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Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report
From
Integrated Disease Surveillance Programme
National Health Mission

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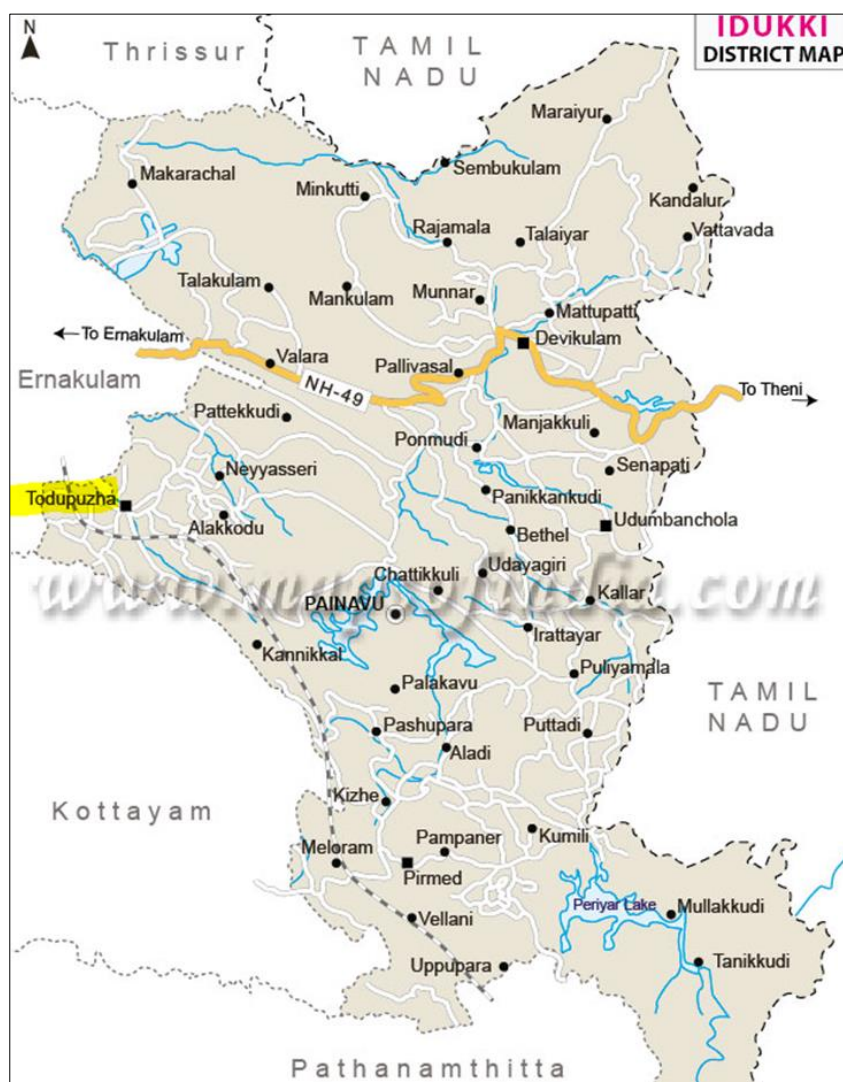
INVESTIGATION REPORT OF FOOD POISONING OUTBREAK –
PURAPUZHA, IDUKKI DISTRICT, KERALA

BACKGROUND

Purapuzha is a village in Idukki district of Kerala. It is only 25 minutes' drive from Thodupuzha, one of the major municipalities of this districts. Idukki district is mostly a hilly district adjoining Tamil Nadu.

According to 2011 census of India, the village of Purapuzha has 2952 and population of 11836. The literacy rate is 88.9%.

Fig. 1: Idukki District. Location of Thodupuzha is highlighted



EPIDEMIOLOGY OF FOOD POISONING:

According to WHO ([Food safety \(who.int\)](https://www.who.int)), foodborne illnesses are usually infectious or toxic in nature and caused by bacteria, viruses, parasites or chemical substances entering the body through contaminated food. Food poisoning is one of the most common outbreak reported in IDSP-IHIP.

