

Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report
From
Integrated Disease Surveillance Programme
National Health Mission

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**FINAL INVESTIGATION REPORT OF ACUTE DIARRHEAL DISEASE (ADD) OUTBREAK,
BAROULI, PHC GHARAUN, DISTRICT SAS NAGAR, PUNJAB**

BACKGROUND

The village Barouli falls in Kharar tehsil of SAS Nagar district, Punjab. It has a population of 1874 according to Census of 2011. The male and female populations were 991 and 883 respectively. The size of the area is about 3.08 square kilometer. Literacy rate of Barouli village is 73.73%. There are about 341 houses in Barouli village.



Fig. 1: Map of SAS district

CASE DEFINITION:

Diarrhea definition: Diarrhea is 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.

Frequency: 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.

DETAILS OF INVESTIGATION:

As per telephonic information received from CHO of PHC Gharaun on 09-05-2022, five cases were reported with loose stools and vomiting on 08-05-2022 from PHC Gharaun. On hearing the news, District Rapid response team was deputed in the affected area which constituted of District Epidemiologist (IDSP), District Data Manager along with Lab technicians for immediate action under the supervision of Civil Surgeon SAS Nagar.

CONFIRMATION OF OUTBREAK: The outbreak was confirmed as the case definition meets the clinical case definition of probable and confirmed case. The following was the definition used –

Any person aged (06 month -72 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. 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.

Using this definition, a total of 18 cases of acute diarrhea were identified. Reason for this outbreak was possibly contamination of drinking water.

ACTION TAKEN BY HEALTH TEAM

On Day 1 (10th May): House to house survey activity done in affected area. 92 houses were surveyed and 12 active cases were identified. ORS sachets distributed to all population, health education given to population regarding hygiene and boiled drinking water, home care and prevention.

On Day 2 (11th May): House-to-house survey was completed and an additional 06 active cases were found who complained of loose stools. Again, ORS sachets distributed to all population, health education given to population regarding hygiene and boiled drinking water, home care and prevention. In addition, following additional measures undertaken -

- 10 blood samples collected and 3 stool samples collected from affected area. All samples sent to DPHL IDSP Lab, Mohali for testing.

- Health Education & IEC Activity done. Health education imparted regarding the personnel hygiene, sanitation, and use of potable water and to boil water before consumption.
- Water pipe repaired.
- ANM, Health workers and ASHA workers were instructed to closely monitor the situation.

On Day 3 (12th May): A third round of house-to-house survey conducted in the affected area. ANM, Health workers and ASHA workers were instructed to closely monitor the situation

On Day 4 (13th May): ANM, Health workers and ASHA workers were instructed to closely monitor the situation. 5 water sample collected were found not potable.

On day 3 and day 4, no fresh cases were reported by block response team during house-to-house survey.

RESULTS:

Laboratory result:

Stool Samples	03	Result: 01 sample found Typhoid positive by culture. (<i>Salmonella</i> species). 02 sample normal flora found.
Blood Samples	10	Result: Not positive for Hepatitis A and E. No growth identified in culture.
Water Samples	05	Result: Not Potable

DESCRIPTIVE EPIDEMIOLOGY: Is given by following graphs –

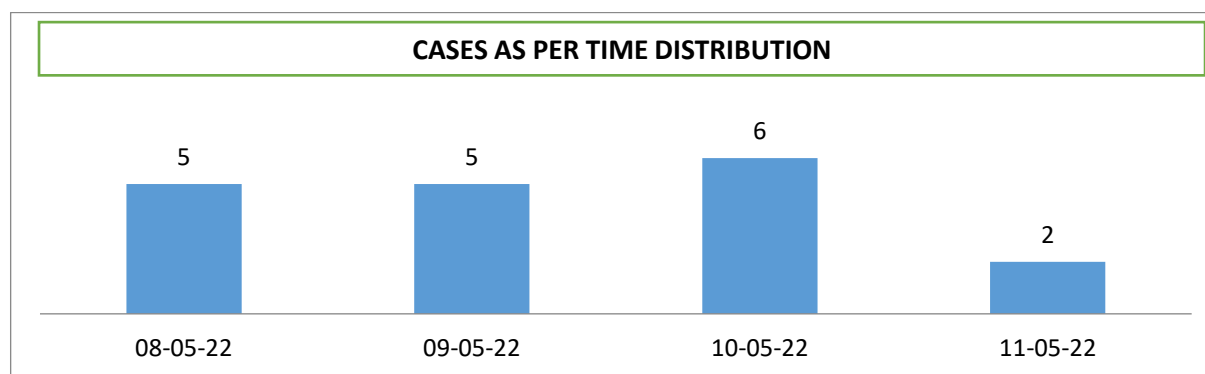


Fig. 2: Date-wise breakup of cases

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

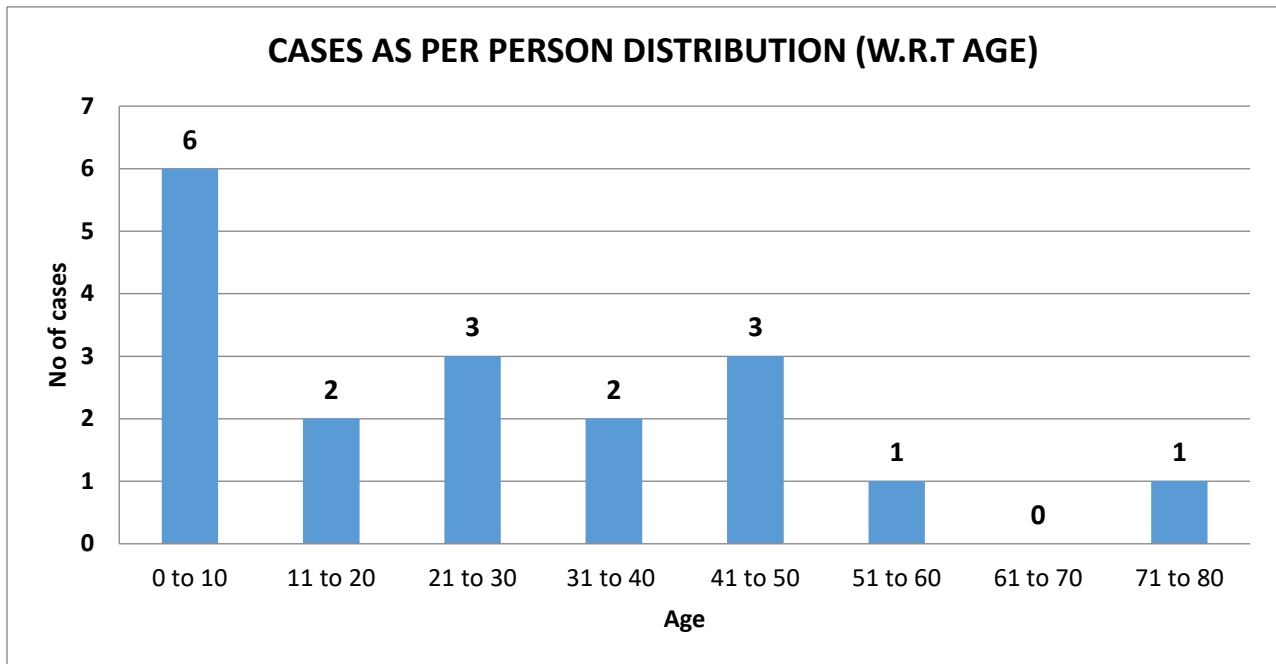


Fig. 3: Person-wise breakup of cases

Gender wise distribution:

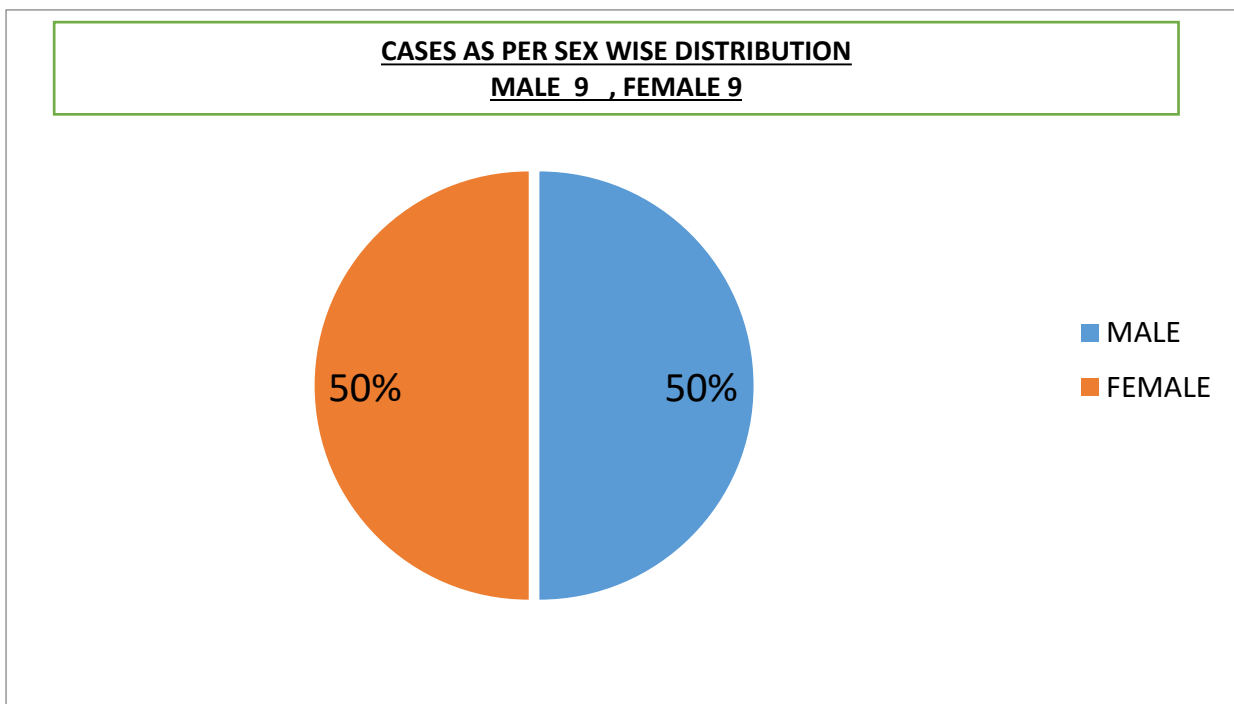


Fig. 4: Gender-wise breakup of cases

CONTROL MEASURES:

