



Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report

From

Integrated Disease Surveillance Programme

National Health Mission

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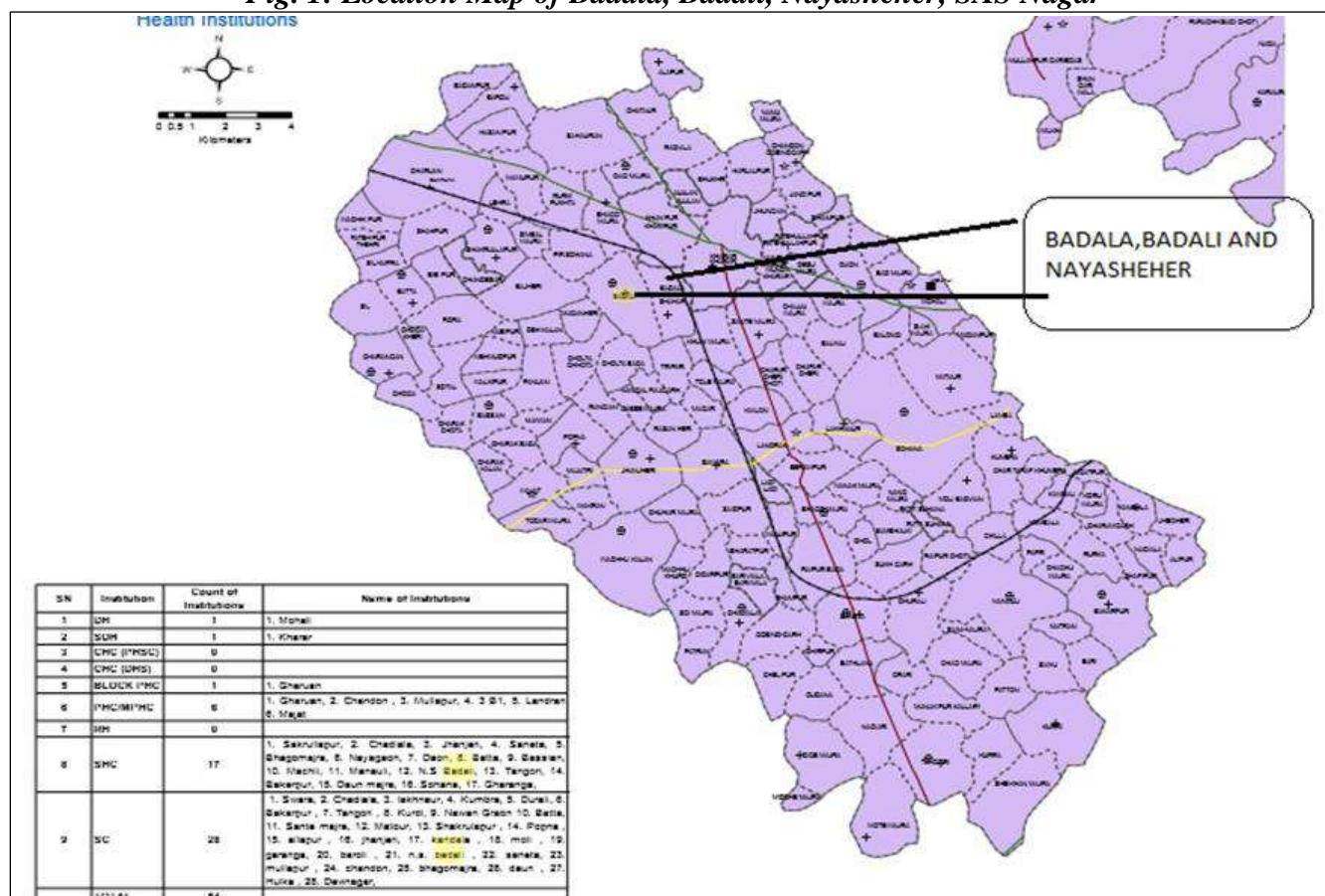
ACUTE DIARRHEAL DISEASE OUTBREAK INVESTIGATION
VILLAGE BADALA & BADALI, NAYASHEHER, SAS NAGAR, PUNJAB

BACKGROUND

As per 2011 census of India, Sahibzada Ajit Singh (SAS) Nagar has a population of 994,628 in 2011 out of which 529,253 are male and 465,375 are female.

The Badali village has population of 1021 of which 556 are males while 465 are females as per Population Census 2011. In 2011, literacy rate of Badali village was 71.88 % compared to 75.84 % of Punjab. In Badali, Male literacy stands at 72.65 % while female literacy rate was 70.99 %.

Fig. 1: Location Map of Badala, Badali, Nayasheher, SAS Nagar



BACKGROUND INFORMATION:

Source of Information: Information received from Medical officer of SHC, Badali

Date of Start of Outbreak (First Case): 05-06-2021

Initial reporting to Health System: 09-06-2021

Date of investigating the outbreak: 09-06-2021 (date of reporting)

REGARDING DIARRHEA:

“Diarrhea is usually defined in epidemiological studies as the passage of three or more loose or watery stools in a 24-hour period, a loose stool being one that would take the shape of a container”

It is normal for young infants to have up to 3 to 10 stools per day, although this varies depending upon the child's diet (breast milk versus formula; breastfed children usually have more frequent stools). Older infants, toddlers, and children normally have one to two bowel movements per day.

A prolonged history of diarrhea (one week or longer) is evaluated and treated differently than an acute case of diarrhea (lasting less than one week).

Causes of Diarrhea:

Viral infection: Viral infection is the leading cause of diarrhea in children and is seen most commonly in the winter months in temperate climate. No specific treatment is available for viral causes of diarrhea. Children with diarrhea from viral infections are best treated with supportive measures (oral rehydration solution, limited diet, rest).

Bacterial infection: Bacterial infection is sometimes hard to distinguish from viral infection. Persistent high fever (higher than 40°C or 104°F) and diarrhea that is bloody or contains mucus are somewhat more common with bacterial infection

Parasitic infection: It can be seen in children who have recently ingested contaminated water or who have traveled to or lived in developing countries. Diarrhea from parasitic infections may last longer than two weeks.

Antibiotic-associated diarrhea: A number of antibiotics can cause diarrhea in both children and adults. The diarrhea is usually mild and typically does not cause dehydration or weight loss.

DETAILS OF INVESTIGATION:

The case definition made by RRT was: *“Any person aged (1 - 85 years) suffering from acute onset of watery diarrhea (passage of 3 or more loose/watery stools in past 24 hours) with or without dehydration, lasts for more than 7 or more days, with ‘onset of symptoms’ after 26-05-2021 belonging to Village Badali/Badala/Nayasheher”*.

Trigger: More than 10 houses with diarrhea in a village or urban ward or a single case of severe dehydration or death in a patient less than 5 years with diarrhea.

The initial report came from Village Badala & Nayasheher (adjoining villages) reported on 09/06/2021. Under the supervision of Civil Surgeon (SAS Nagar), Block Rapid response team was deputed for immediate action in the affected area.

District and Block Health Team visited the affected area. Total of four round of house to house survey conducted and medical camp organized in the affected area.

Subsequently, on realizing the gravity of situation, State Rapid Response Team was also deployed in the affected area.

METHODOLOGY OF INVESTIGATION

Four rounds of house-to-house survey conducted for persons who were suffering from diarrhea.

Laboratory Methods: 36 blood samples collected and 03 stool samples collected. 16 water samples collected for biological /contamination purpose.

Environmental investigations methods: Examined the water sources in the area. Examined the water pipe lines and sewerage system of the area.

Number of Diarrhea Cases reported during Outbreak:

DATE	VILLAGE BADALI	VILLAGE BADALA	VILLAGE NAYASHEHER	TOTAL
10-06-2021	0	40	94	134
11-06-2021	85	0	23	108
12-06-2021	11	26	113	150
13-06-2021	0	2	19	21
15-06-2021	5	0	0	5



Fig.2: Block Rapid Response Team: - information gathered from the patient, food histories were reviewed to identity the common exposure.



Fig.3: Awareness to villagers regarding do and don't of disease



Fig.4: Collecting information from the patient, food histories were taken to identify the common exposure

CONFIRMATION OF OUTBREAK:

The outbreak was confirmed as there is a clustering of acute diarrhea cases in the locality.

RESULTS:

Clinical Data:

- Acute Watery Diarrhea
- Differential diagnosis: Gastroenteritis/ acute diarrhea
- Death rate is zero.

Epidemiological Data/ survey data:

- Total of 418 cases of acute diarrhea were identified.

Lab Results:

Blood samples: 36 tested negative for Hepatitis 'A' and Hepatitis 'E' by ELISA.

Water samples: 06, samples sent to State Bacteriological Lab for testing. 05 Samples found non-potable and one Found potable.