The major causes of food poisoning include –

1. **Bacteria:** Bacteria remain one of the leading causes of food-poisoning. The important causative agents in this regard include –
 - a. Salmonella, Campylobacter and enterohaemorrhagic Escherichia coli: These are some of the common foodborne pathogens. Symptoms of their infestation include fever, headache, nausea, vomiting, abdominal pain and diarrhoea. Foods involved in outbreaks of salmonellosis include eggs, poultry and other products of animal origin. Foodborne cases with Campylobacter are mainly caused by raw milk, raw or undercooked poultry and drinking water. Enterohaemorrhagic Escherichia coli is associated with unpasteurized milk, undercooked meat and contaminated fresh fruits and vegetables.
 - b. Listeria: Listeria infections are particularly noteworthy since it can lead to miscarriage in pregnant women or death of newborn babies. Although disease occurrence is relatively low, Listeria should be counted as one of the most serious foodborne infections. Listeriosis is caused by unpasteurised dairy products and various ready-to-eat foods and can grow at refrigeration temperatures.
2. **Viruses:** Among viruses, Norovirus is a common cause of foodborne infections. It is characterized by nausea, explosive vomiting, watery diarrhoea and abdominal pain.
3. **Chemicals:** Chemical and toxins can also lead to food poisoning, including Persistent Organic Pollutants (POPs) and heavy metals.

OUTBREAK CHRONOLGY:

On 3rd week of January, cases of abdominal pain & loose stools was reported from Holy Family Nursing School Women's Hostel in Moolamattom. The first case was reported on 17th and over the next few days, 20 students came forward with similar symptoms.

Taking cognizance of the situation, block RRT rushed to the spot on 18th January. Based on preliminary information provided by them, the district RRT was deployed and joined the investigations on 19th.

Following were the key findings of RRT team:

- Most of the affected were of the age group between 20-25 years of age
- Total of 20 patients were affected
- The affected patients showed symptoms of abdominal pain & loose motions.
- All the affected patients indicated that they had stale food from local eatery.

LABORATORY INVESTIGATIONS:

3 water samples taken from premises of hostel and sent to Viswajyothi College of Engineering & Technology, Muvattupuzha. All samples were found to be potable.

1 stool sample taken on 19th and sent to Holy Family Hospital lab. No enteropathogens were isolated.

CONTROL MEASURES TAKEN: These included –

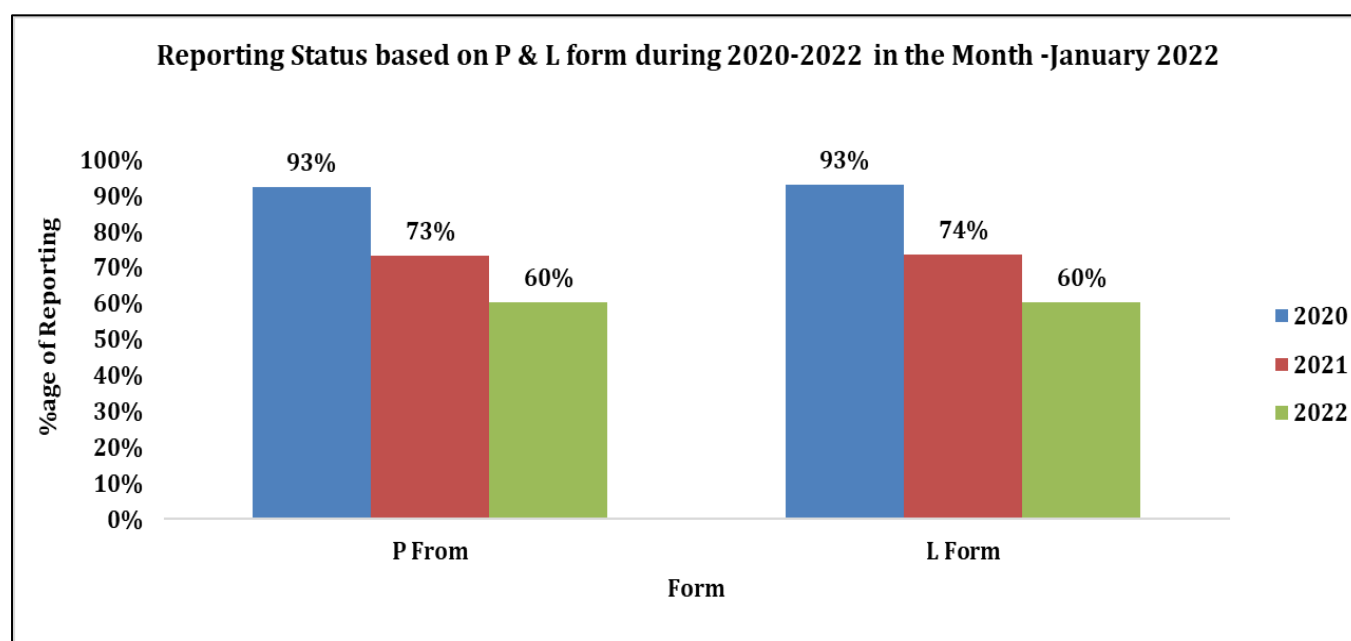
1. Symptomatic treatment given to affected patients.
2. Additional safe water supply provided to Hostel inmates.
3. IEC strengthened in the affected area.
4. Chlorinated all the water sources of hostel was done.
5. Directions given to concerned authority to improve sanitation situation.