- Rapid Response Team (RRT) was immediately sent for investigations.
- Health Education (IEC) given to all the inhabitants of the area. Information was 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.
- Public Health department was involved to get the repair done of the faulty /leakage water pipelines.



Fig. 5: Block Rapid Response Team conducting house to house survey

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Fig. 6: Health education/ awareness imparted by field staff

HEALTH EDUCATION ACTIVITIES:

- Health Education (IEC) given to all the inhabitants of the area. Chlorine Tablets were distributed and ORS were distributed. Information was 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.
- ASHA, AWW and health workers resorting to inter personal communication to propagate the messages on use of safe drinking water, use of ORS, Hand washing and taking of freshly prepared foods.

RECOMMENDATIONS:

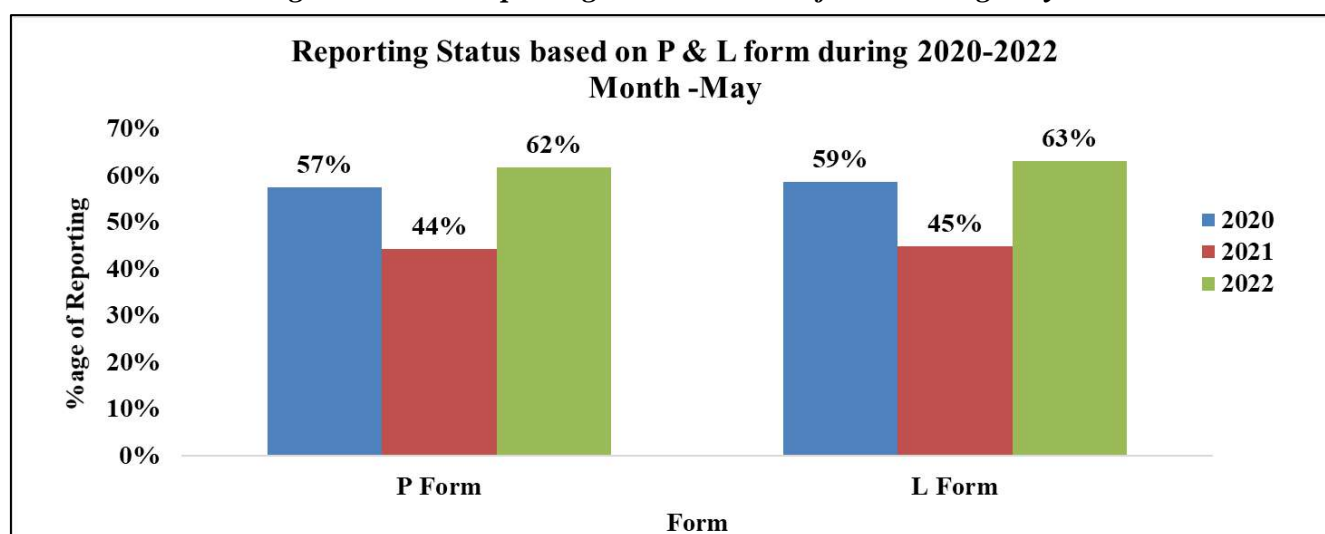
1. Usage of oral rehydration therapy (ORT): ORT is as effective as intravenous therapy in rehydrating and replacing electrolytes in children with some dehydration and should be the therapy of choice.
2. Intake of appropriate fluids to prevent or treat dehydration, a nutritious diet that does not cause diarrhea to worsen, supplementary vitamins and minerals, including zinc for 10-14 days and antimicrobial to treat diagnosed infections.
3. All severely malnourished children should receive broad spectrum antibiotics for infections.
4. Drinking water should be clean and stored in clean containers. Boiling water is preferred for drinking.

5. All family members should wash their hands thoroughly after defecation, after cleaning a child who has defecated, after disposing of a child's stool, before preparing food and before eating. Good hand washing requires use of soap or local substitute such as ashes or soil.
6. Raw food should not be eaten except fruits and vegetables that are peeled and eaten immediately. Eat food while it is still hot or reheat it thoroughly before eating and food should be protected from flies by means of fly screens.
7. Proper disposal of feces in a designated area helps prevent spread of diarrheal agents.
8. All infants should be immunized against measles at recommended age.
9. Health education must stress the importance of eating cooked, hot food and of proper safe and hygienic individual food handling techniques.
10. Programs to treat water at the household or community level with chlorine or other effective systems, hand washing with soap, and safe disposal of fecal waste should be developed and/or expanded.
11. Safe drinking water supplies should continue to be delivered and fecal waste should be collected and safely disposed of in areas of high population density.

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Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Cholera, Dengue, Chikungunya, Leptospirosis and Seasonal Influenza A (H1N1) During May 2020 - 2022*

Fig. 7: RU-wise reporting based on P & L forms during May 2022



As shown in Fig. 7, in May 2020, 2021 and 2022, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) 57 %, 44% and 62% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 59%, 45% 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 increased in May 2022 compared to the same month in previous years for both P and L forms, thereby improving the quality of surveillance data.

