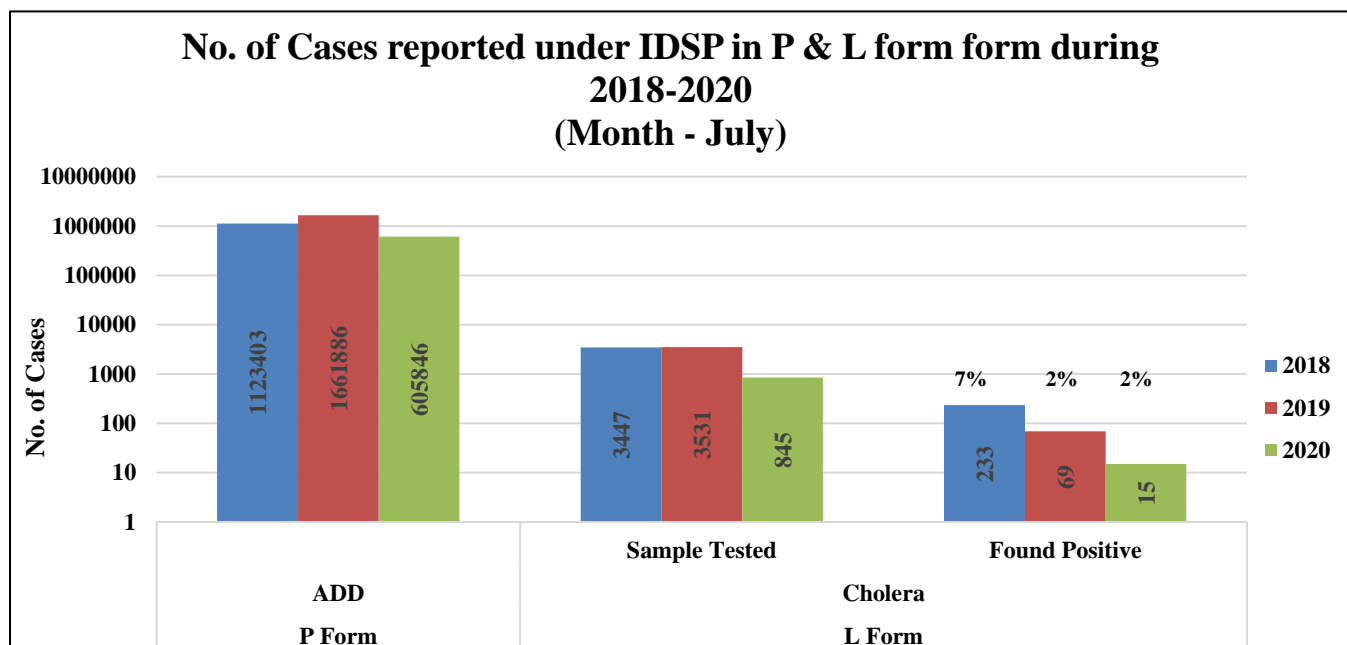


Fig. 10: No. of ADD Cases reported under IDSP in P Form during July 2018 - 2020



As shown in Fig 10, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1123403 in July 2018; 1661886 in July 2019 and 605846 in July 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2018, 3447 samples were tested for Cholera out of which 233 tested positive; in July 2019, out of 3531 samples, 69 tested positive for Cholera and in July 2020, out of 845 samples, 15 tested positive.

Sample positivity of samples tested for Cholera has been 6.76%, 1.95% and 1.78% in July month of 2018, 2019 & 2020 respectively.