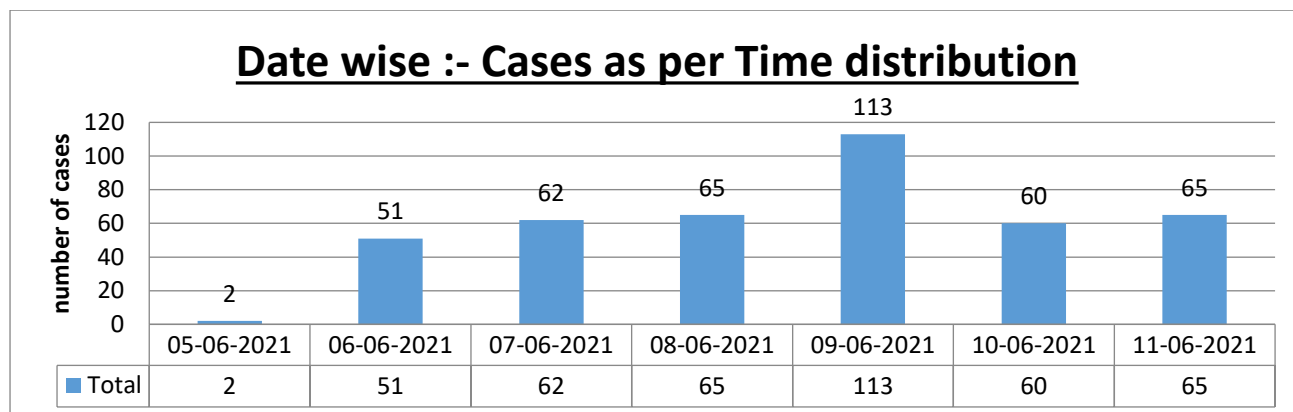
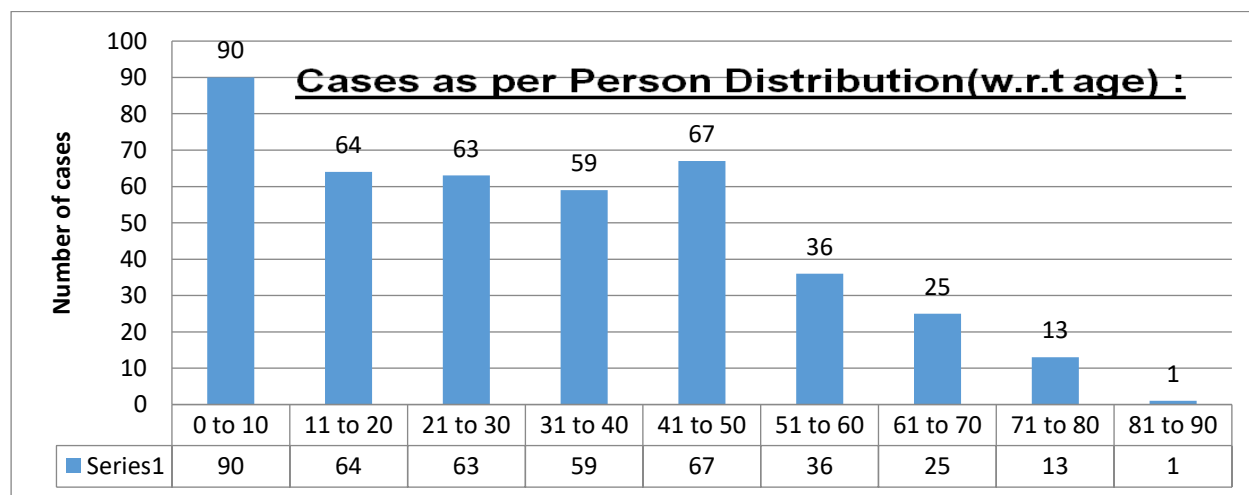
Stool samples: 03, all negative for *Vibrio Cholerae*.

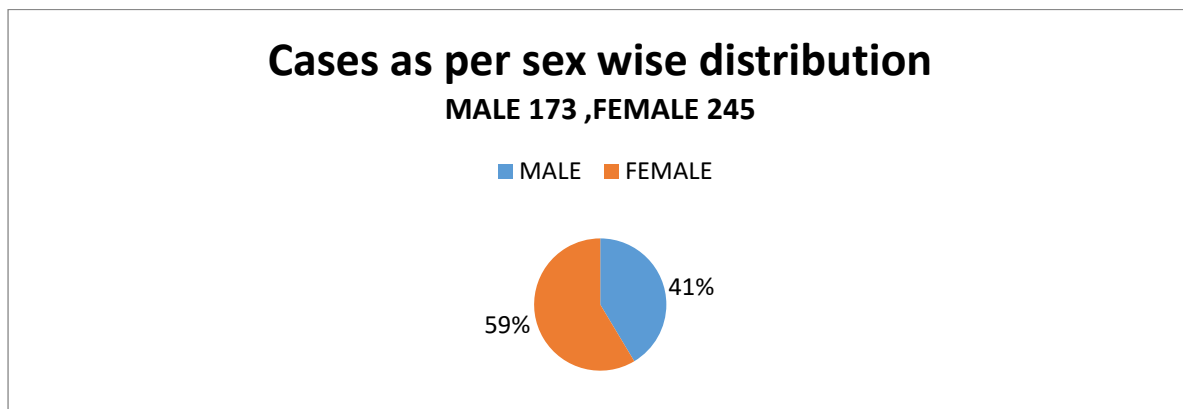
DESCRIPTIVE EPIDEMIOLOGY:

Descriptive epidemiology was compiled in the form of an Epidemiological Summary. The reports summarized case numbers, demographics, onset and exposure date frequencies, as well as clinical and laboratory. Information from this report was used to inform decision-making and determine the scope of the outbreak.

Description of Cases by Time, Place and Person -

Cases as per Time distribution: With respect to date on which cases were found.

**Cases as per Person Distribution(w.r.t age):**

Cases as per sex wise distribution**CONTROL MEASURES TAKEN:**

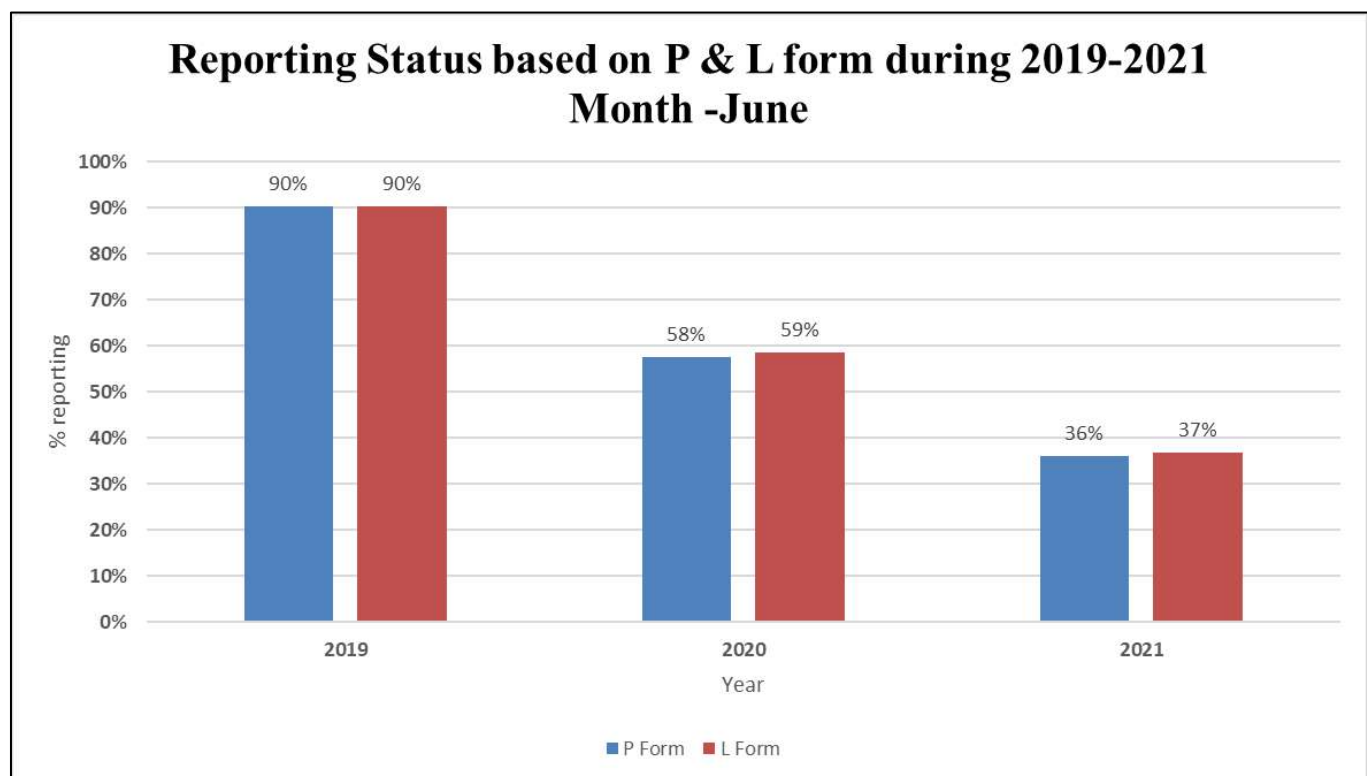
- Rapid Response Team (RRT) was immediately sent for investigations.
- Total of four rounds House to house surveys were conducted in the affected area.
- 418 diarrhea cases identified.
- Pamphlets on water borne diseases were distributed.
- Re-sampling of water done after a gap of 10 days.
- Health Education (IEC) given to all the inhabitants of the area. Information shared about the effectiveness of ORS, the benefits of early reporting for prompt treatment, hygienic food habits and eating practices, hand washing before and after eating, benefits of cooked food and safe drinking water practices by chlorination and boiling of water.
- Health workers were instructed to daily visit the area and inform about the status of old and new patients, if any.
- Water supply department. was informed about the situation. Letter was also issued to them regarding providing alternate potable water supply to the residents of the affected area. Letter was also issued to them regarding non-potable of samples.

RECOMMENDATIONS:

- Involvement of Public Health Department and Water Supply & Sewerage Departments is to be done in order to get the repair of the all distribution points and to provide alternate potable drinking water to the residents.
- Informing health department at the earliest in the future so that preventive activities may be started at the earliest in the school/households/other concerned areas.
- Sensitizing MOs/health staff by referring to examples of real outbreaks.
- Remove the garbage and nuisance material from the residential area regularly.
- It was noticed that area where outbreak took place the supplied water was not properly chlorinated, so there would be regular monitoring of chlorination of water done at supply point.

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue Leptospirosis, Dengue, Chikungunya, Leptospirosis and Seasonal Influenza A (H1N1) During June 2019 - 2021*

Fig. 5: RU-wise reporting based on P & L forms during June 2021



As shown in Fig 5, in June 2019, 2020 and 2021, the ‘P’ form reporting percentage (i.e. % RU reporting out of total in P form) was 90%, 58% and 36% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 90%, 59% and 37% 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 June 2021 compared to the same month in previous years for both P and L forms, thereby compromising on the quality of surveillance data.