Fig. 8: State/UT wise P form completeness % for May 2022

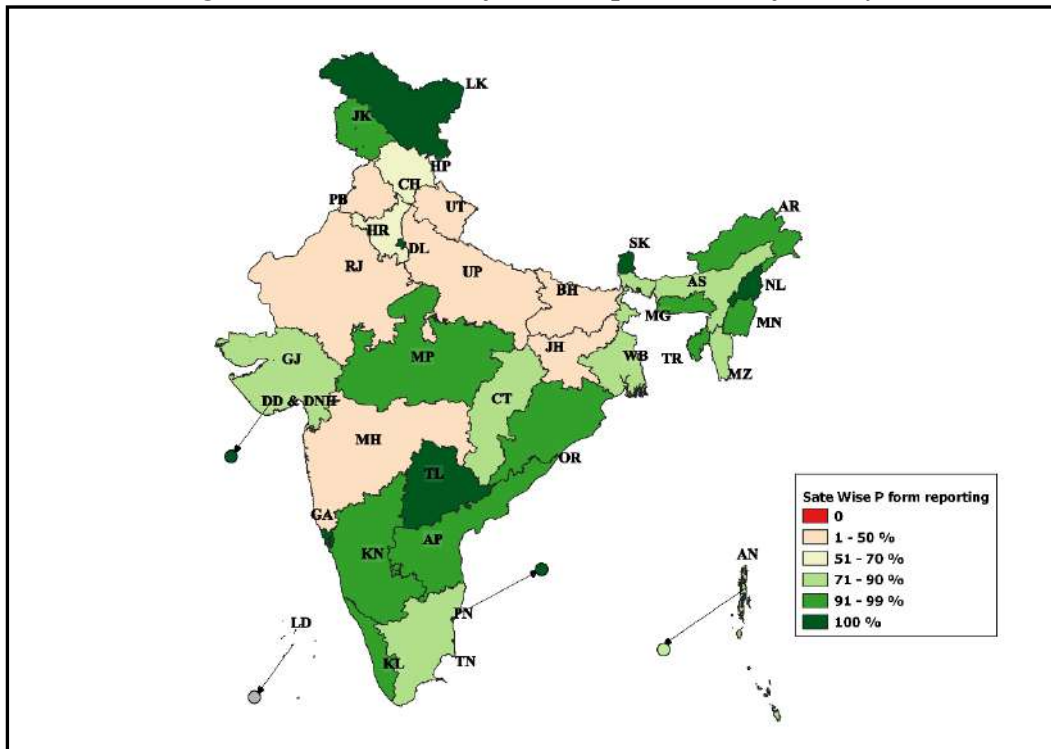


Fig. 9: State/UT wise L form completeness % for May 2022

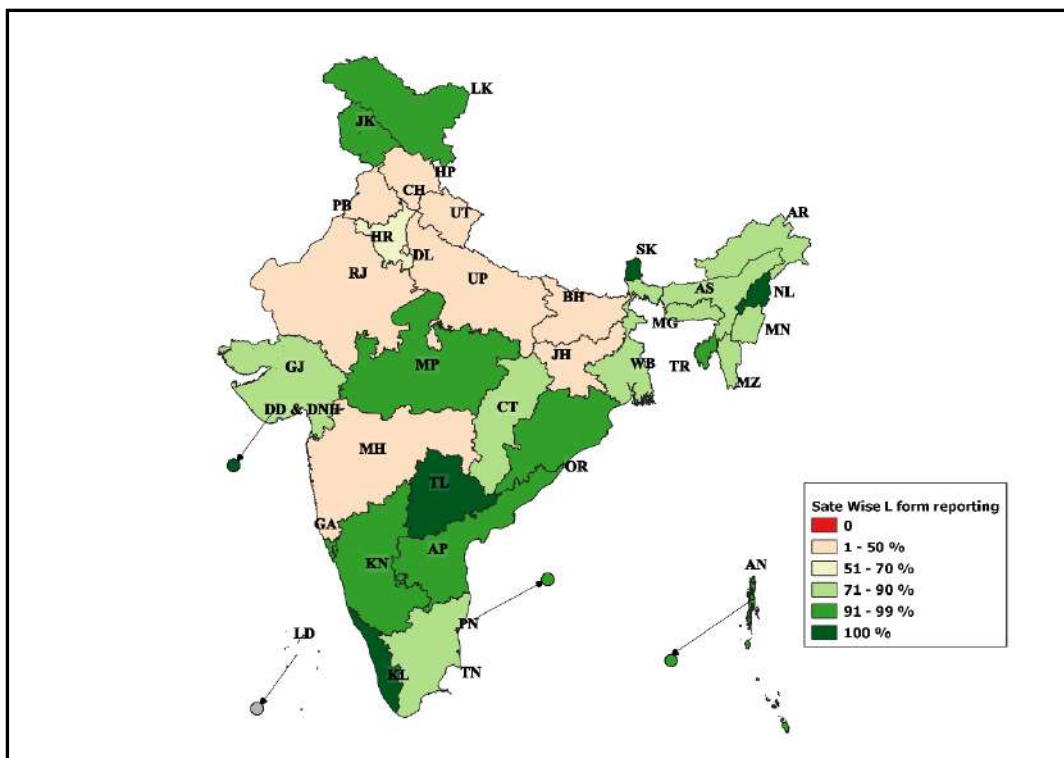
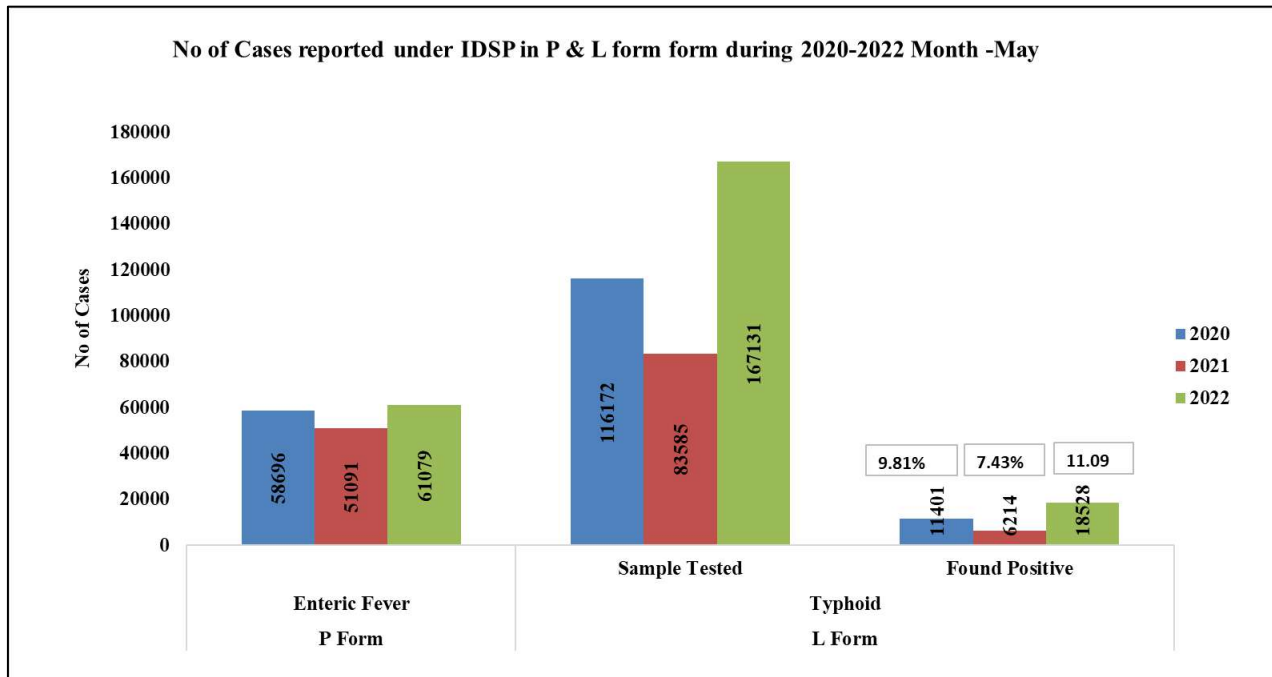


Fig. 10: No. of Enteric Fever Cases reported under P & L form during May 2020 - 2022



As shown in Fig. 10, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 58696 in May 2020; 51091 in May 2021 and 61079 in May 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2020; 116172 samples were tested for Typhoid, out of which 11401 were found positive. In May 2021; out of 83585 samples, 6214 were found to be positive and in May 2022, out of 167131 samples, 18528 were found to be positive.

Sample positivity has been 9.8 %, 7.4 % and 11.1 % in May month of 2020, 2021 & 2022 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.

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Fig. 11: State/UT wise Presumptive Enteric fever cases & outbreaks for May 2022