Fig. 11: State/UT wise Presumptive ADD cases and outbreaks for July 2020

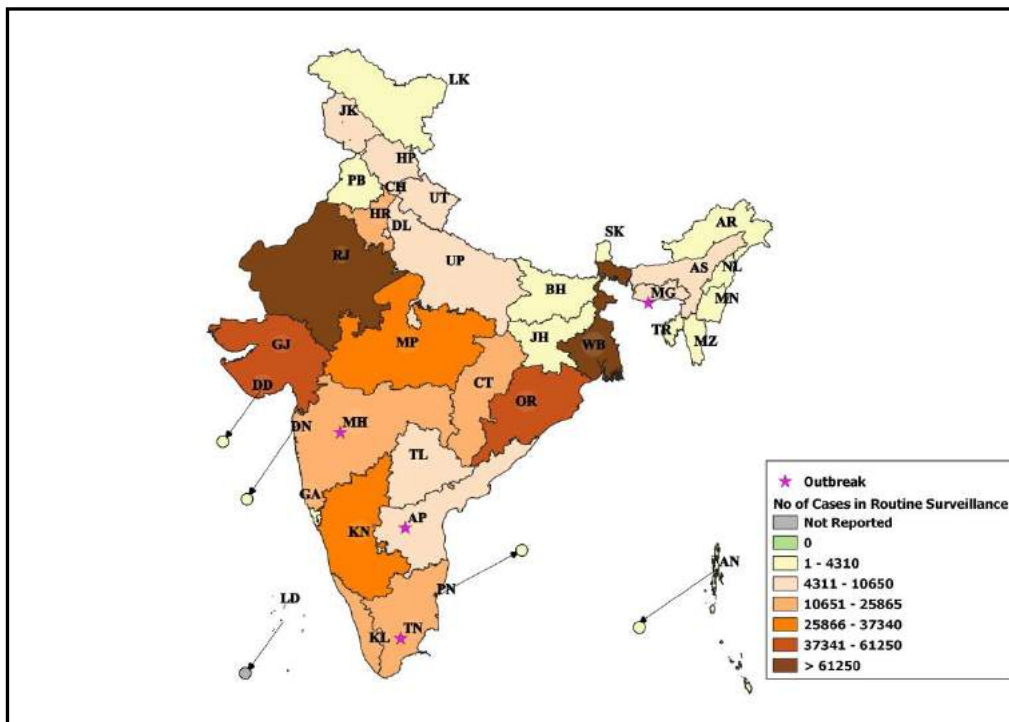


Fig. 12: State/UT wise Lab Confirmed Cholera cases and outbreaks for July 2020

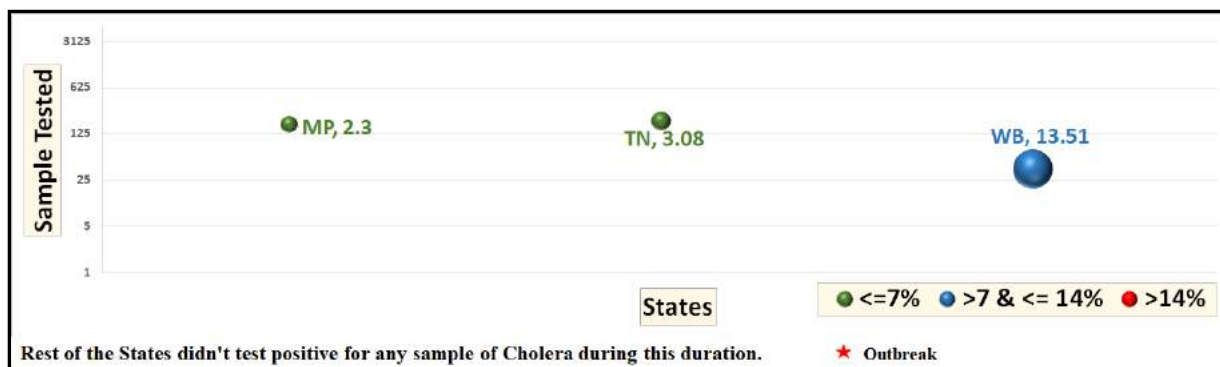
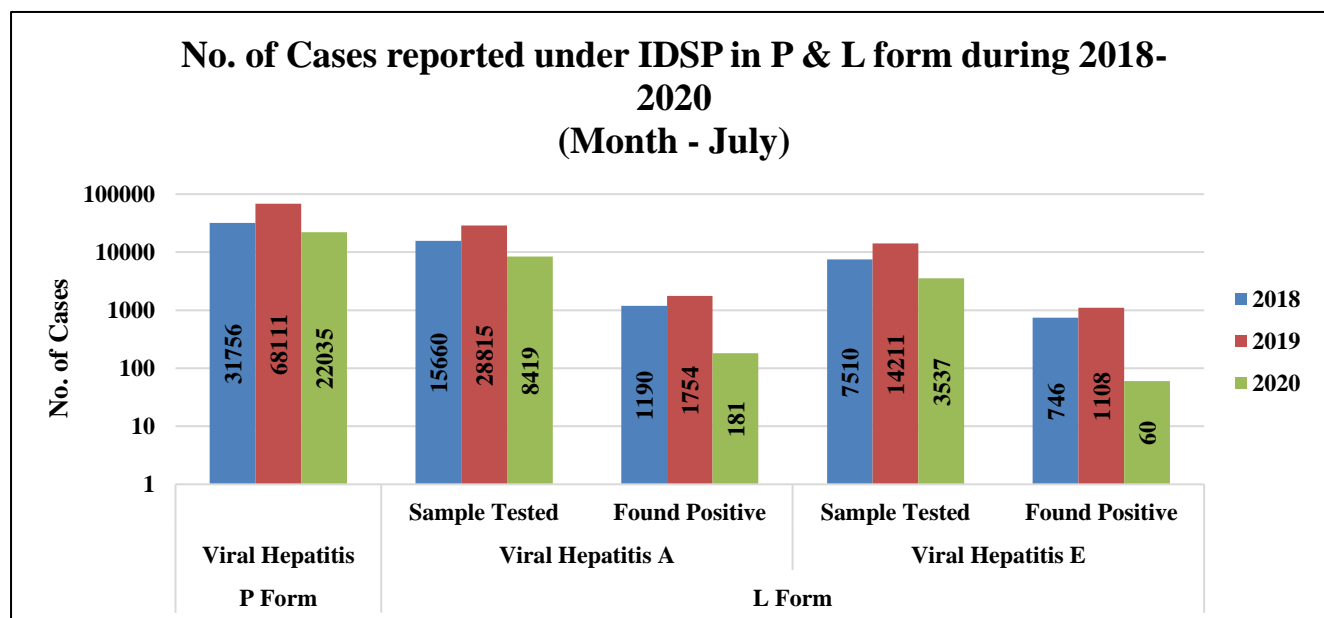


Fig. 13: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during July 2018 - 2020



As shown in Fig. 13, the number of presumptive Viral Hepatitis cases was 31756 in July 2018, 68111 in July 2019 and 22035 in July 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 July 2018; 15660 samples were tested out of which 1190 were found positive. In July 2019 out of 28815 samples, 1754 were found to be positive and in July 2020, out of 8419 samples, 181 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 7.60%, 6.09% and 2.15% in July month of 2018, 2019 & 2020 respectively.

As reported in L form for Viral Hepatitis E, in July 2018; 7510 samples were tested out of which 746 were found positive. In July 2019; out of 14211 samples, 1108 were found to be positive and in July 2020, out of 3537 samples, 60 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 9.93%, 7.80% and 1.70% in July month of 2018, 2019 & 2020 respectively.