Fig. 6: State/UT wise P form completeness % for June 2021

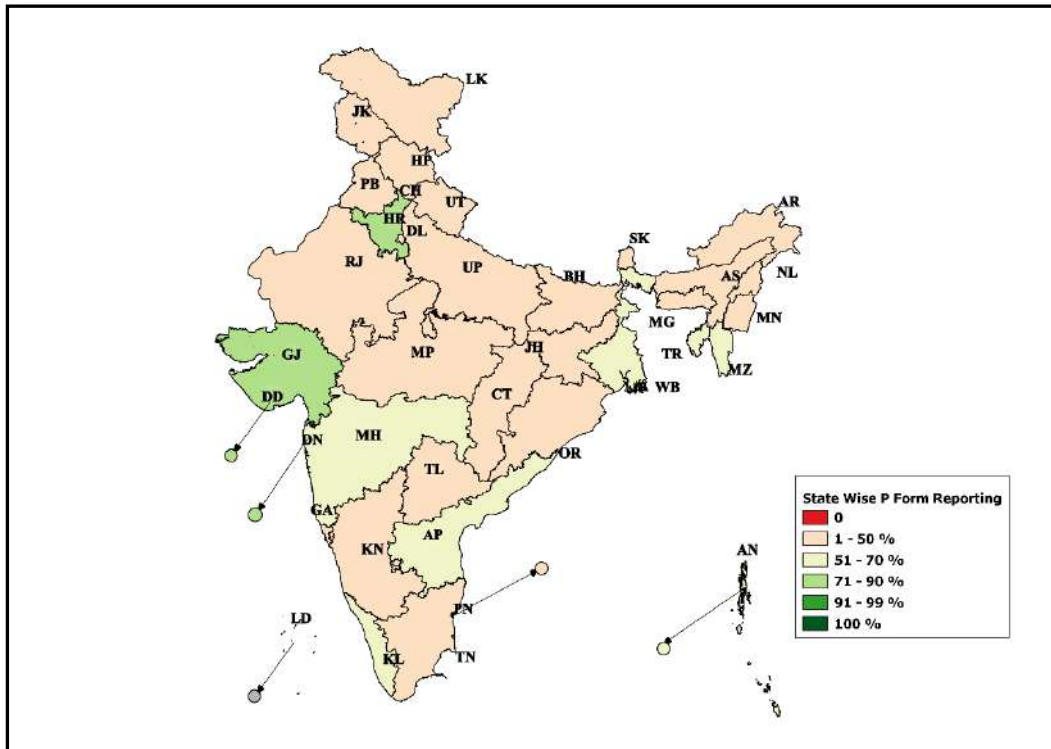


Fig. 7: State/UT wise L form completeness % for June 2021

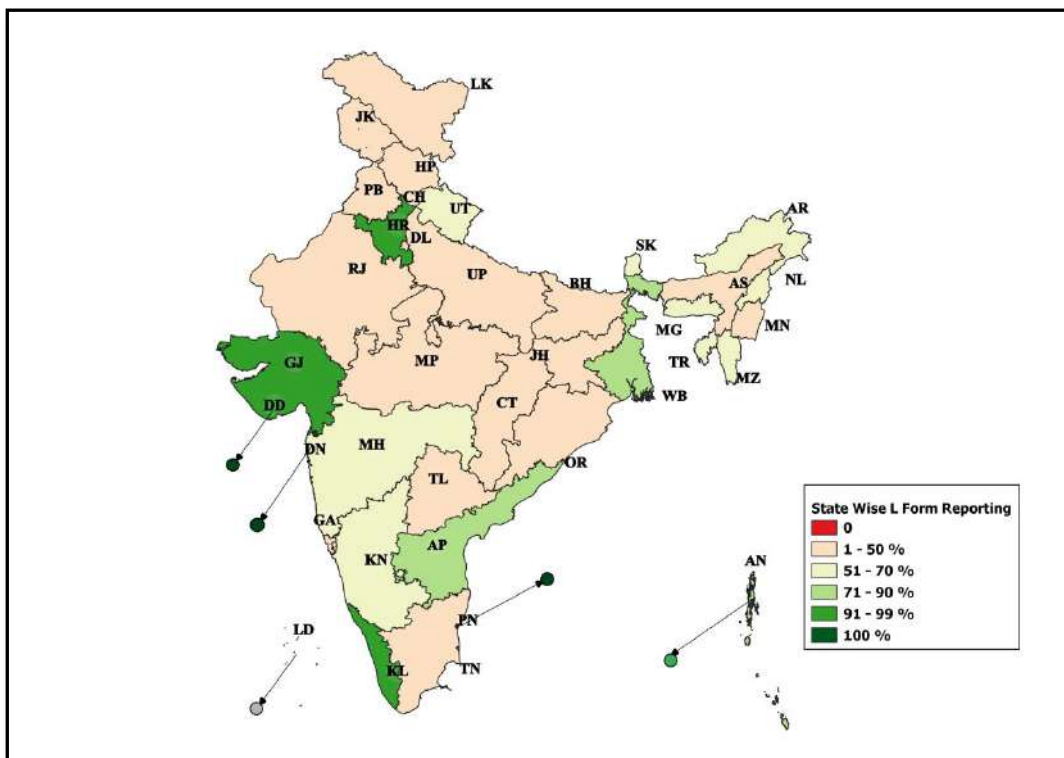
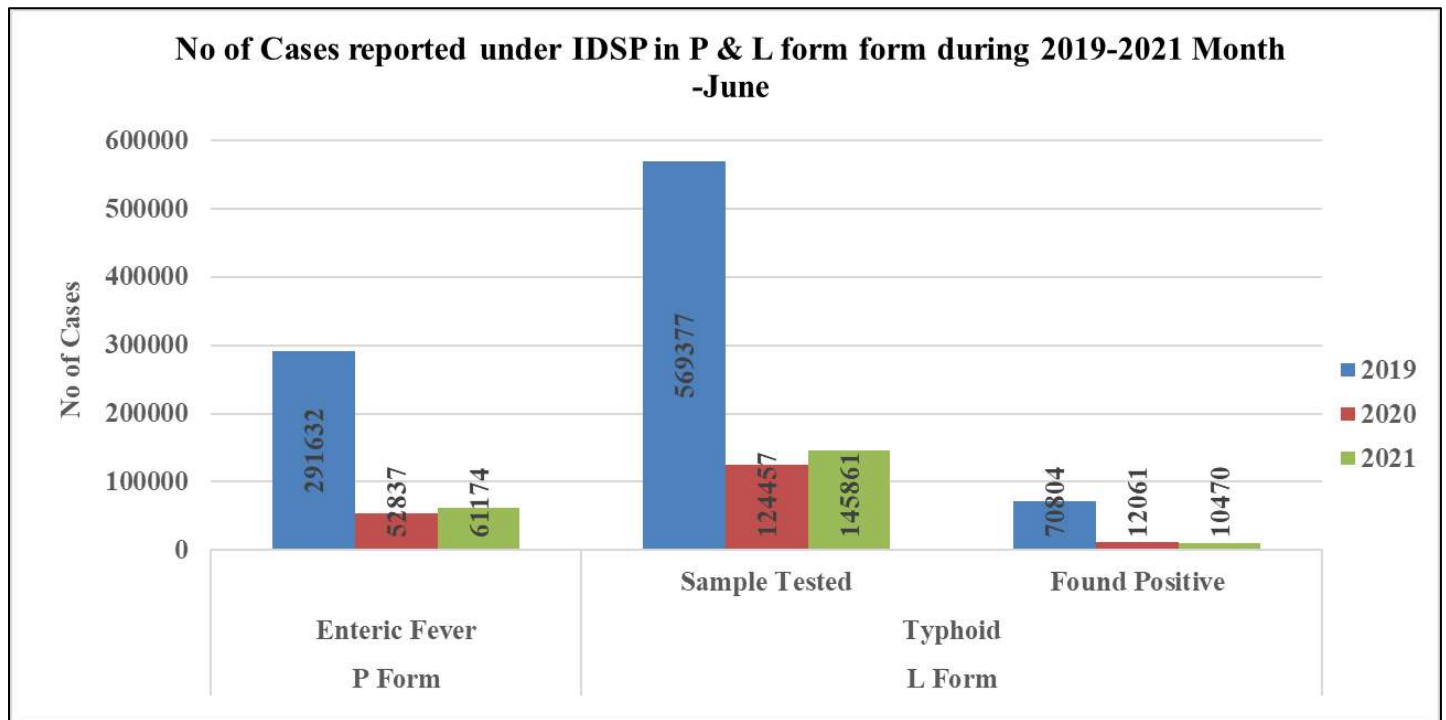


Fig. 8: No. of Enteric Fever Cases reported under P & L form during June 2019 - 2021



As shown in Fig 8, number of presumptive enteric fever cases, as reported by States/UTs in ‘P’ form was 291632 in June 2019; 52837 in June 2020 and 61174 in June 2021. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2019; 569377 samples were tested for Typhoid, out of which 70804 were found positive. In June 2020; out of 124457 samples, 12061 were found to be positive and in June 2021, out of 145861 samples, 10470 were found to be positive.

Sample positivity has been 12%, 10% and 7% in June month of 2019, 2020 & 2021 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. 9: State/UT wise Presumptive Enteric fever cases & outbreaks for June 2021