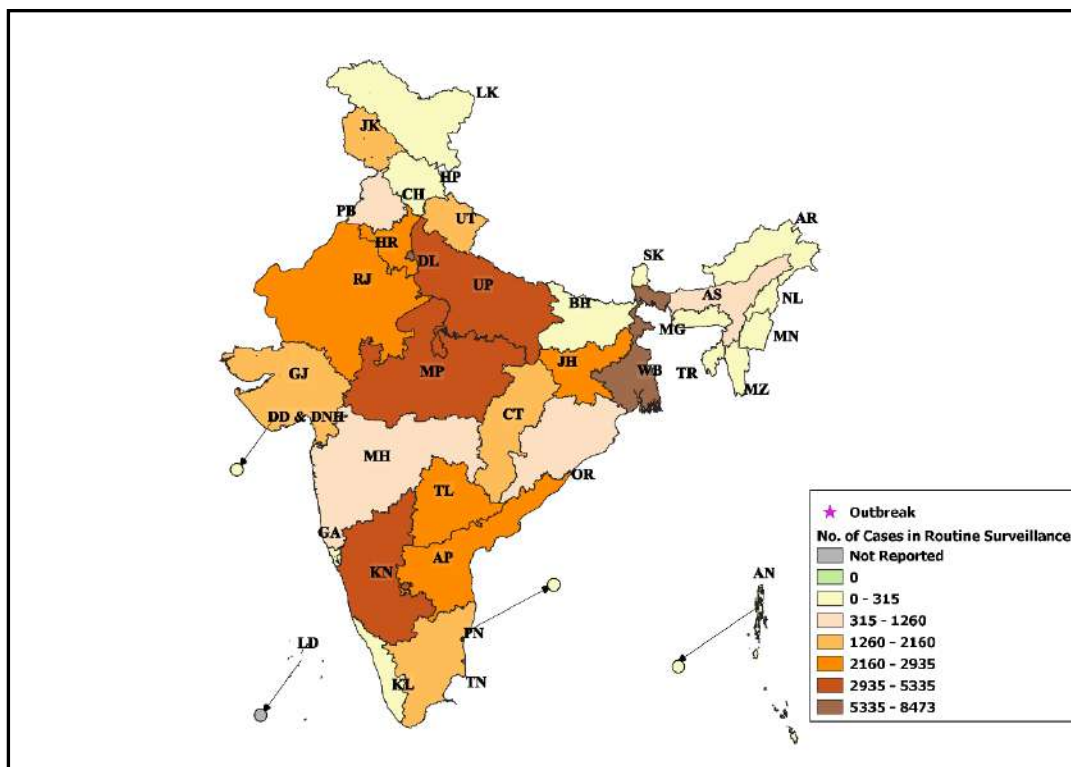
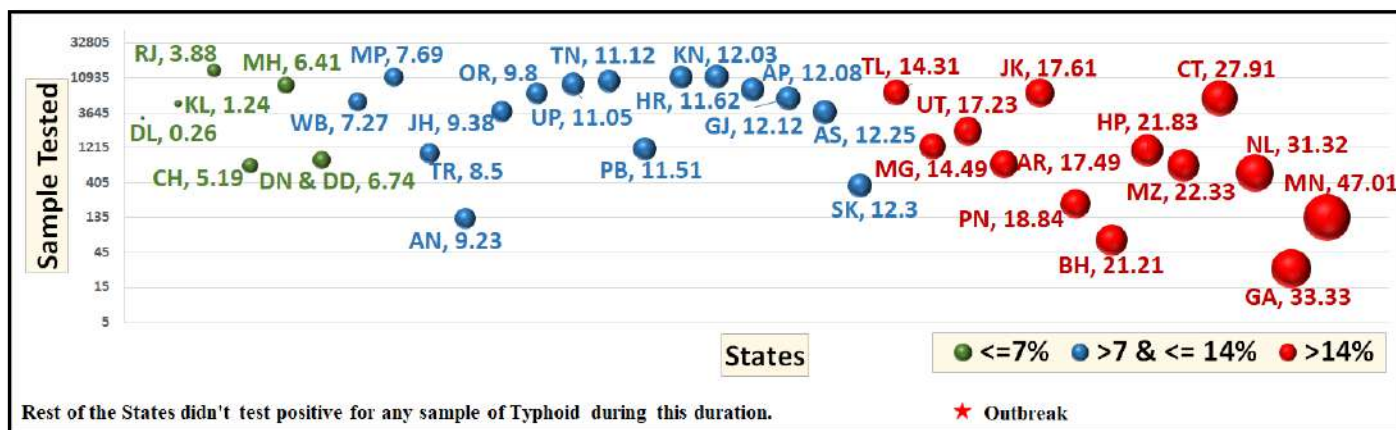
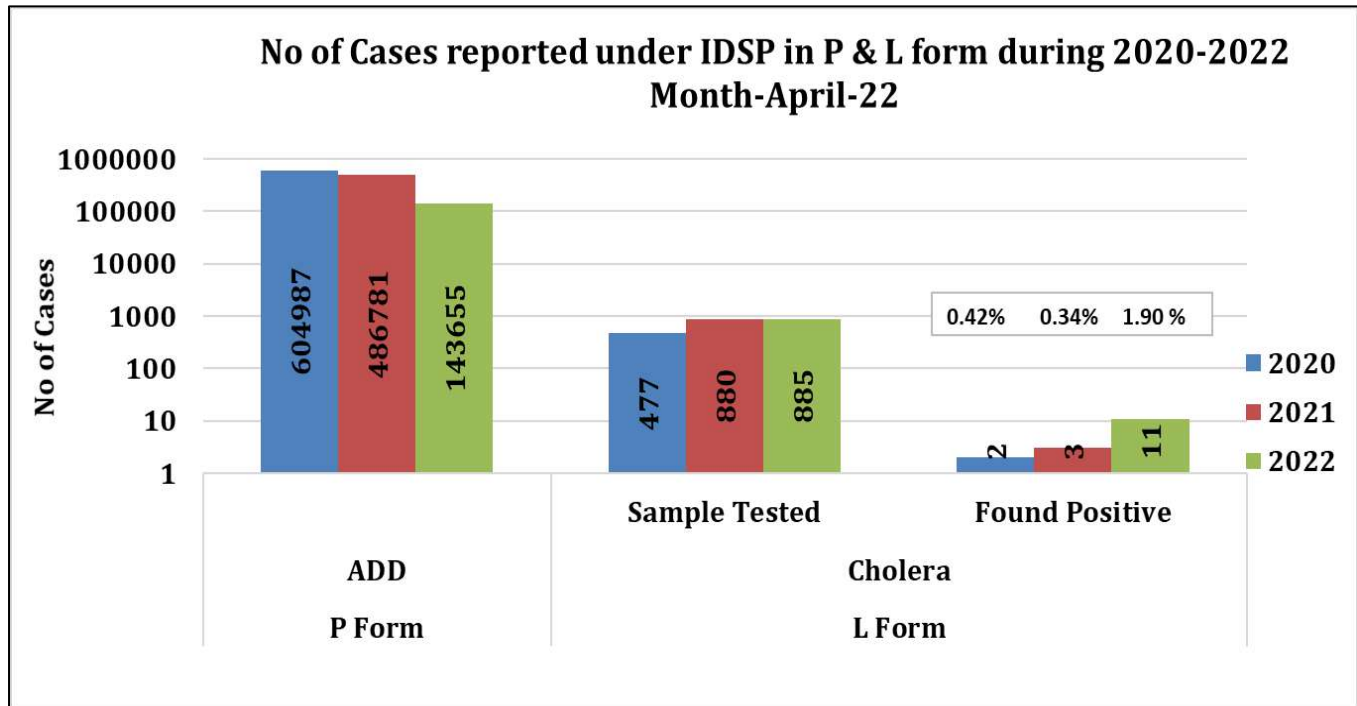


Fig. 12: State/UT wise Lab Confirmed Typhoid cases and outbreaks for May 2022



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Fig. 13: No. of ADD Cases reported under IDSP in P Form & Lab confirmed Cholera cases in L form during May 2020 - 2022



As shown in Fig. 13, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 477287 in May 2020, 287316 in May 2021 and 384472 in May 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2020, 513 samples were tested for Cholera out of which 0 tested positive; in May 2021, out of 360 samples, 0 tested positive for Cholera and in May 2022, out of 1037 samples, 44 tested positive.

Sample positivity of samples tested for Cholera has been 0 %, 0 % and 4.24 % in May month of 2020, 2021 & 2022 respectively.

Fig. 14: State/UT wise Presumptive ADD cases and outbreaks for May 2022

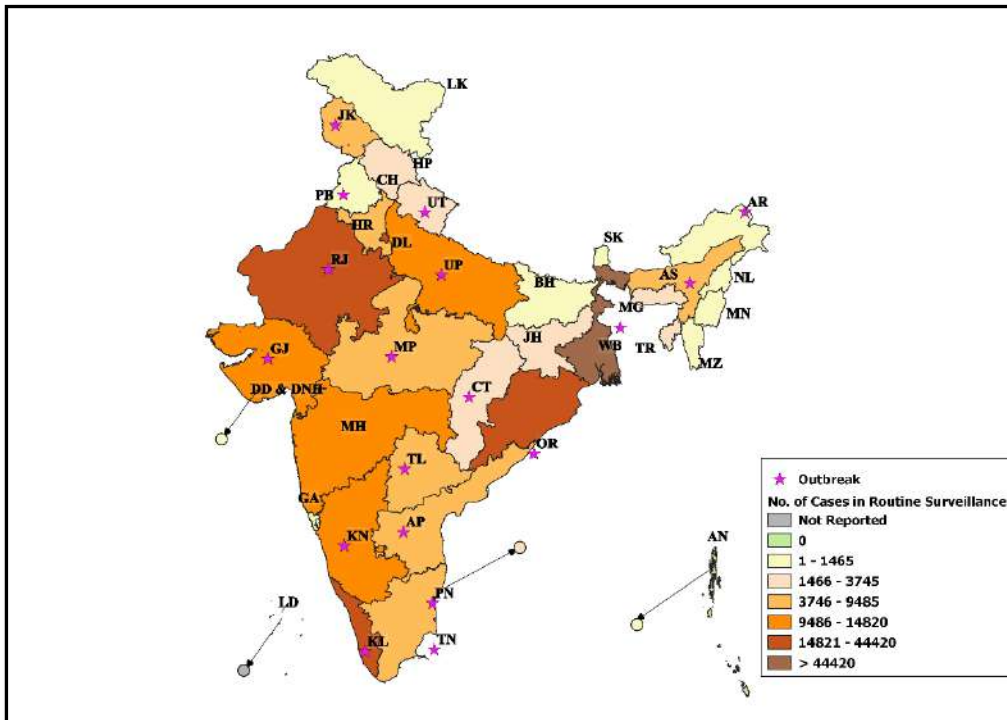
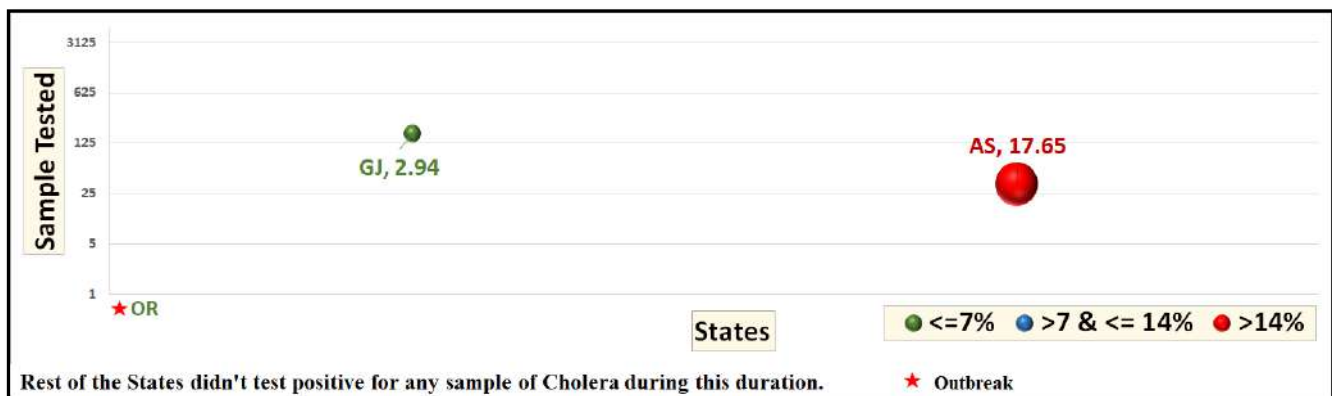
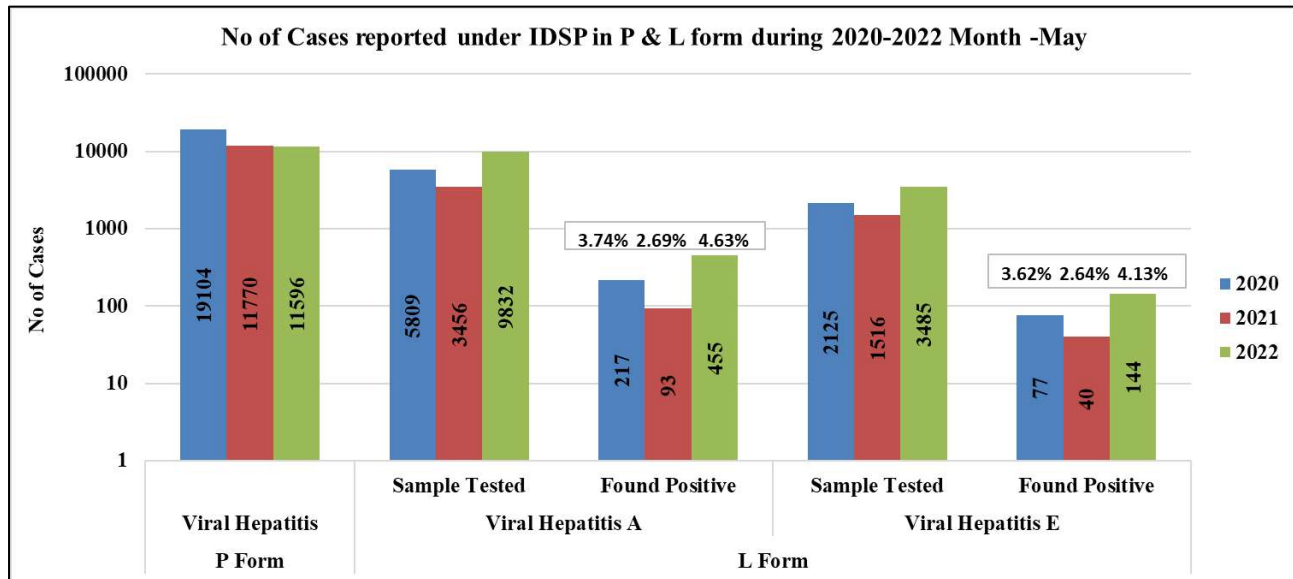