Fig. 14: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for July 2020

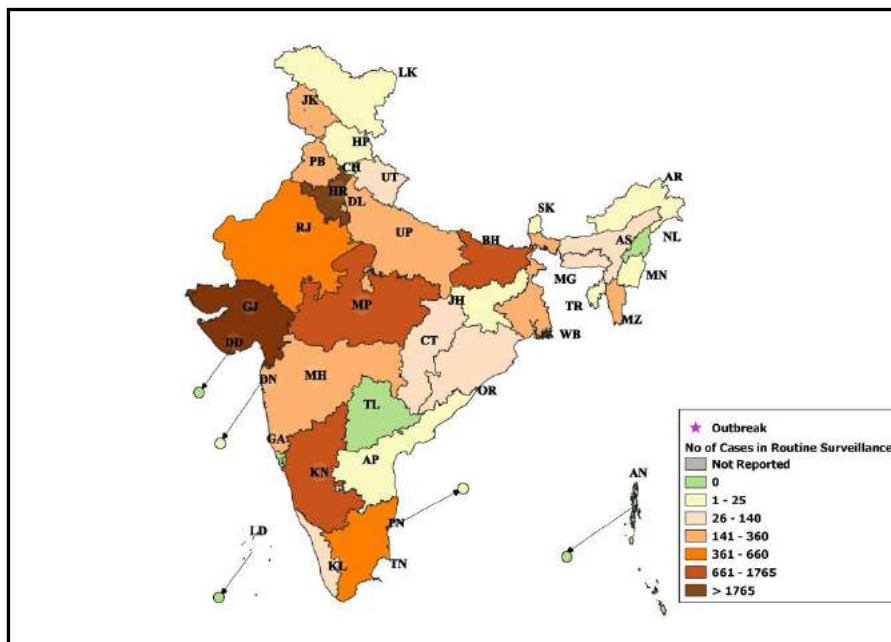


Fig. 15: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for July 2020

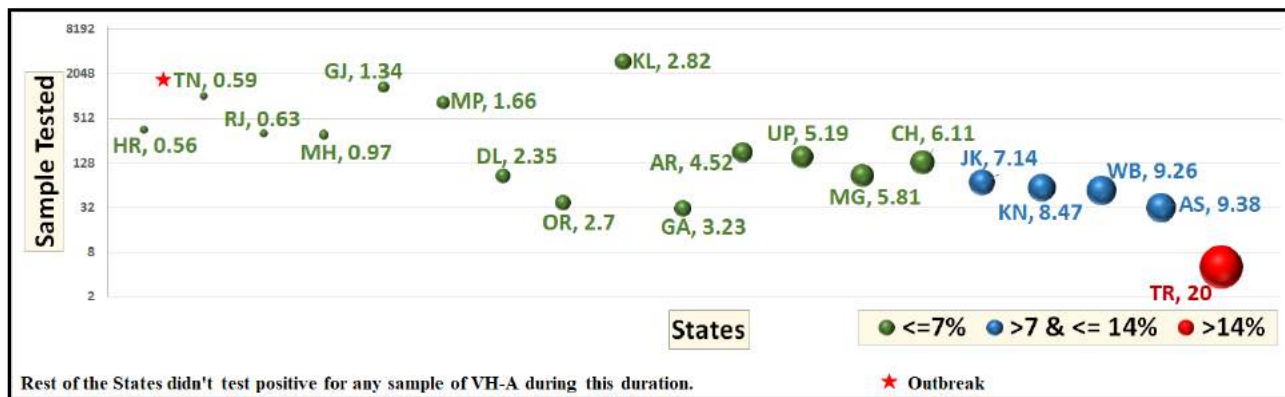


Fig. 16: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for July 2020

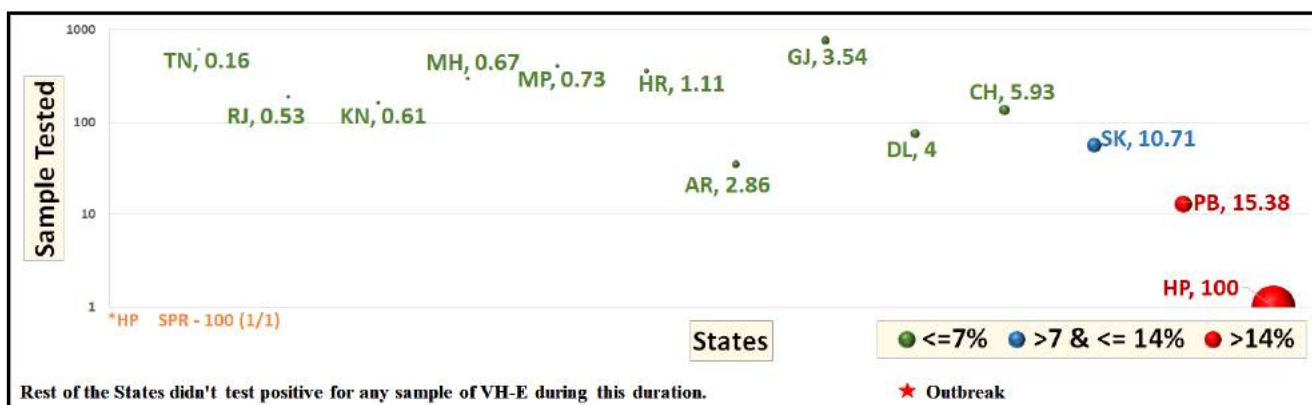
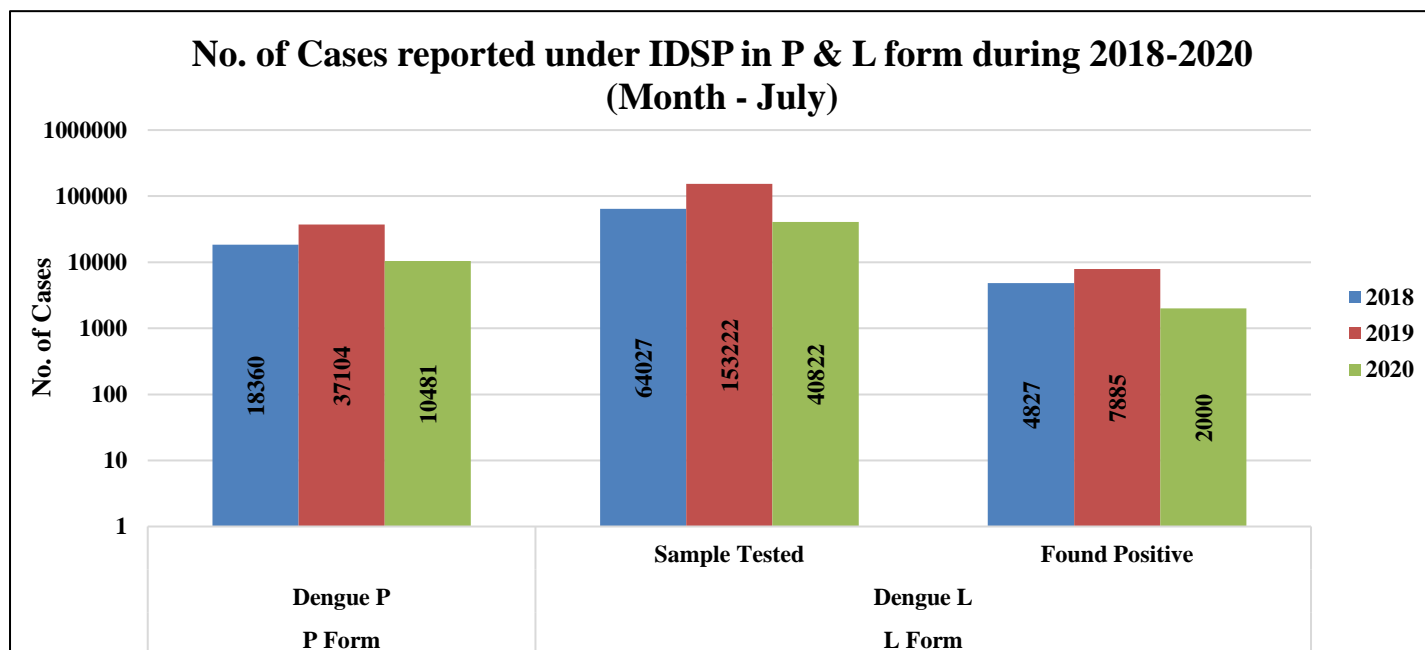


Fig. 17: No. of Dengue Cases reported under IDSP in P & L form during July 2018 - 2020



As shown in Fig. 17, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 18360 in July 2018; 37104 in July 2019 and 10481 in July 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2018; 64027 samples were tested for Dengue, out of which 4827 were found positive. In July 2019; out of 153222 samples, 7885 were found to be positive and in July 2020, out of 40822 samples, 2000 were found to be positive.

Sample positivity of samples tested for Dengue has been 7.54%, 5.15% and 4.90% in July month of 2018, 2019 & 2020 respectively.