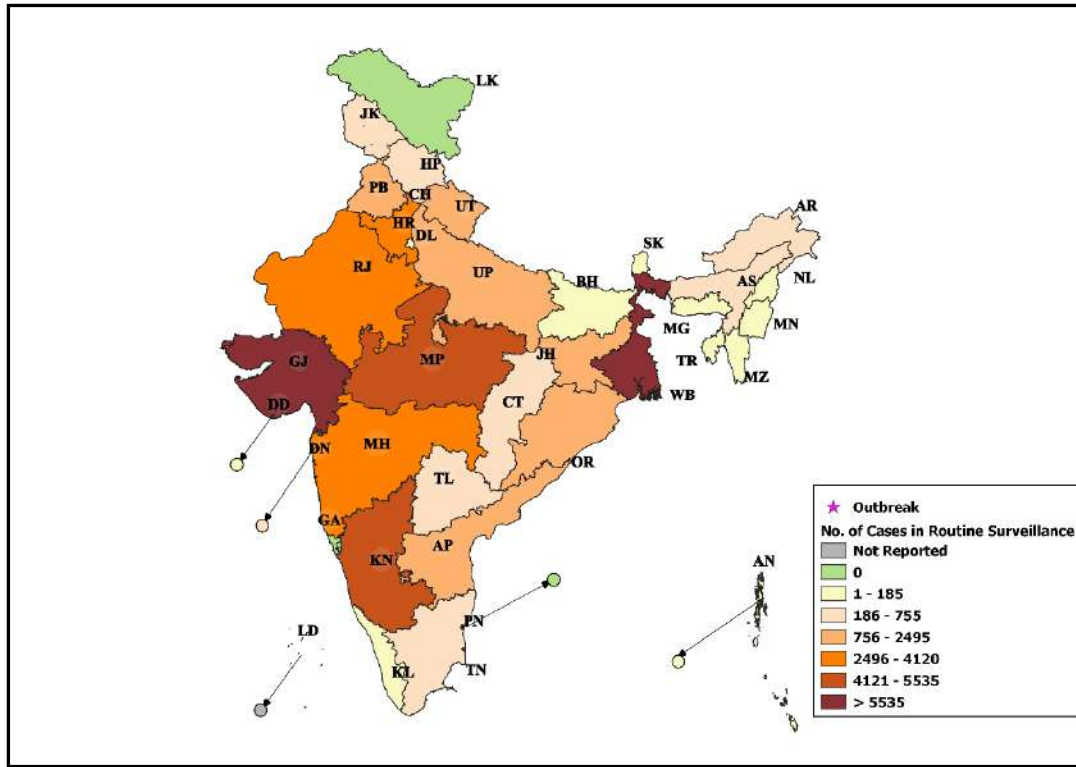


Fig. 10: State/UT wise Lab Confirmed Typhoid cases and outbreaks for June 2021

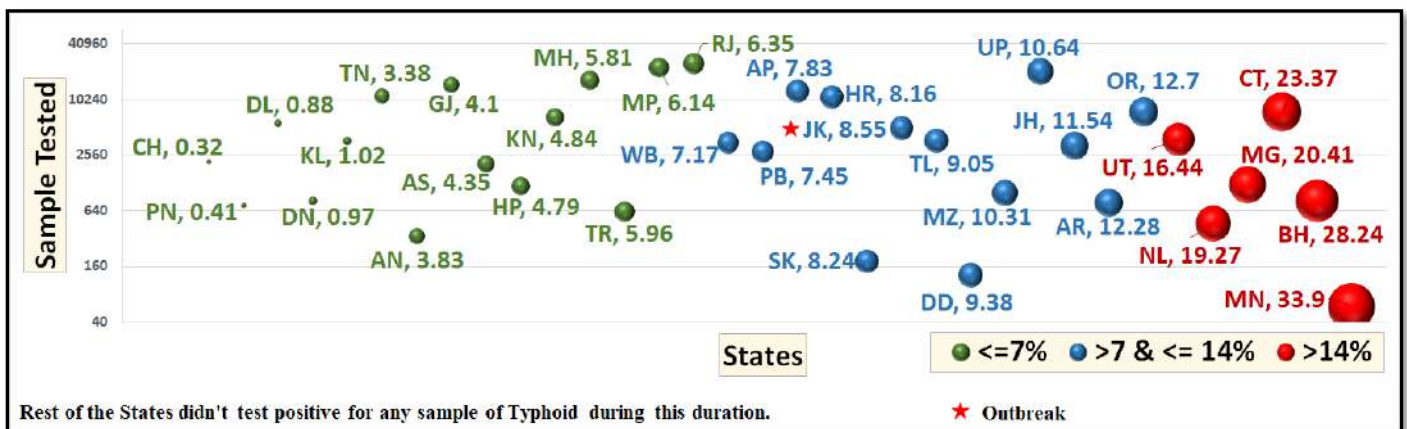
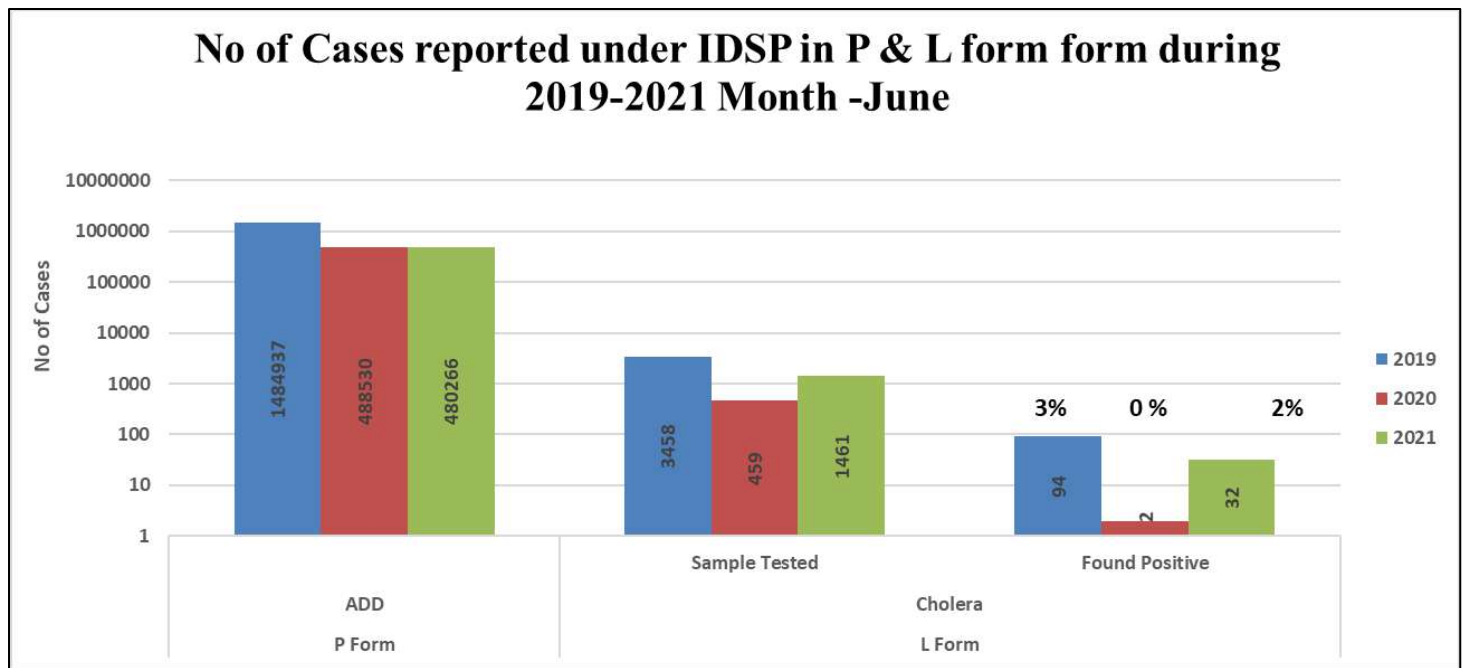


Fig. 11: No. of ADD Cases reported under IDSP in P Form & Lab confirmed Cholera cases in L form during June 2019 - 2021



As shown in Fig 11, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in ‘P’ form was 1484937 in June 2019; 488530 in June 2020 and 480266 in June 2021. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2019, 3458 samples were tested for Cholera out of which 94 tested positive; in June 2020, out of 459 samples, 2 tested positive for Cholera and in June 2021, out of 1461 samples, 32 tested positive.

Sample positivity of samples tested for Cholera has been 2.71%, 0.43% and 2.19% in June month of 2019, 2020 & 2021 respectively.