Fig. 15: State/UT wise Lab Confirmed Cholera cases and outbreaks for May 2022



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Fig. 16: No. of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during May 2020 - 2022



As shown in Fig. 16, the number of presumptive Viral Hepatitis cases was 19104 in May 2020, 11770 in May 2021 and 11596 in May 2022. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in May 2020; 5809 samples were tested out of which 217 were found positive. In May 2021 out of 3456 samples, 93 were found to be positive and in May 2022, out of 9832 samples, 455 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 3.7 %, 2.7 % and 4.6 % in May month of 2020, 2021 & 2022 respectively.

As reported in L form for Viral Hepatitis E, in May 2020; 2125 samples were tested out of which 77 were found positive. In May 2021; out of 1516 samples, 40 were found to be positive and in May 2022, out of 3485 samples, 144 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 3.6 %, 2.6 % and 4.1% in May month of 2020, 2021 & 2022 respectively.

Fig. 17: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for May 2022

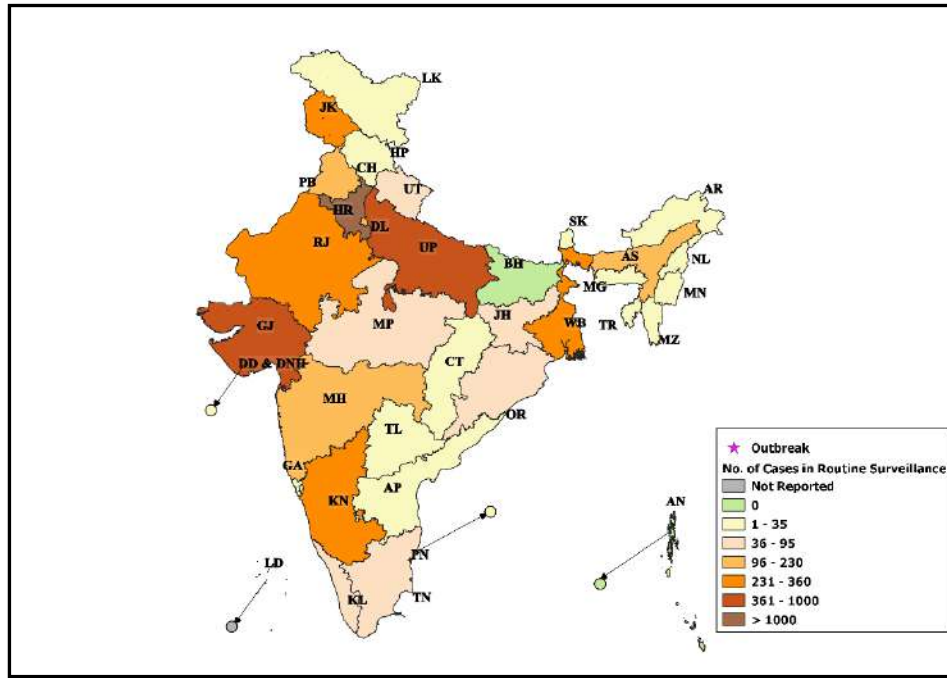