Fig. 18: State/UT wise Presumptive Dengue cases and outbreaks for July 2020

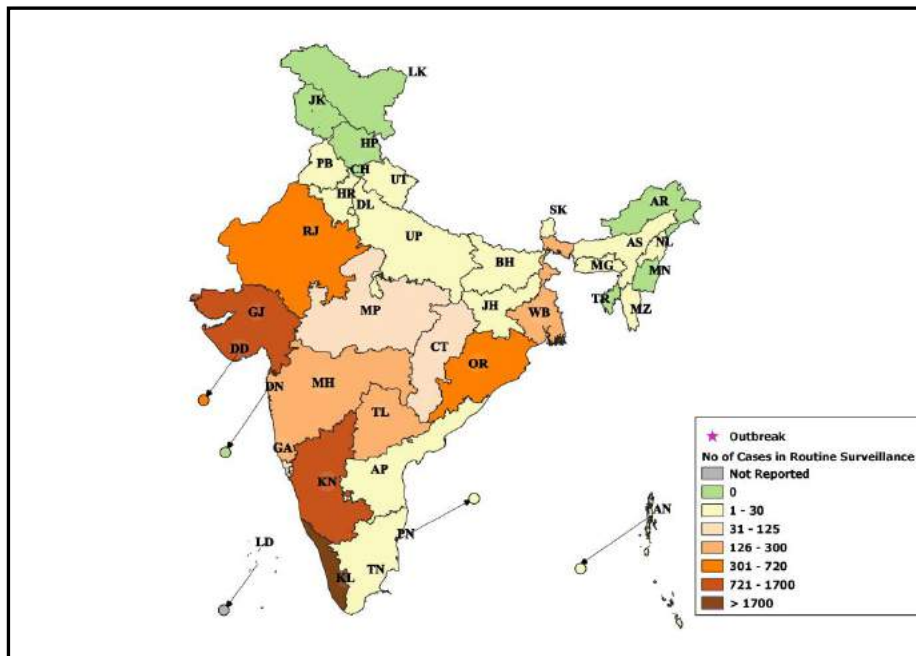


Fig. 19: State/UT wise Lab Confirmed Dengue cases and outbreaks for July 2020

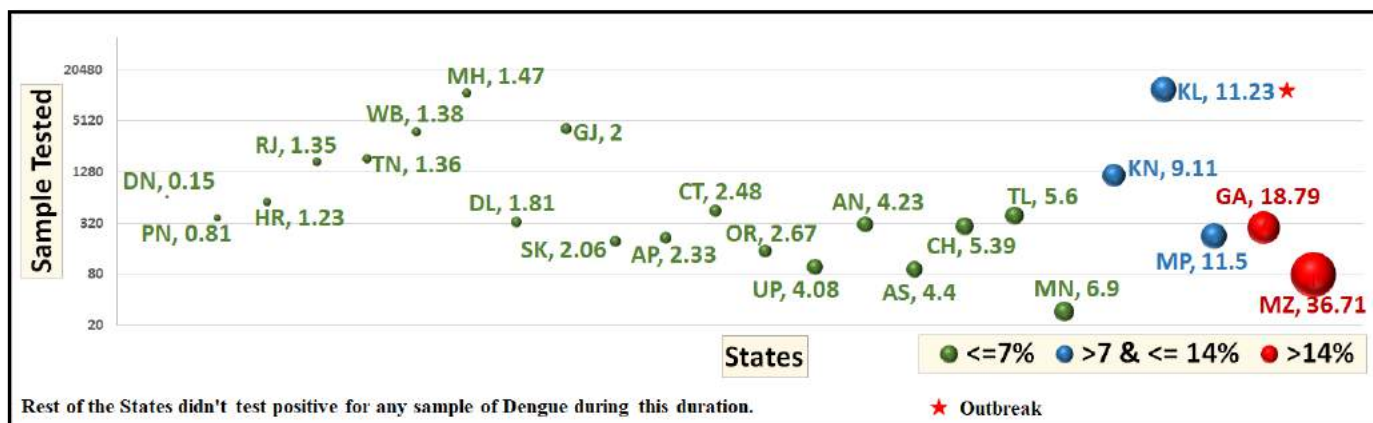
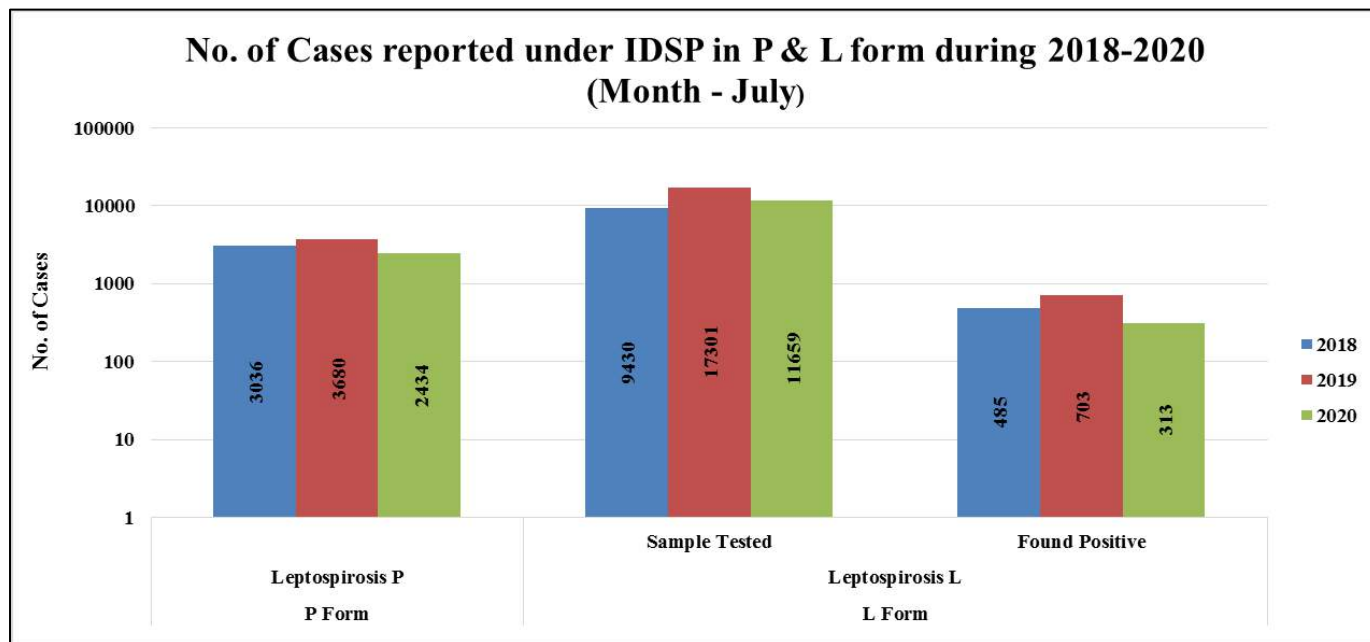


Fig. 20: No. of Leptospirosis Cases reported under IDSP in P & L form during July 2018 – 2020



As shown in Fig. 20, number of presumptive Leptospirosis cases, as reported by States/UTs in ‘P’ form was 3036 in July 2018; 3680 in July 2019 and 2434 in July 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2018; 9430 samples were tested for Leptospirosis, out of which 485 were found positive. In July 2019; out of 17301 samples, 703 were found to be positive and in July 2020, out of 11659 samples, 313 were found to be positive.

Sample positivity of samples tested for Dengue has been 5.14%, 4.06% and 2.68% in July month of 2018, 2019 & 2020 respectively.