Fig. 12: State/UT wise Presumptive ADD cases and outbreaks for June 2021

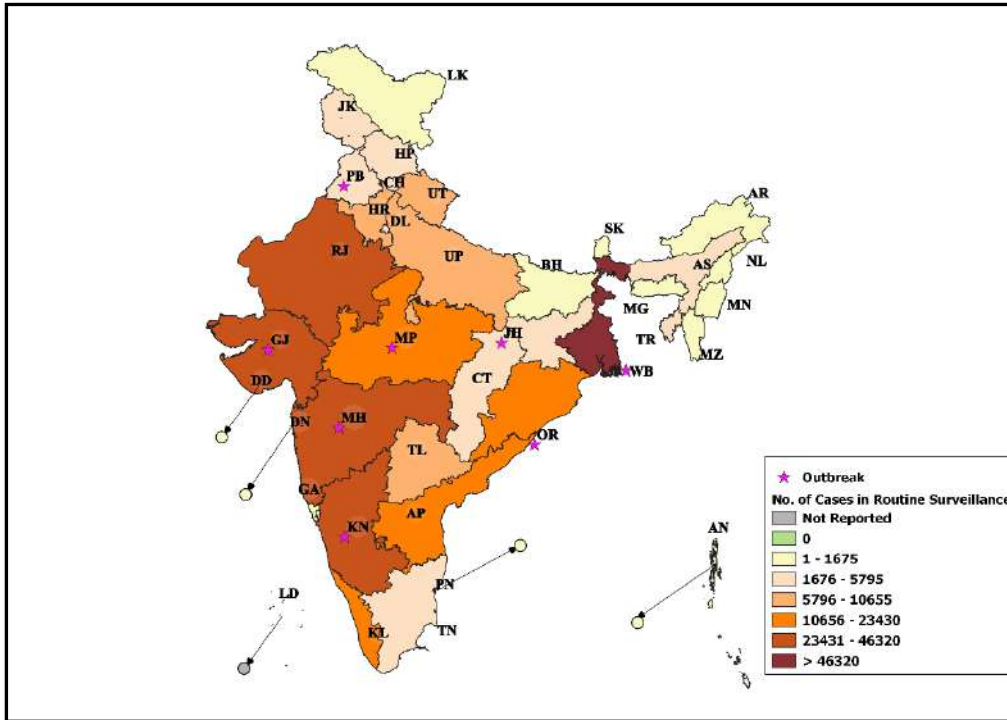


Fig. 13: State/UT wise Lab Confirmed Cholera cases and outbreaks for June 2021

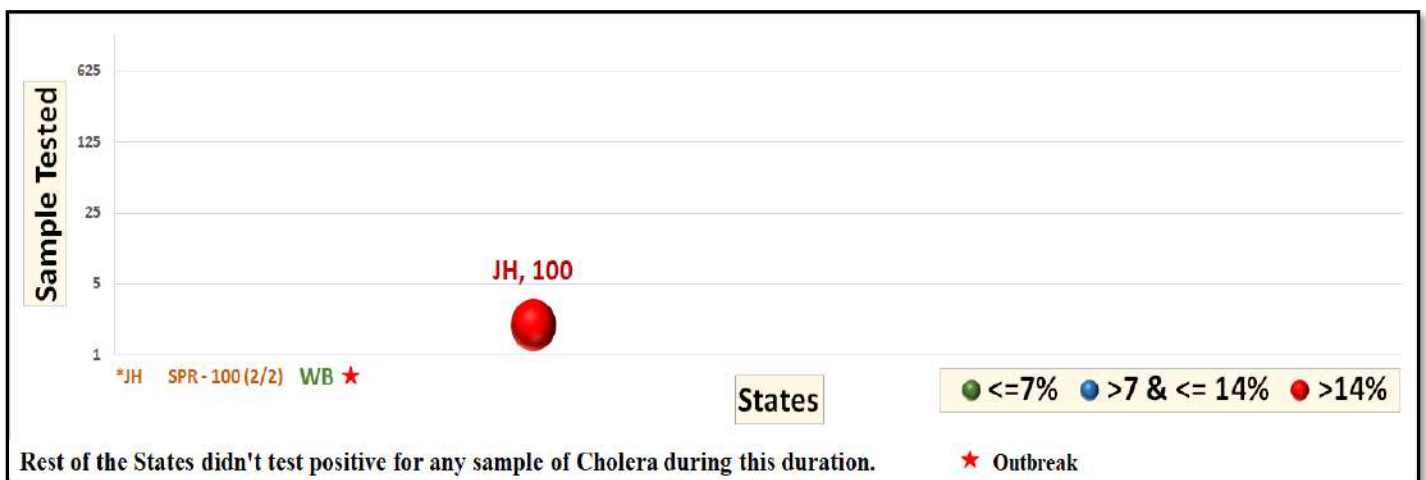
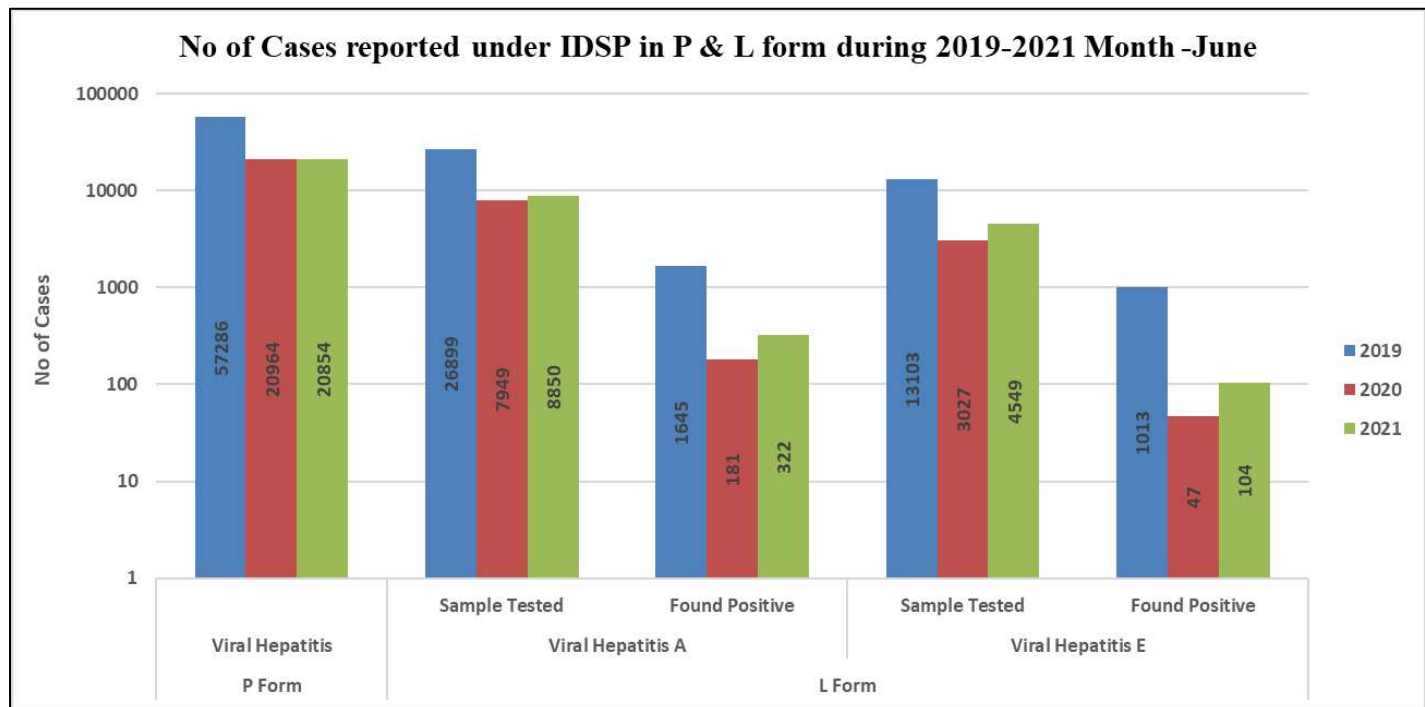


Fig. 14: No. of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during June 2019 - 2021



As shown in Fig 14, the number of presumptive Viral Hepatitis cases was 57286 in June 2019, 20964 in June 2020 and 20854 in June 2021. 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 2019; 26899 samples were tested out of which 1645 were found positive. In June 2020 out of 7949 samples, 181 were found to be positive and in June 2021, out of 8850 samples, 322 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 6%, 2% and 4% in June month of 2019, 2020 & 2021 respectively.

As reported in L form for Viral Hepatitis E, in June 2019; 13103 samples were tested out of which 1013 were found positive. In June 2020; out of 3027 samples, 47 were found to be positive and in June 2021, out of 4549 samples, 104 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 8%, 2% and 2% in June month of 2019, 2020 & 2021 respectively.