Fig. 18: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for May 2022

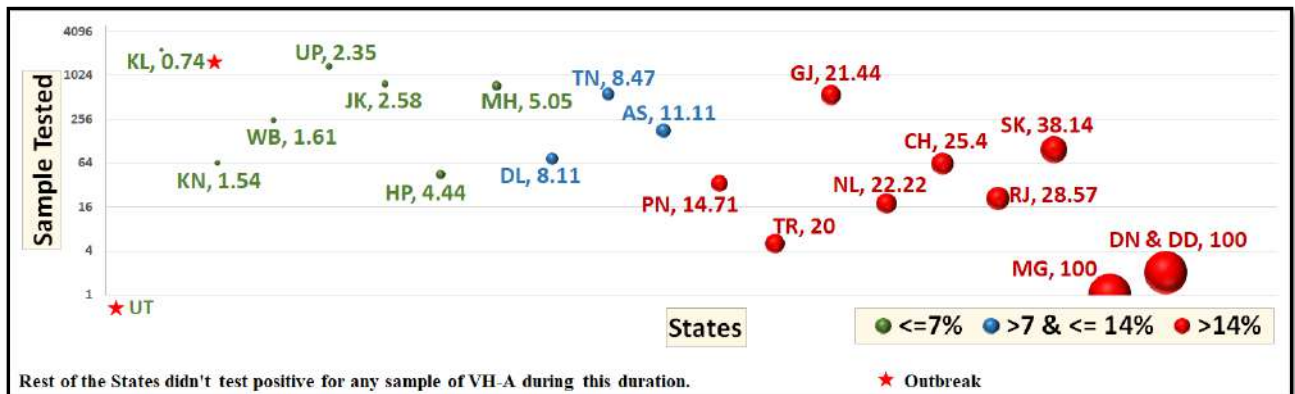


Fig. 19: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for May 2022

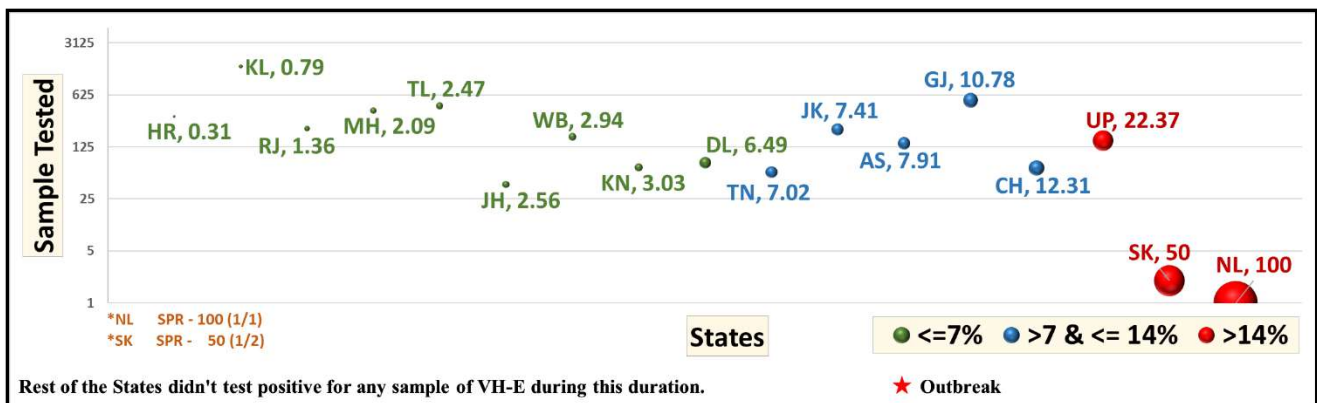
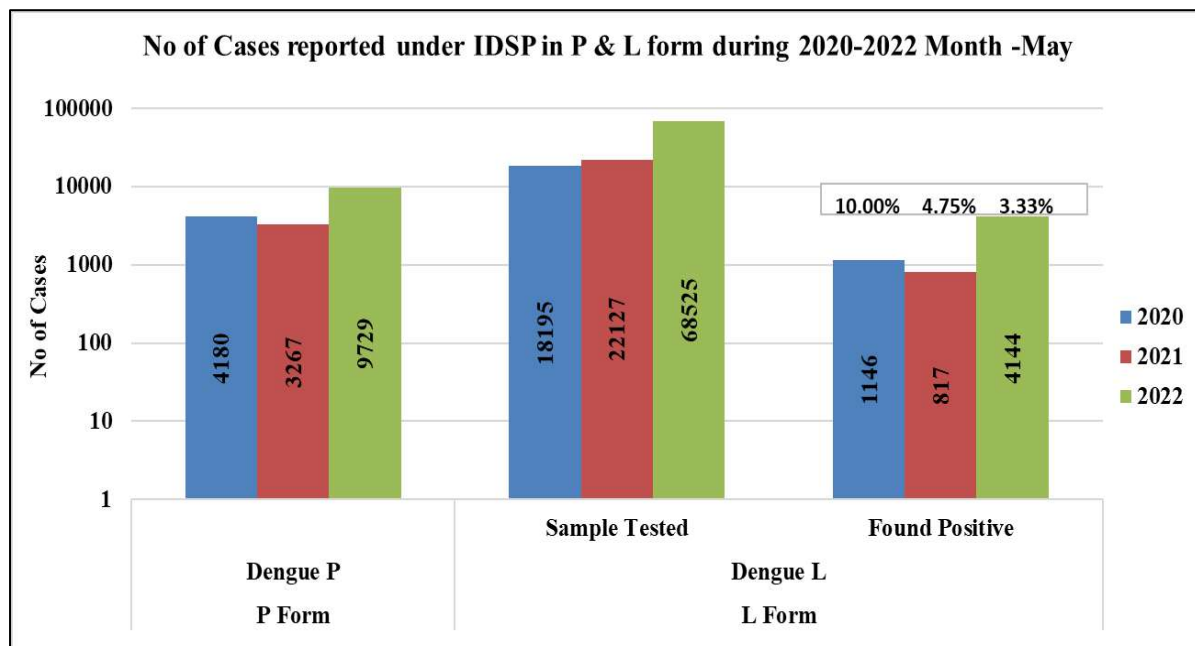


Fig. 20: No. of Dengue cases reported under IDSP in P & L form during May 2022



As shown in Fig. 20, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 4180 in May 2020; 3267 in May 2021 and 9729 in May 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2020; 18195 samples were tested for Dengue, out of which 1146 were found positive. In May 2021; out of 22127 samples, 817 were found to be positive and in May 2022, out of 68525 samples, 4144 were found to be positive.

Sample positivity of samples tested for Dengue has been 10 %, 4.8 % and 3.3 % in May month of 2020, 2021 & 2022 respectively.

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Fig. 21: State/UT wise Presumptive Dengue cases and outbreaks for May 2022

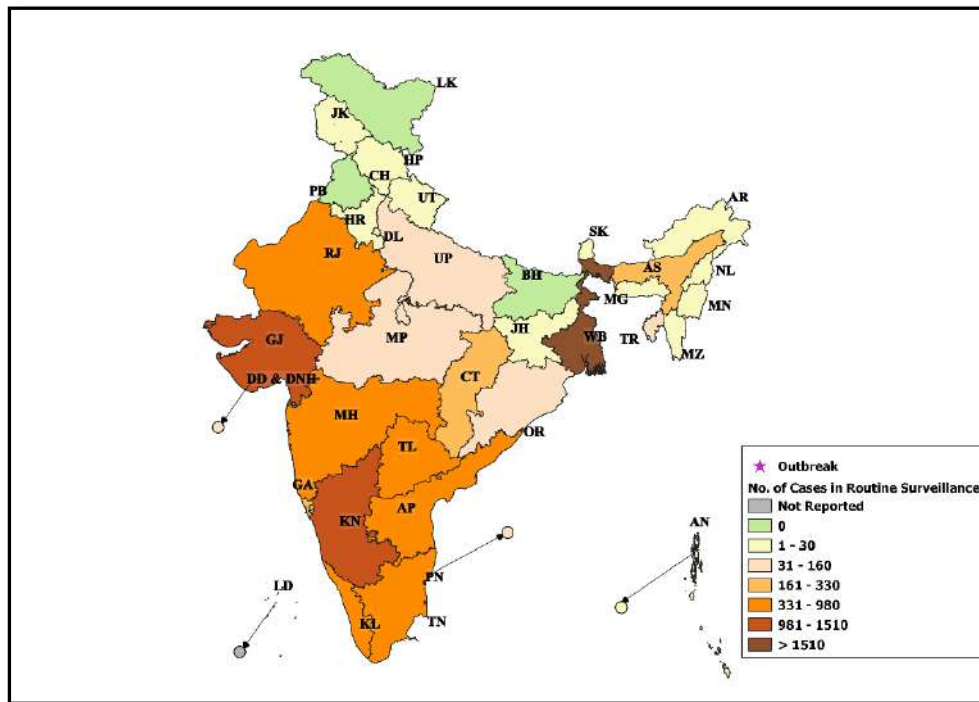


Fig. 22: State/UT wise Lab Confirmed Dengue cases and outbreaks for May 2022

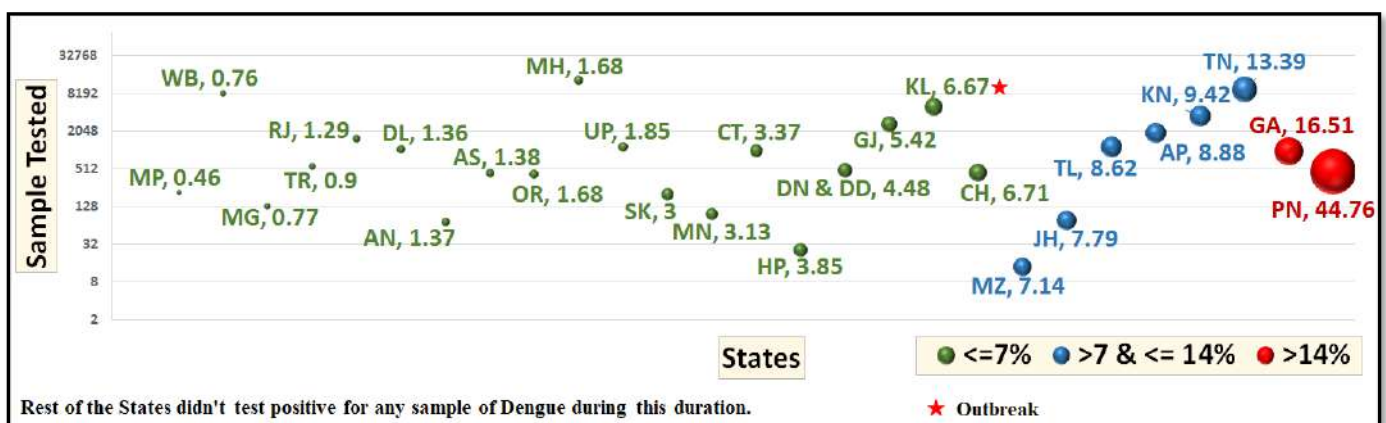
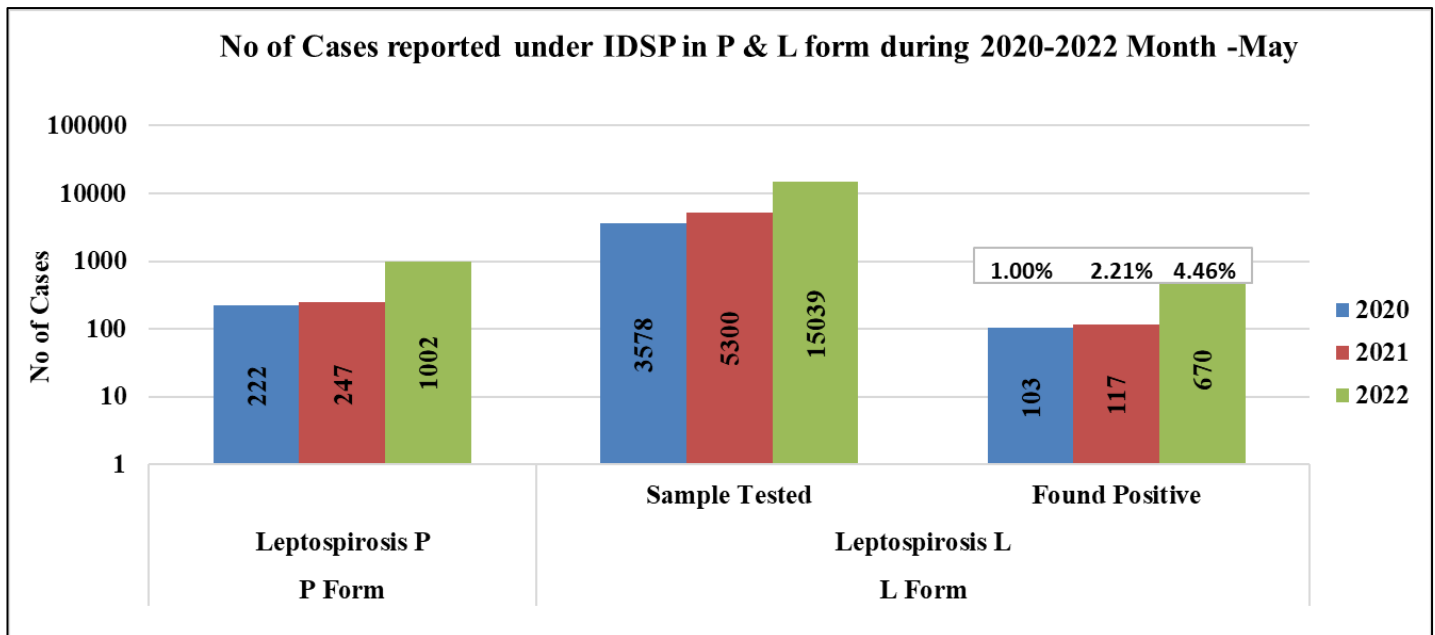