Fig. 21: State/UT wise Presumptive Leptospirosis cases and outbreaks for July 2020

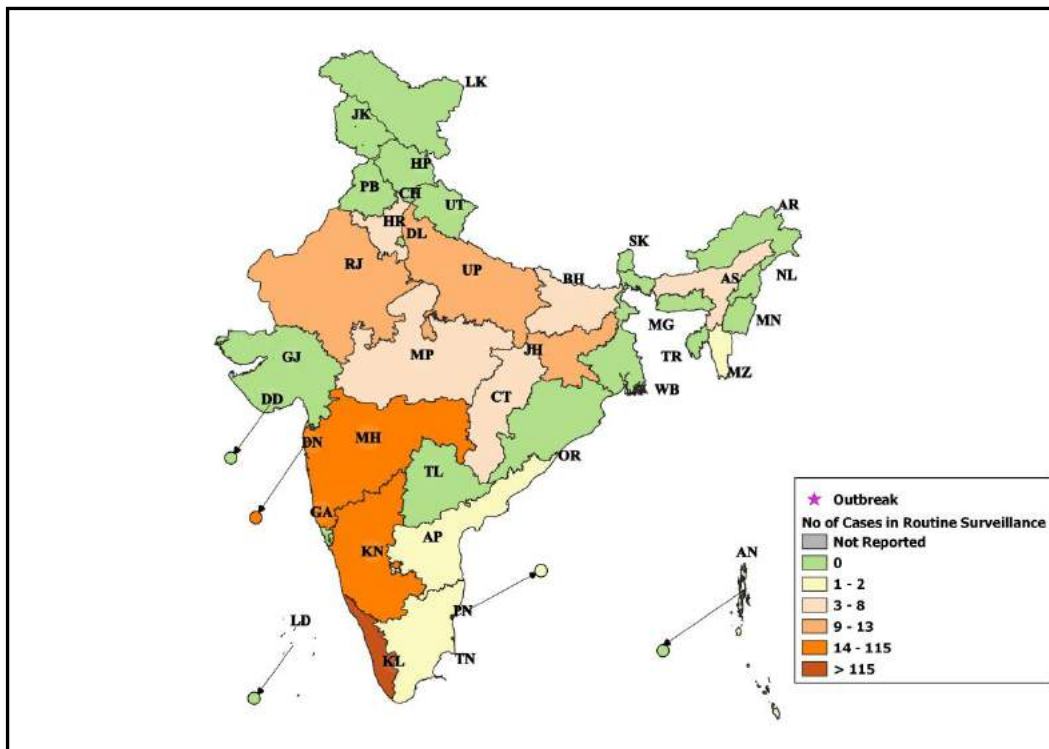


Fig. 22: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for July 2020

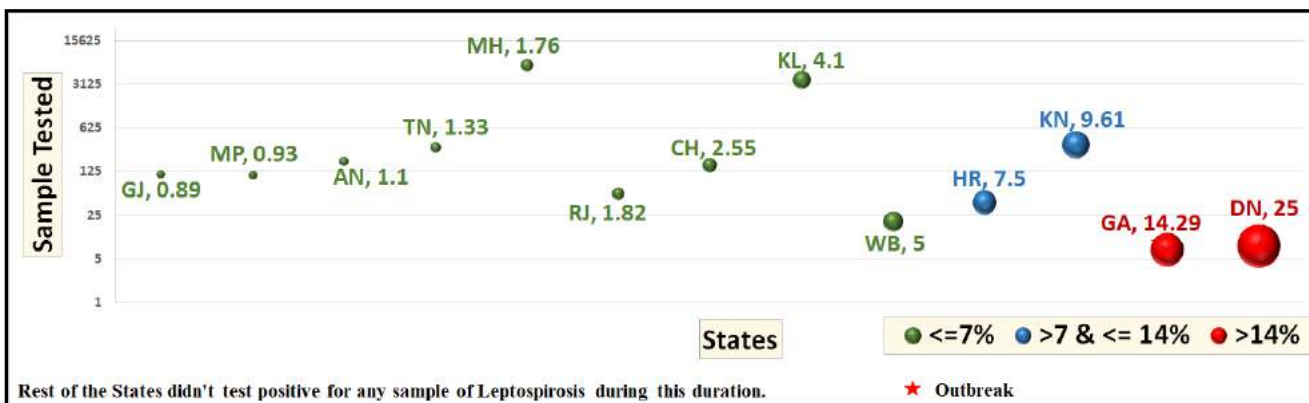
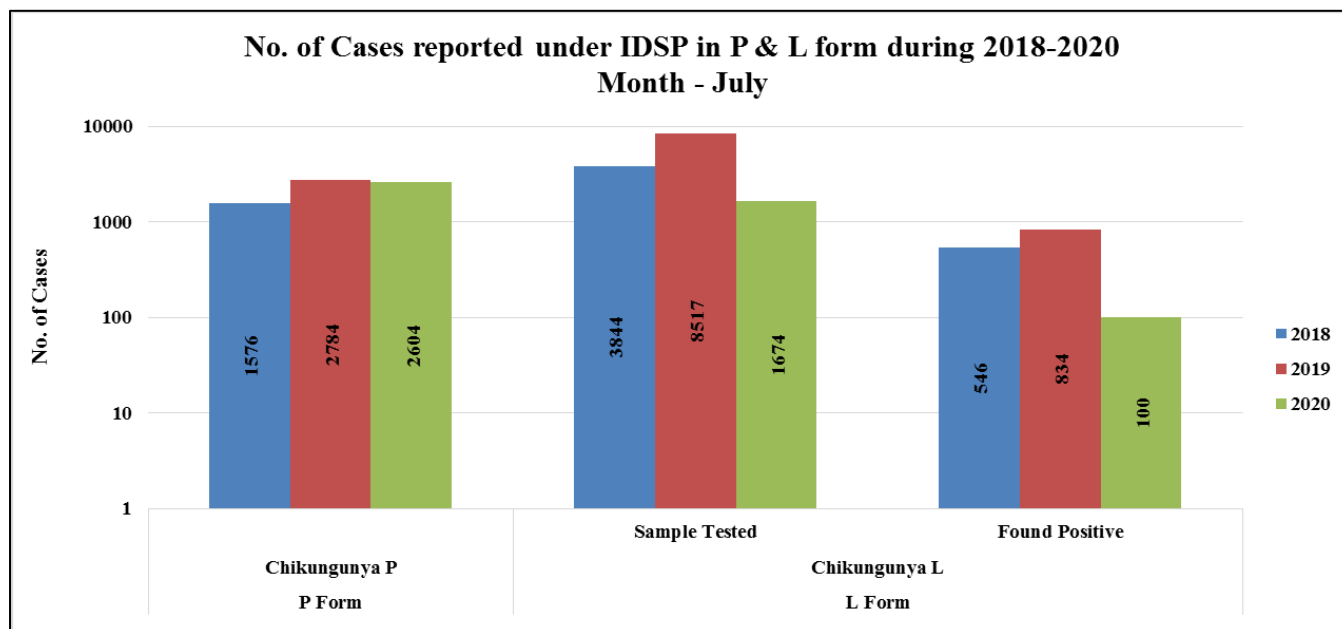