Fig. 15: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for June 2021

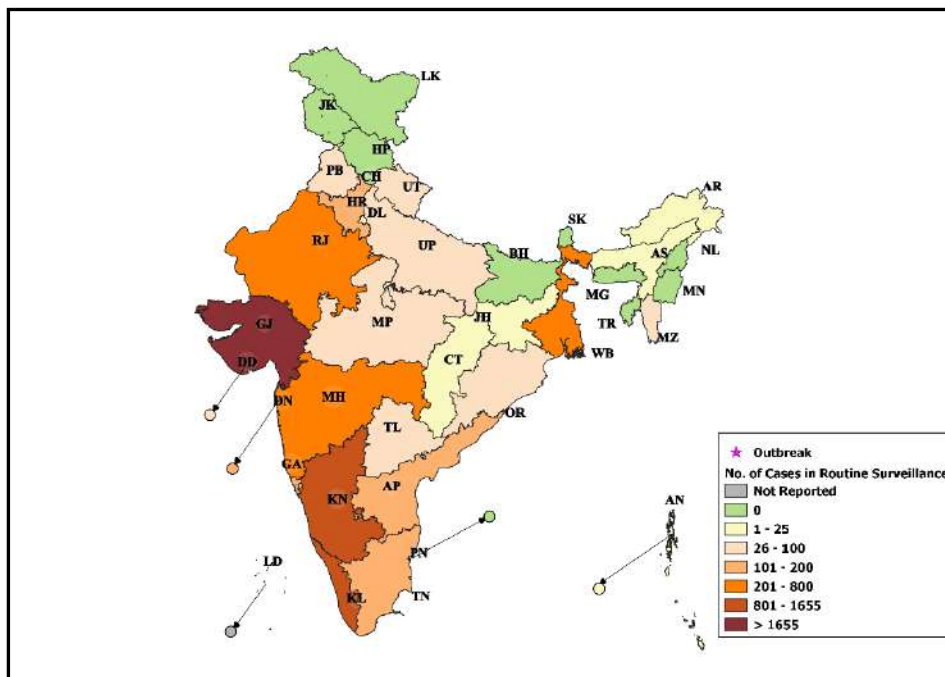


Fig. 16: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for June 2021

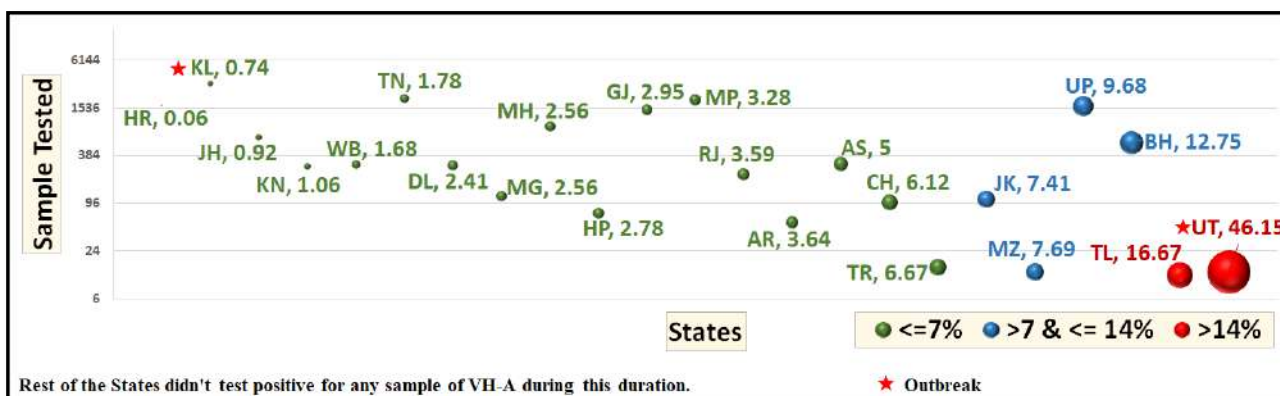


Fig. 17: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for June 2021

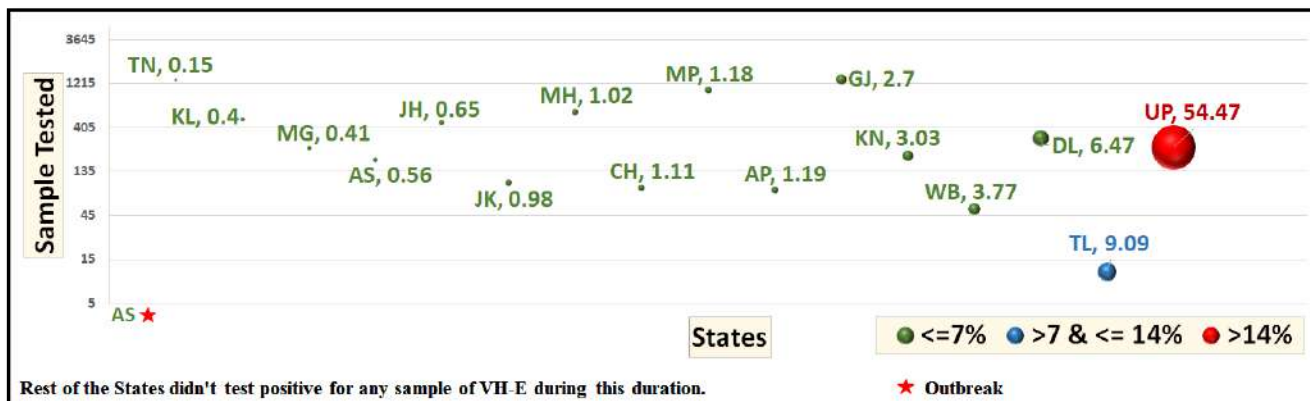
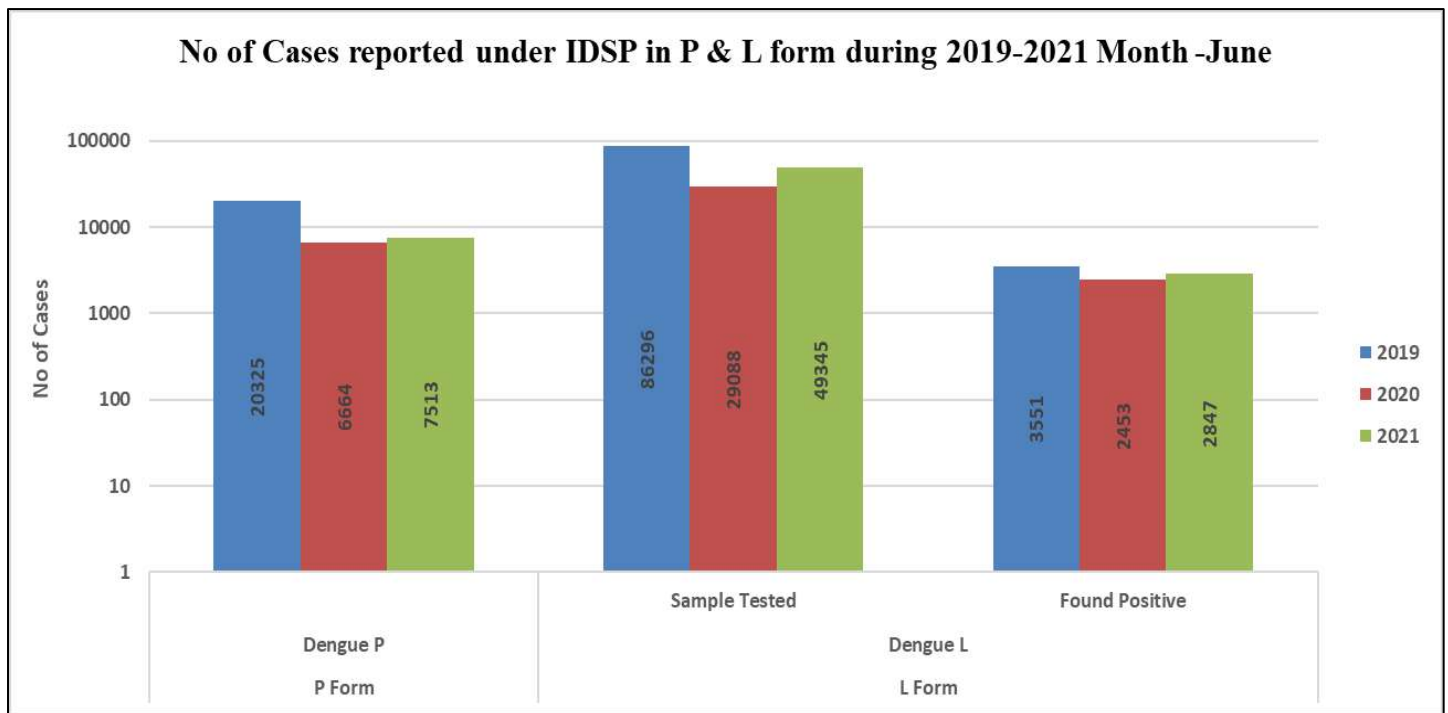


Fig. 18: No. of Dengue cases reported under IDSP in P & L form during June 2021



As shown in Fig 18, number of presumptive Dengue cases, as reported by States/UTs in ‘P’ form was 20325 in June 2019; 6664 in June 2020 and 7513 in June 2021. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2019; 86296 samples were tested for Dengue, out of which 3551 were found positive. In June 2020; out of 29088 samples, 2453 were found to be positive and in June 2021, out of 49345 samples, 2847 were found to be positive.

Sample positivity of samples tested for Dengue has been 4%, 8% and 6% in June month of 2019, 2020 & 2021 respectively.

Fig. 19: State/UT wise Presumptive Dengue cases and outbreaks for June 2021

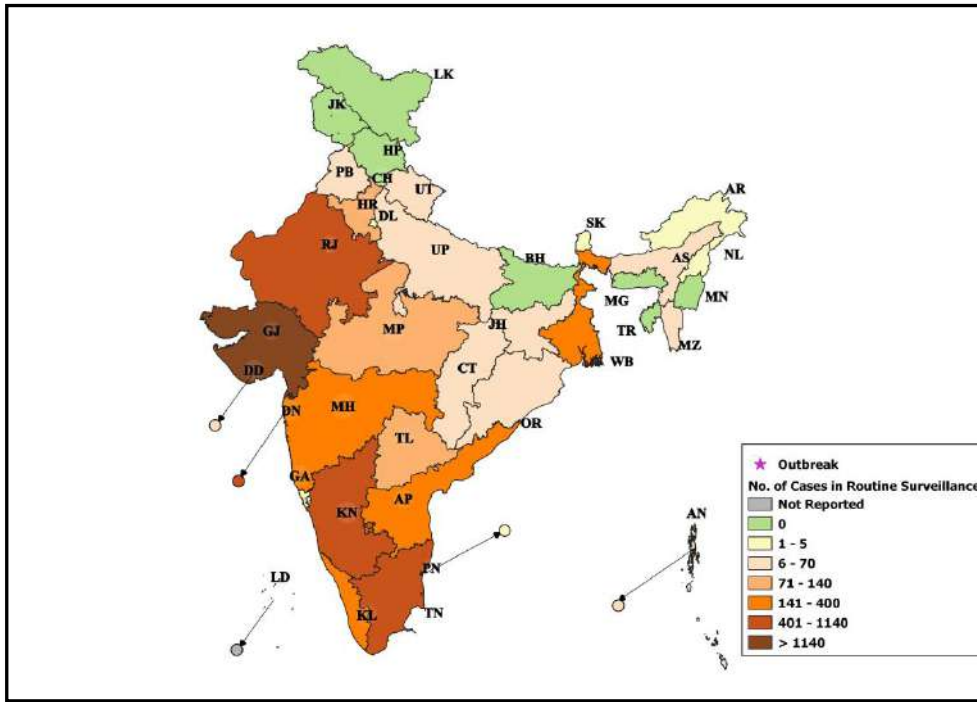


Fig. 20: State/UT wise Lab Confirmed Dengue cases and outbreaks for June 2021

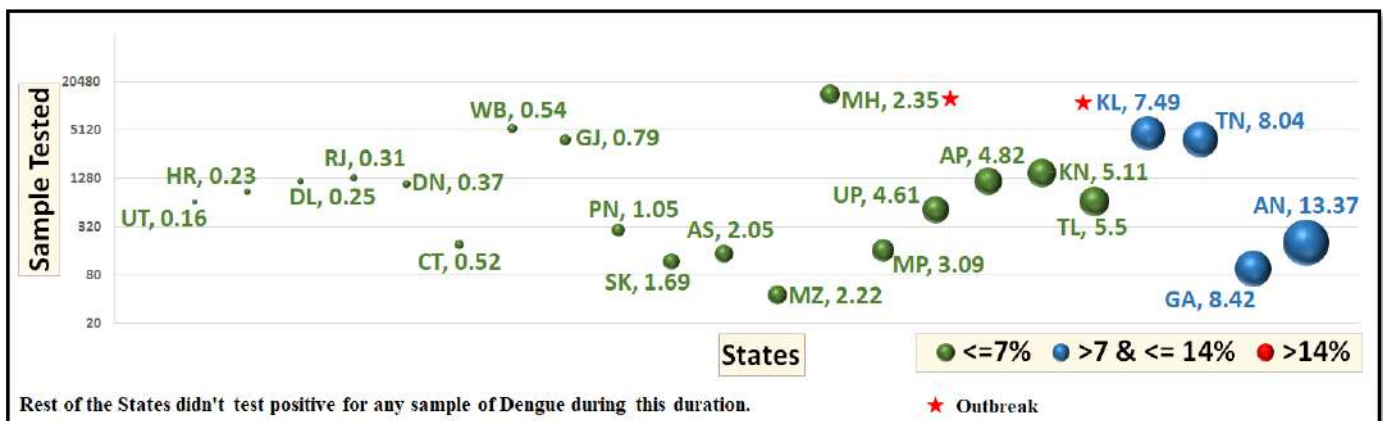
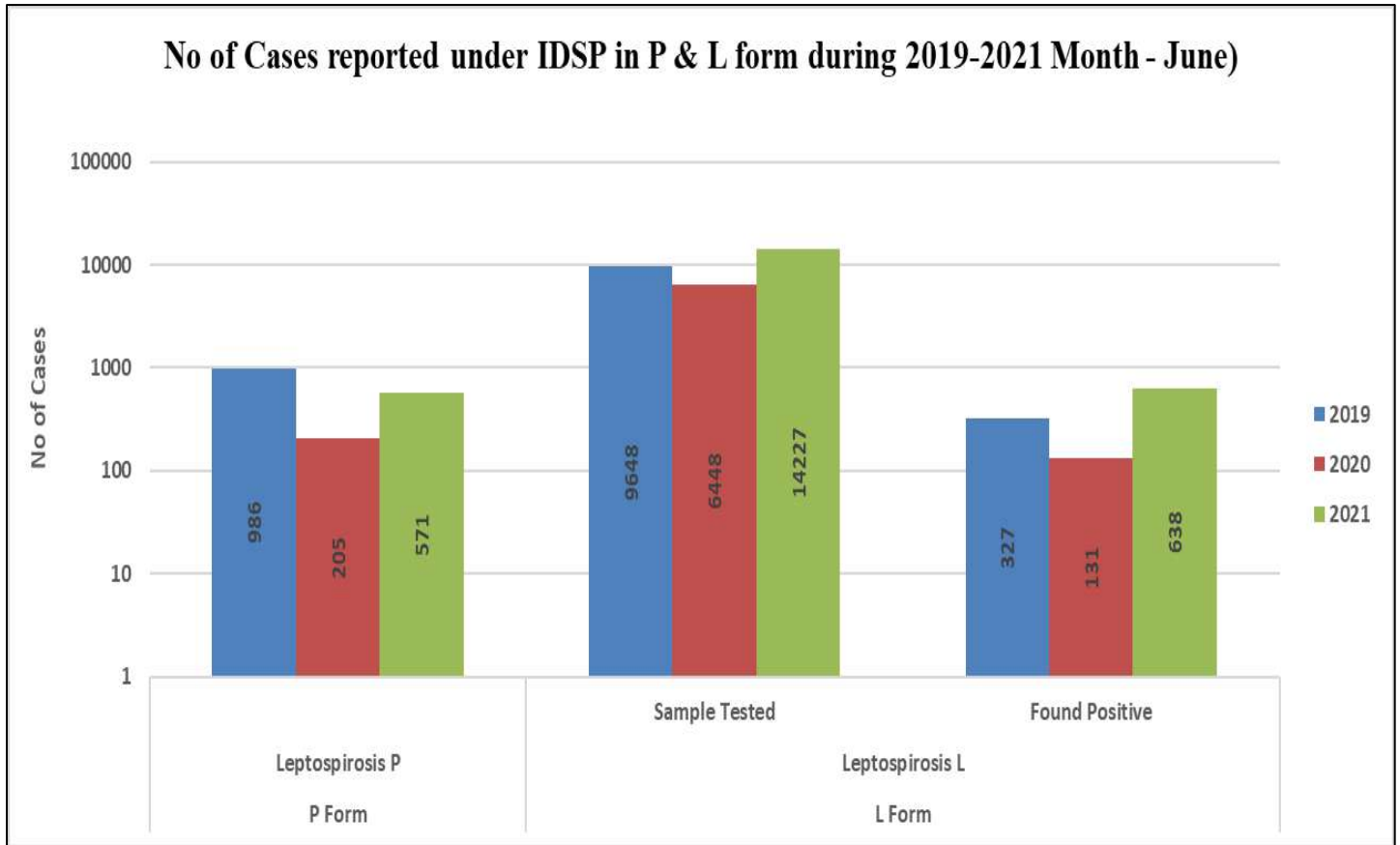