Fig. 23: No. of Leptospirosis Cases reported under IDSP in P & L form during May 2020 - 2022



As shown in Fig. 23, number of presumptive Leptospirosis cases, as reported by States/UTs in ‘P’ form was 222 in May 2020; 247 in May 2021 and 1002 in May 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2020; 3578 samples were tested for Leptospirosis, out of which 103 were found positive. In May 2021; out of 5300 samples, 117 were found to be positive and in May 2022, out of 15039 samples, 670 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 1 %, 2.2 % and 4.5 % in May month of 2020, 2021 & 2022 respectively.

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Fig. 24: State/UT wise Presumptive Leptospirosis cases and outbreaks for May 2022

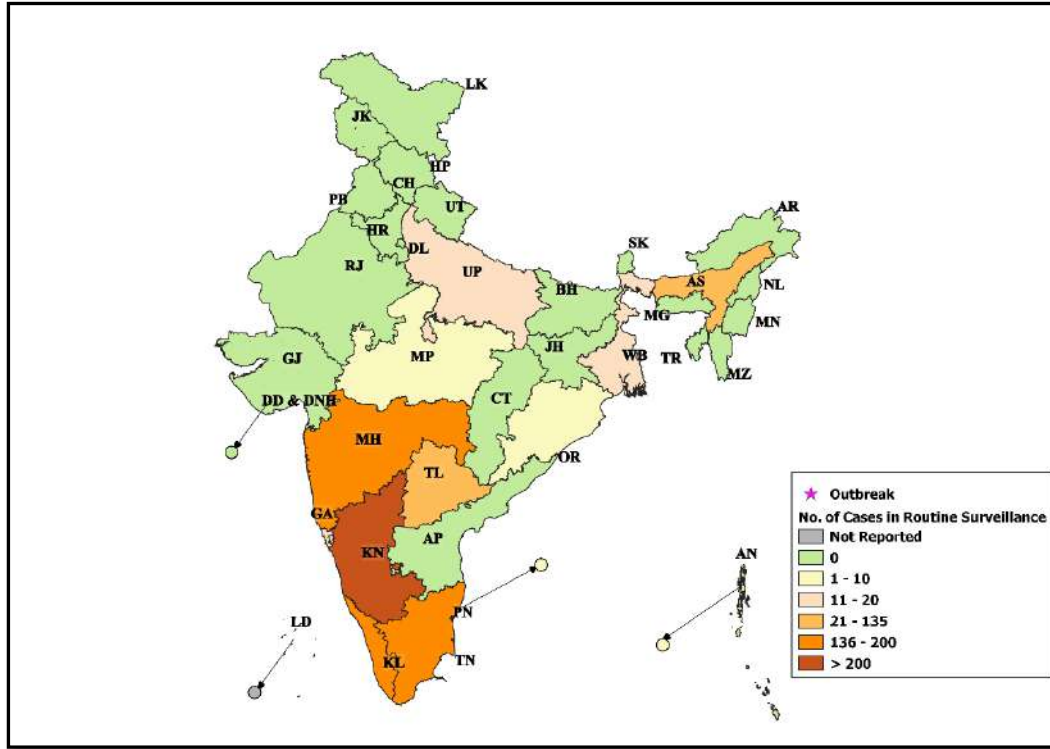
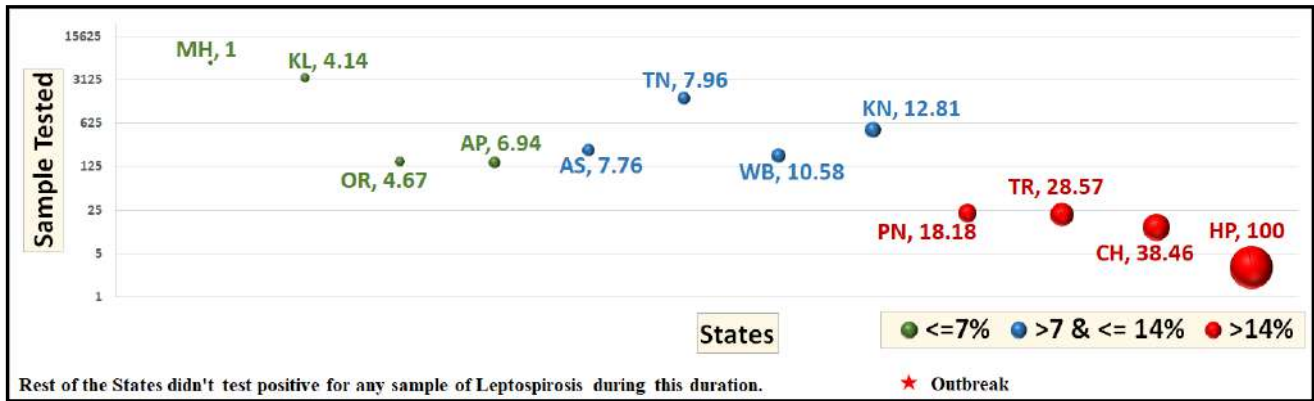
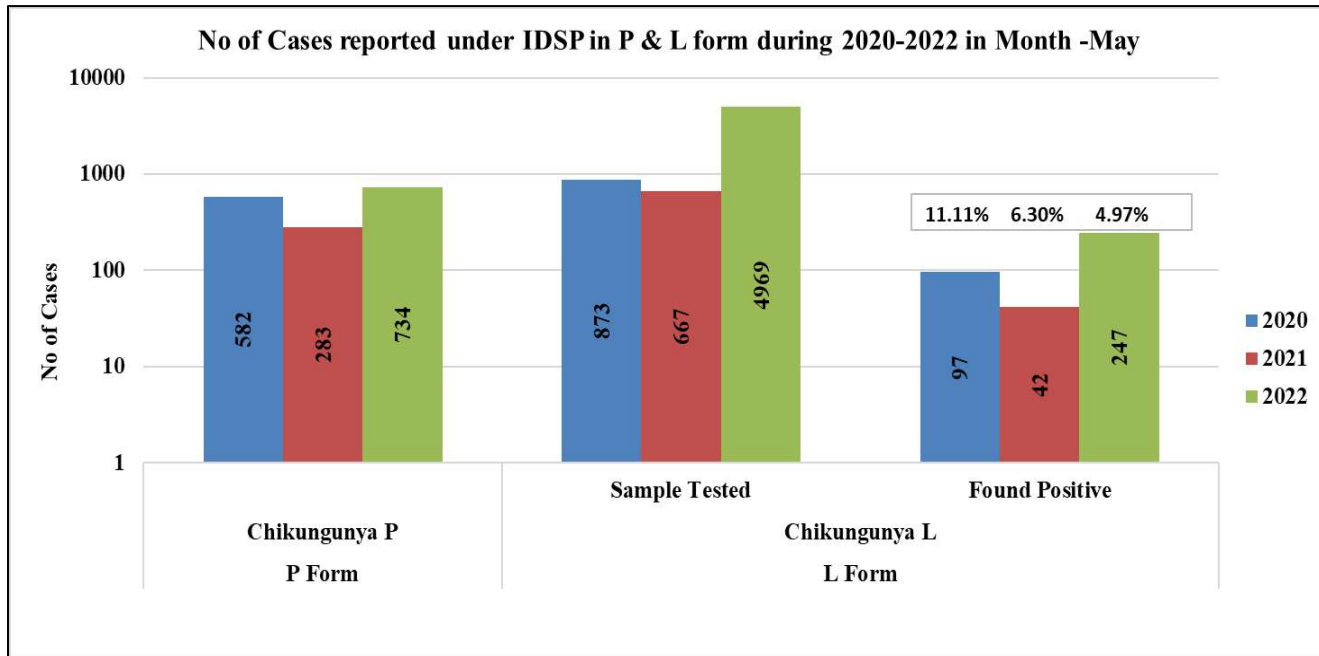


Fig. 25: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for May 2022



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Fig. 26: No. of Chikungunya Cases reported under IDSP in P & L form during May 2020 - 2022



As shown in Fig. 26, number of presumptive Chikungunya cases, as reported by States/UTs in ‘P’ form was 582 in May 2020; 283 in May 2021 and 734 in May 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2020; 873 samples were tested for Chikungunya, out of which 97 were found positive. In May 2021; out of 667 samples, 42 were found to be positive and in May 2022, out of 4969 samples, 247 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 11.1 %, 6.3 % and 5.0 % in May month of 2020, 2021 & 2022 respectively.