Fig. 23: No. of Chikungunya Cases reported under IDSP in P & L form during July 2018 - 2020



As shown in Fig. 23, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 1576 in July 2018; 2784 in July 2019 and 2604 in July 2020. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in July 2018; 3844 samples were tested for Chikungunya, out of which 546 were found positive. In July 2019; out of 8517 samples, 834 were found to be positive and in July 2020, out of 1674 samples, 100 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 14.20%, 9.79% and 5.97% in July month of 2018, 2019 & 2020 respectively.

Fig. 24: State/UT wise Presumptive Chikungunya cases and outbreaks for July 2020

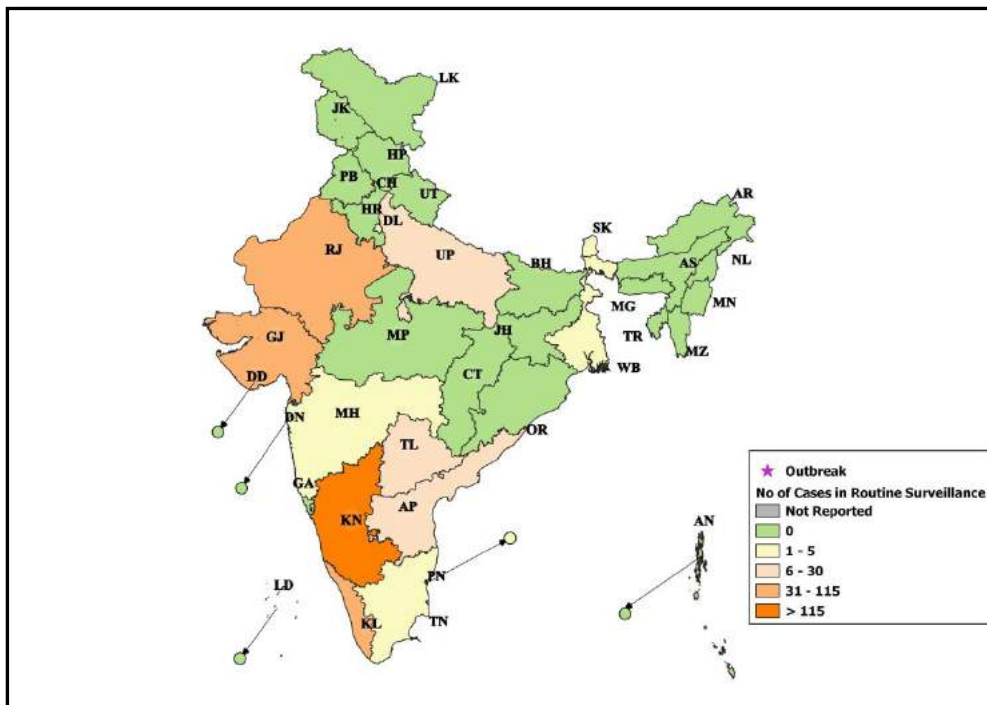