Fig. 21: No. of Leptospirosis Cases reported under IDSP in P & L form during June 2019 - 2021



As shown in Fig 21, number of presumptive Leptospirosis cases, as reported by States/UTs in ‘P’ form was 986 in June 2019; 205 in June 2020 and 571 in June 2021. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2019; 9648 samples were tested for Leptospirosis, out of which 327 were found positive. In June 2020; out of 6448 samples, 131 were found to be positive and in June 2021, out of 14227 samples, 638 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 3%, 2% and 4% in June month of 2019, 2020 & 2021 respectively.

Fig. 22: State/UT wise Presumptive Leptospirosis cases and outbreaks for June 2021

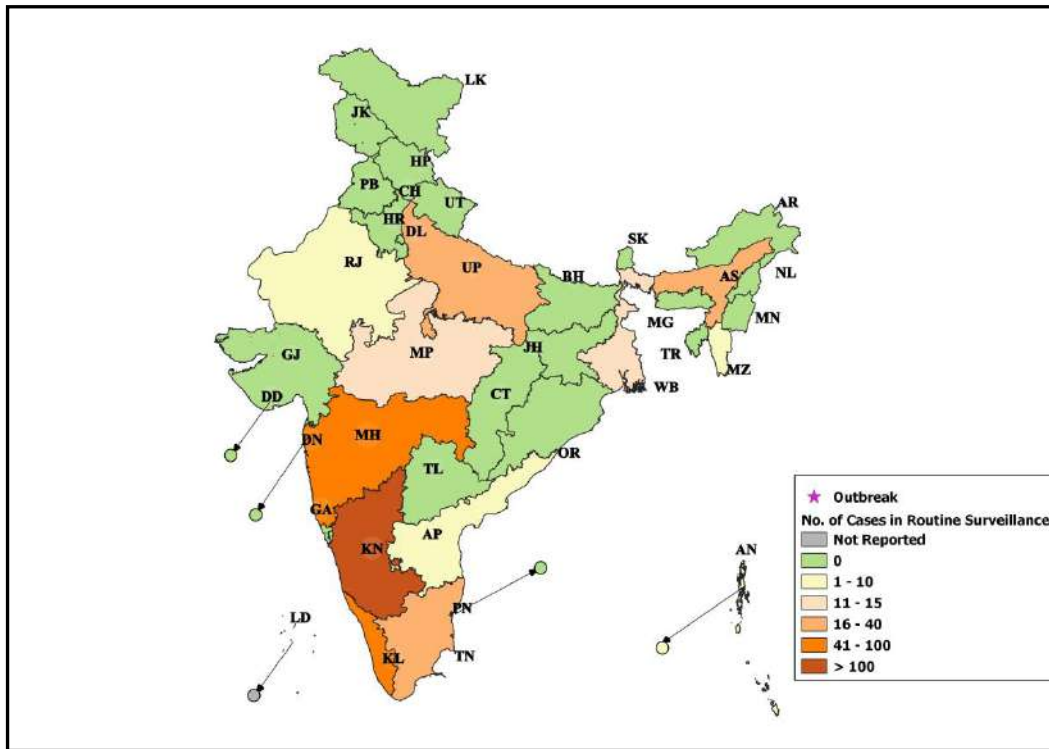


Fig. 23: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for June 2021

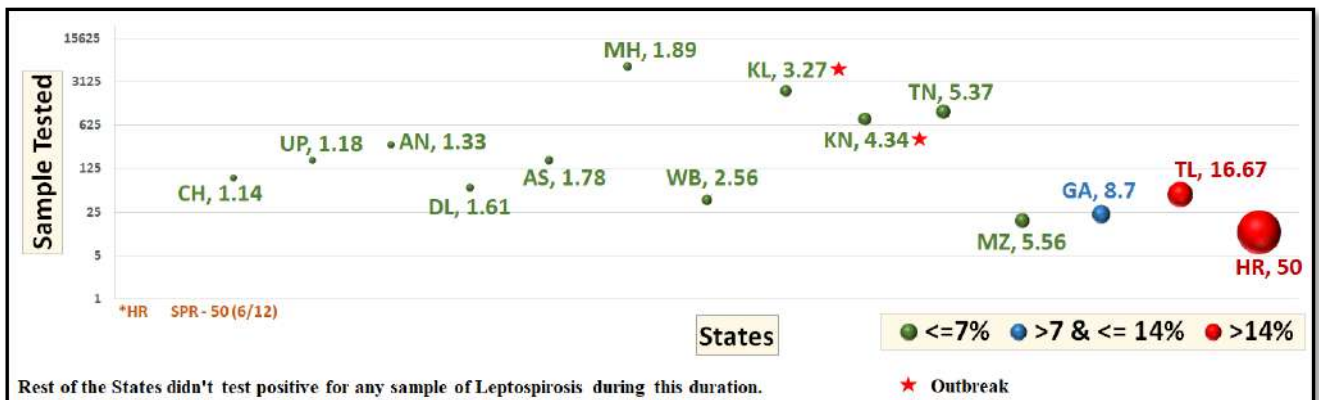
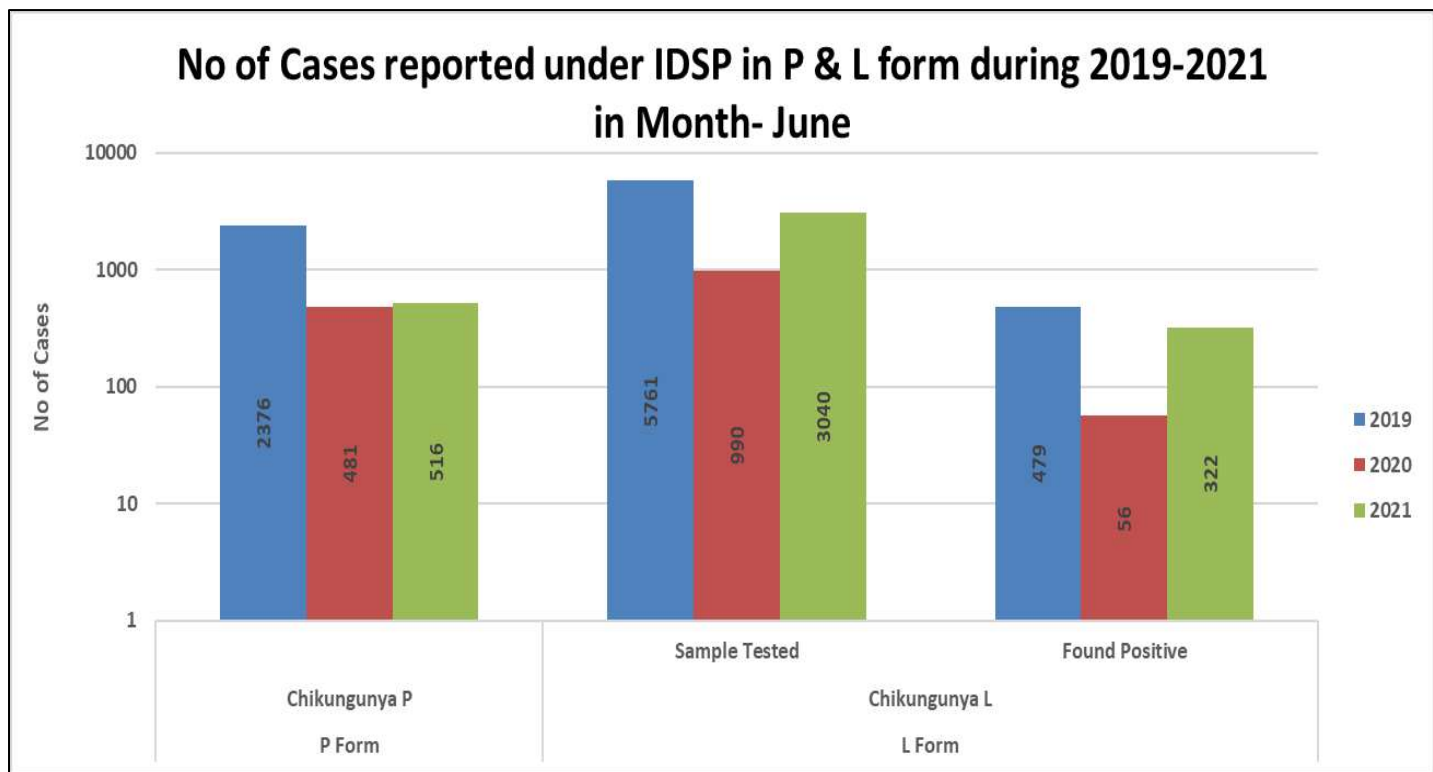


Fig. 24: No. of Chikungunya Cases reported under IDSP in P & L form during June 2019 - 2021



As shown in Fig 24, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 2376 in June 2019; 481 in June 2020 and 516 in June 2021. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in June 2019; 5761 samples were tested for Chikungunya, out of which 479 were found positive. In June 2020; out of 990 samples, 56 were found to be positive and in June 2021, out of 3040 samples, 322 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 8%, 6% and 11% in June month of 2019, 2020 & 2021 respectively.