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Fig. 27: State/UT wise Presumptive Chikungunya cases and outbreaks for May 2022

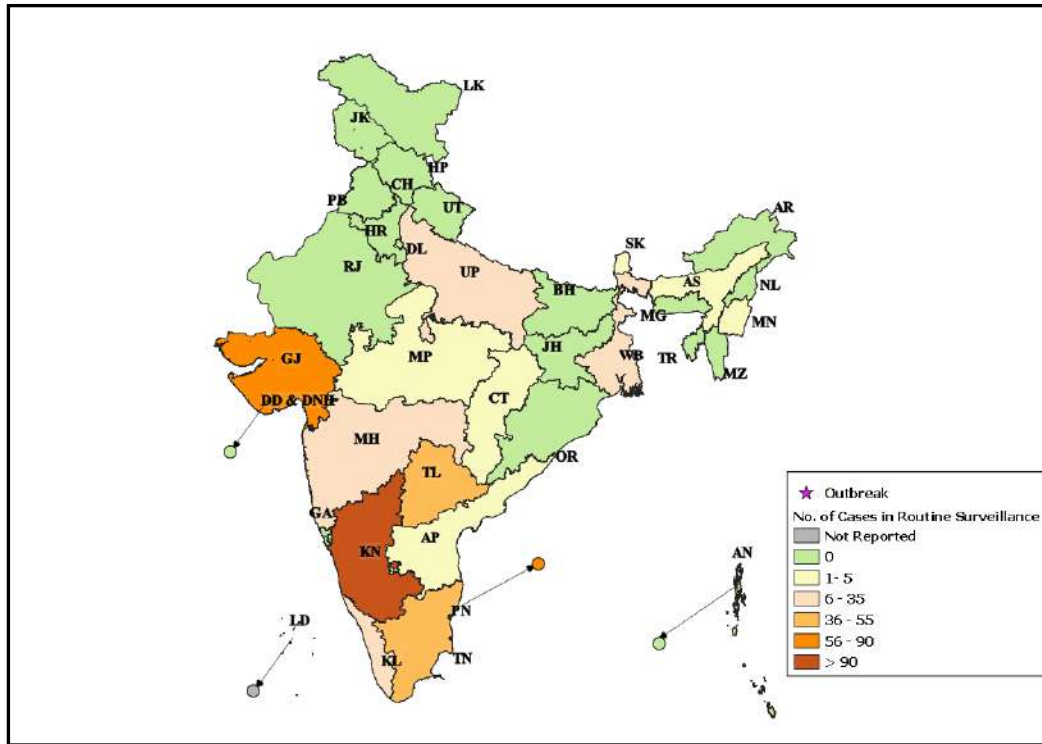


Fig. 28: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for May 2022

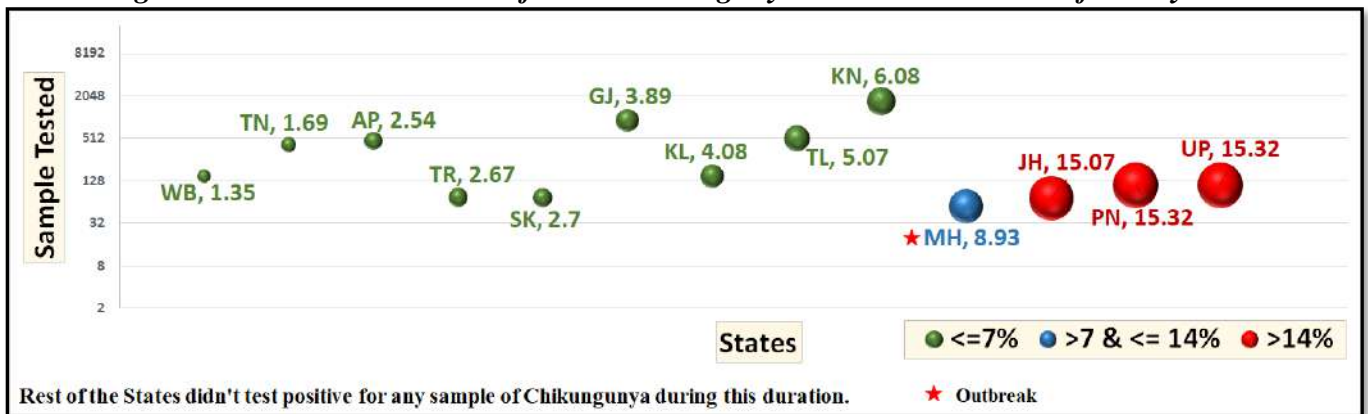
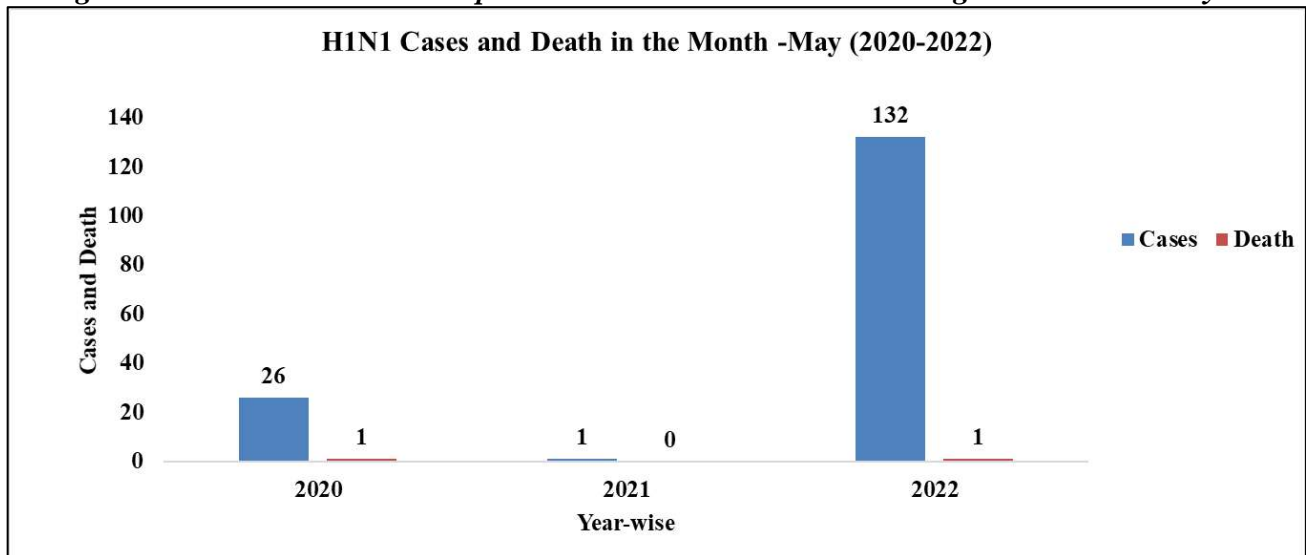


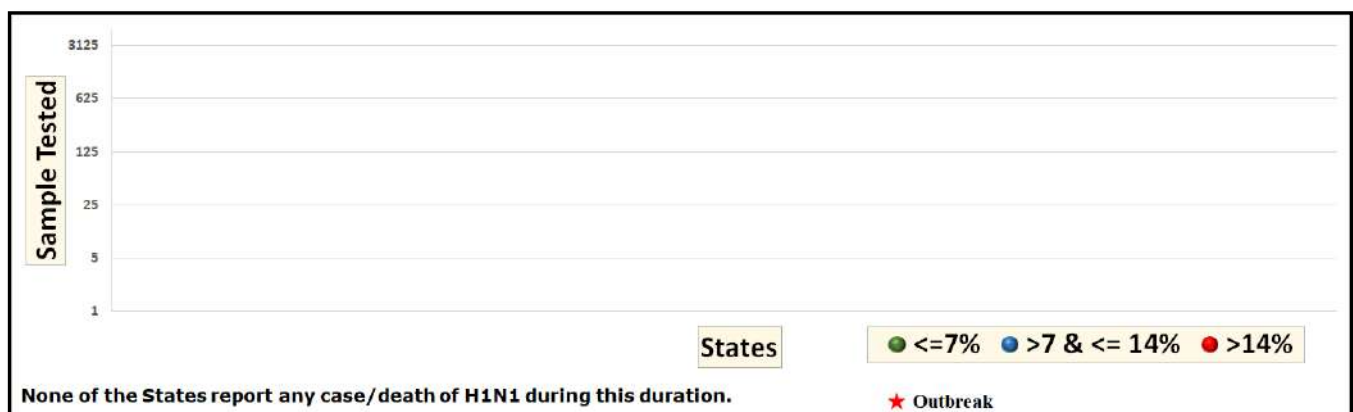
Fig. 29: H1N1 cases & deaths reported under IDSP in L Form during 2020-2022 in May



As shown in Fig. 29, as reported in L form, in May 2020, there were 33 cases and 2 deaths. In May 2021, there were 0 cases and 0 deaths; and in May 2022, there were 19 cases and 1 death.

Case fatality rate for H1N1 were 6.1 %, 0.00% and 5.3 % in May month of 2020, 2021 & 2022 respectively.

Fig. 30: State/UT wise H1N1 cases and outbreaks for May 2022



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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