Fig. 25: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for July 2020

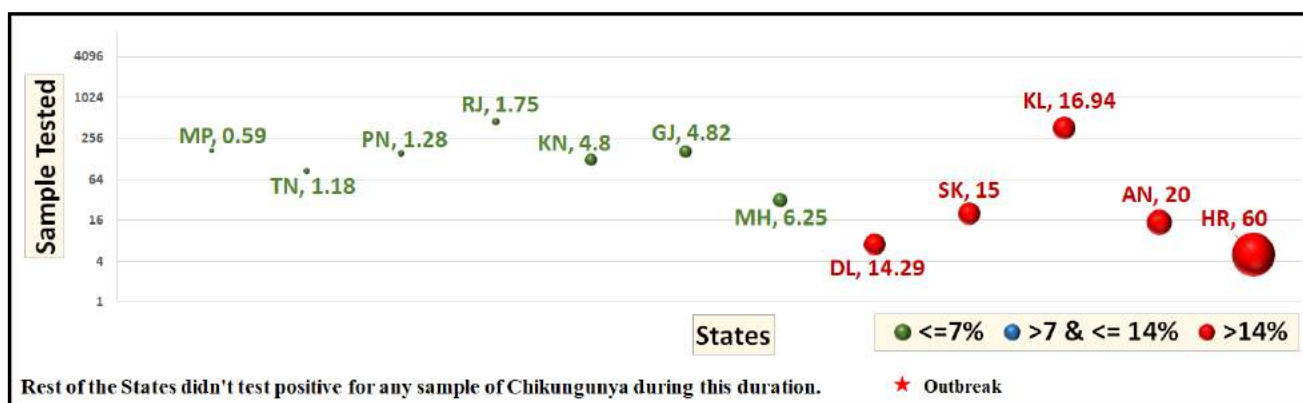


Fig. 26: State/UT wise H1N1 cases and outbreaks for July 2020

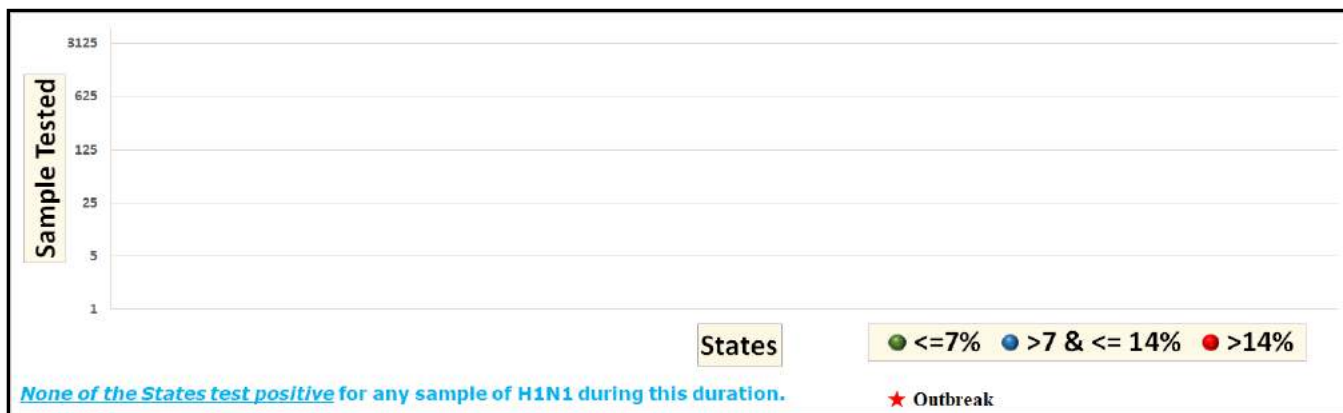
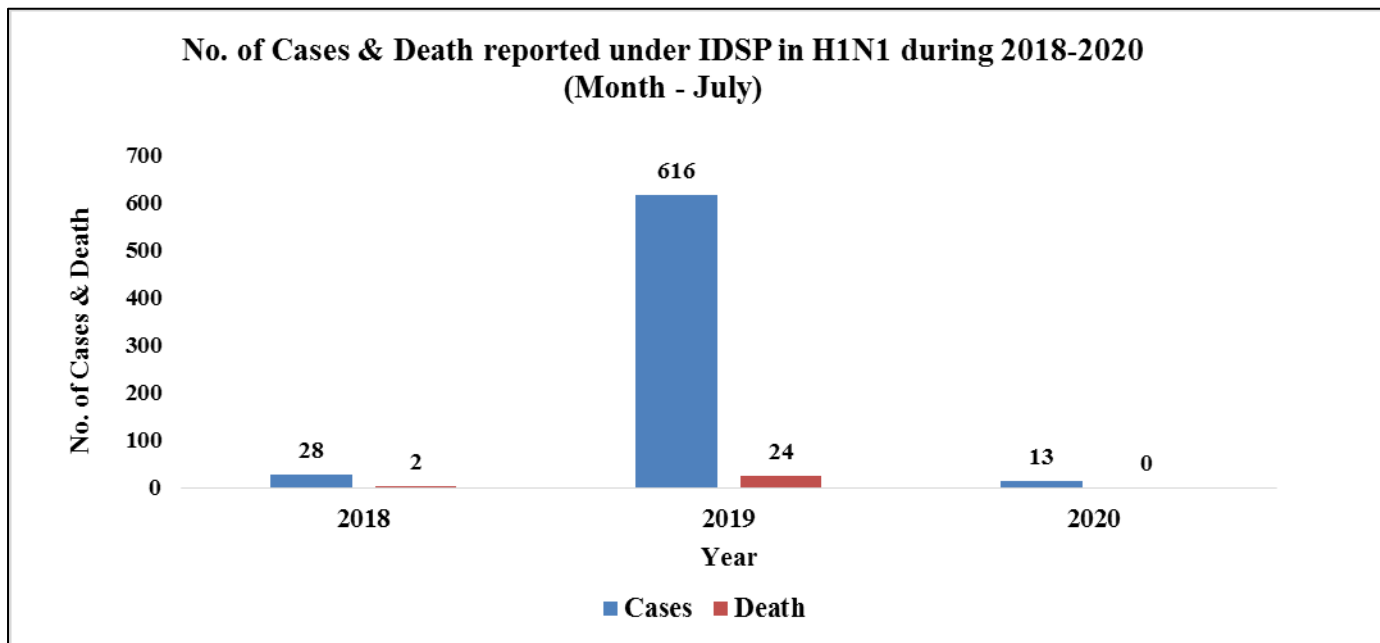


Fig. 27: H1N1 cases reported under IDSP in L Form during 2018-2020 in July 2020



As shown in Fig. 27, as reported in L form, in July 2018, there were 28 cases and 2 deaths. In July 2019, there were 616 cases and 24 deaths; and in July 2020, there were 13 cases and 0 deaths.

Case fatality rates for H1N1 were 7.14%, 3.90% and 0.00% in July month of 2018, 2019 & 2020 respectively.

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: dirnicd@nic.in & idsp-npo@nic.in

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