Fig. 25: State/UT wise Presumptive Chikungunya cases and outbreaks for June 2021

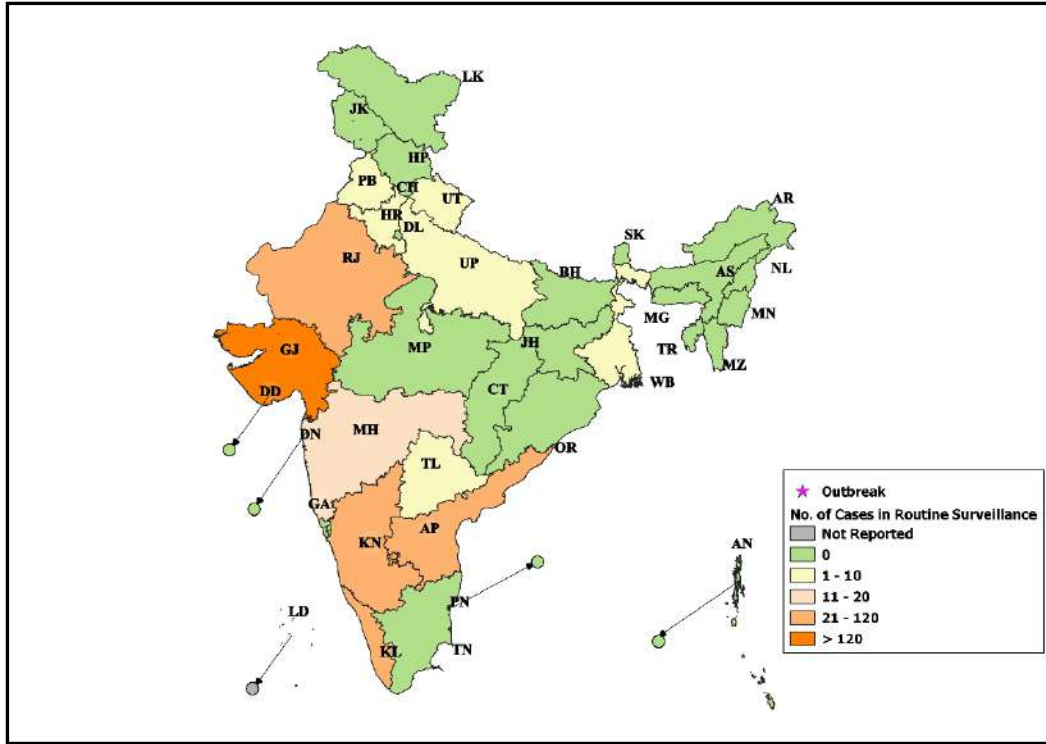


Fig. 26: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for June 2021

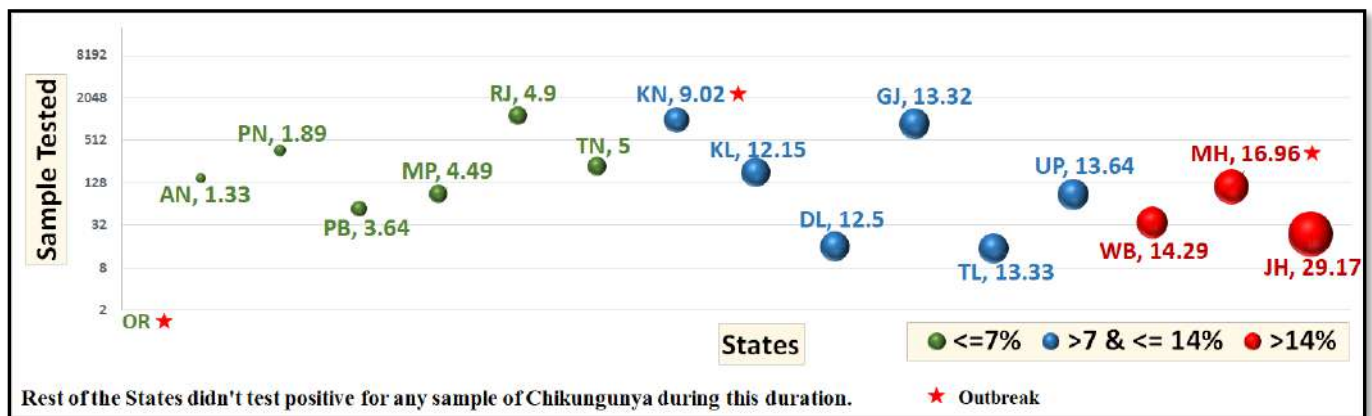
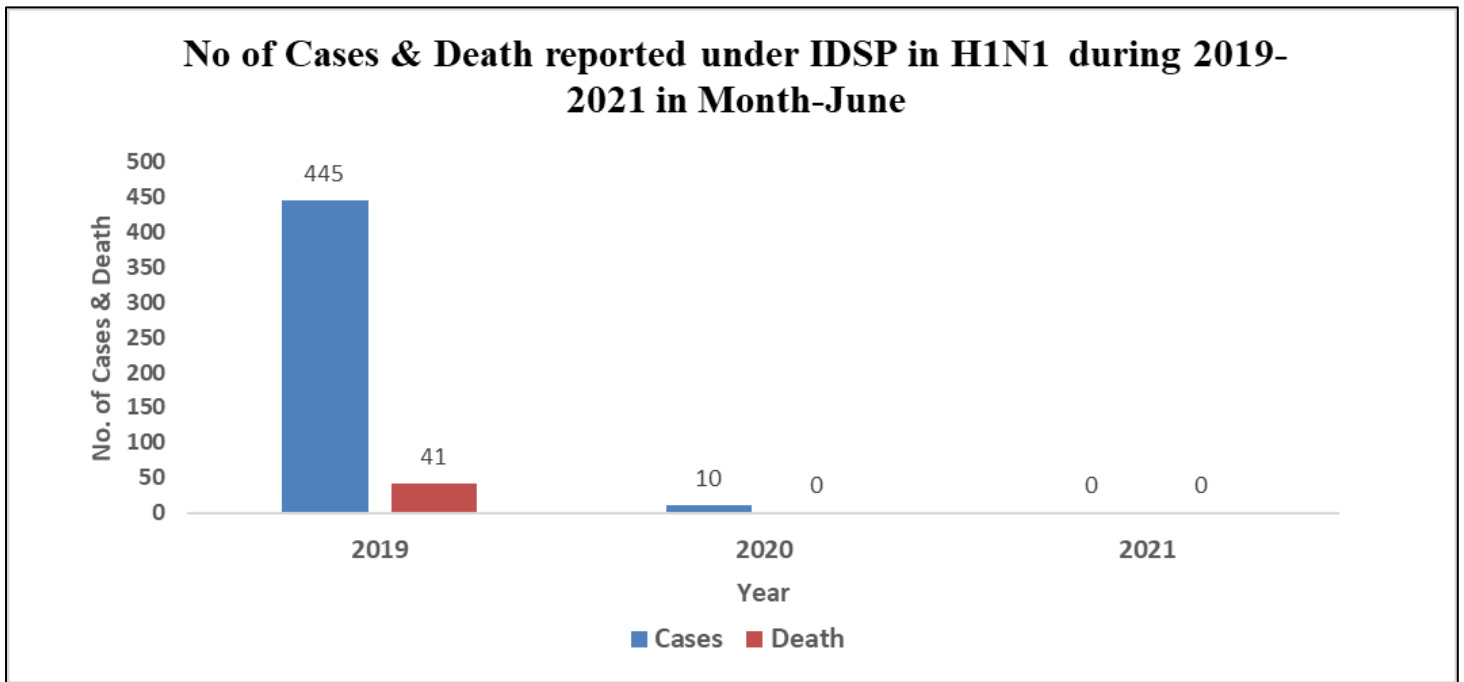


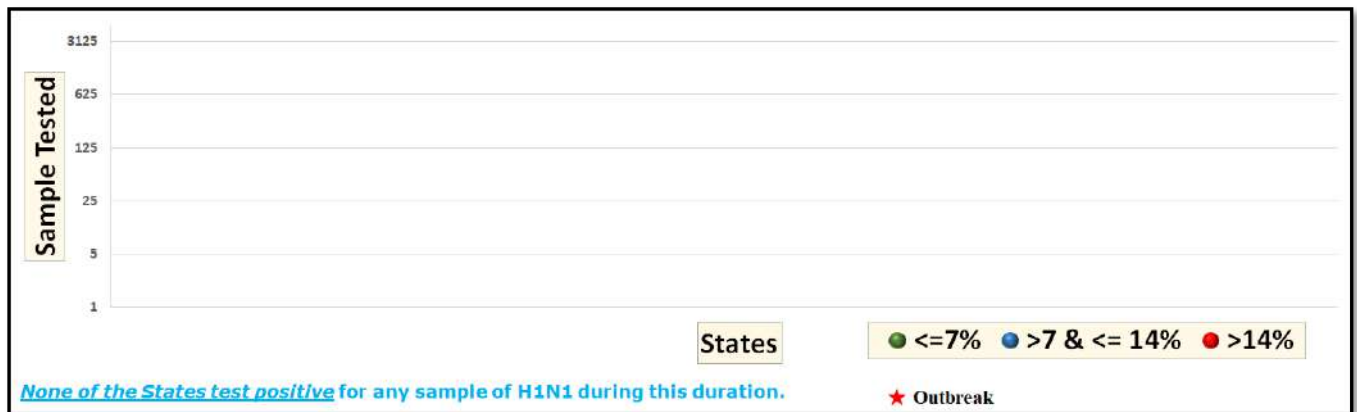
Fig. 27: H1N1 cases reported under IDSP in L Form during 2019-2021 in June 2021



As shown in Fig. 24, as reported in L form, in June 2019, there were 1589 cases and 133 deaths. In June 2020, there were 33 cases and 2 deaths; and in June 2021, there were 0 cases and 0 deaths.

Case fatality rates for H1N1 were 8.37%, 6.06% and 0.00% in June month of 2018, 2019 & 2020 respectively.

Fig. 28: State/UT wise H1N1 cases and outbreaks for June 2021



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

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