RECOMMENDATIONS: Following are the recommendations to reduce risk of food poisoning -

1. Careful hand-washing before cooking and eating.
2. Keep kitchen and eating area clean and free from rodents.
3. Refrigerate any perishable food & leftovers within 2 hours of preparation. The refrigerator should be kept at 4.4 degrees.
4. Do not eat meat, poultry, or fish that has been refrigerated uncooked for longer than 1 to 2 days.
5. Do not use foods that have an unusual odor or a spoiled taste.
6. Do not drink water from streams or wells that are not treated. Only drink water that has been treated or chlorinated.

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

Fig. 2: RU-wise reporting based on P & L forms during January 2022



As shown in Fig. 2, in January 2020, 2021 and 2022, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 93 %, 73% and 60% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 93%, 74% and 60% 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 January 2022 compared to the same month in previous years for both P and L forms, thereby compromising on the quality of surveillance data.

Fig. 3: State/UT wise P form completeness % for January 2022

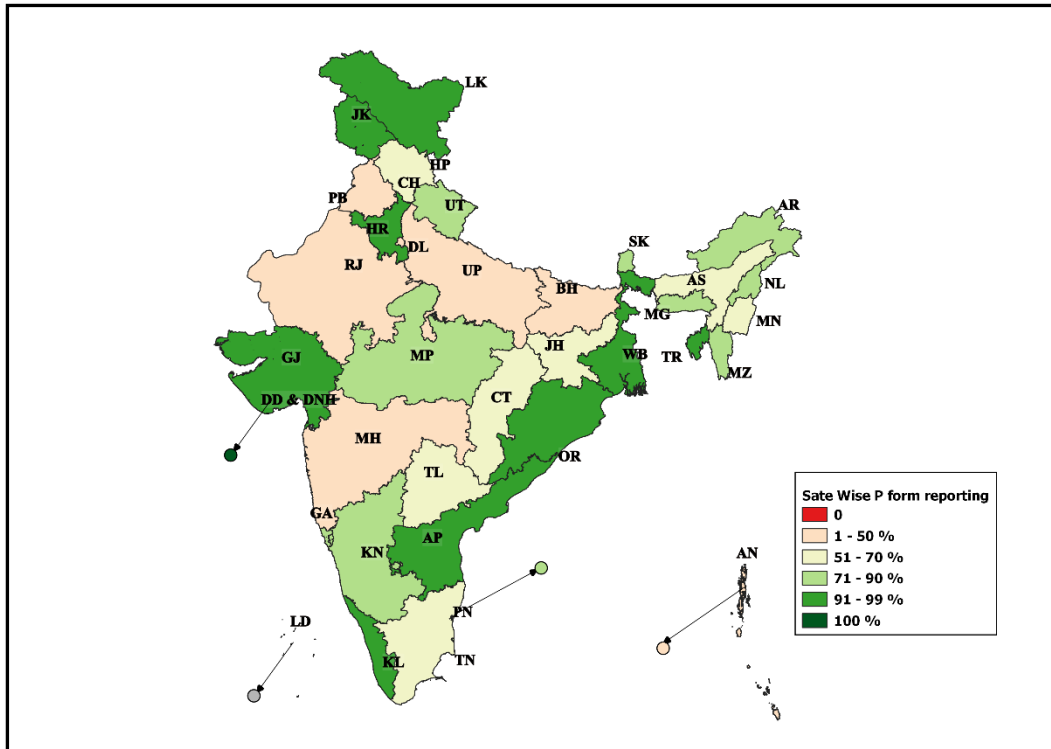


Fig. 4: State/UT wise L form completeness % for January 2022

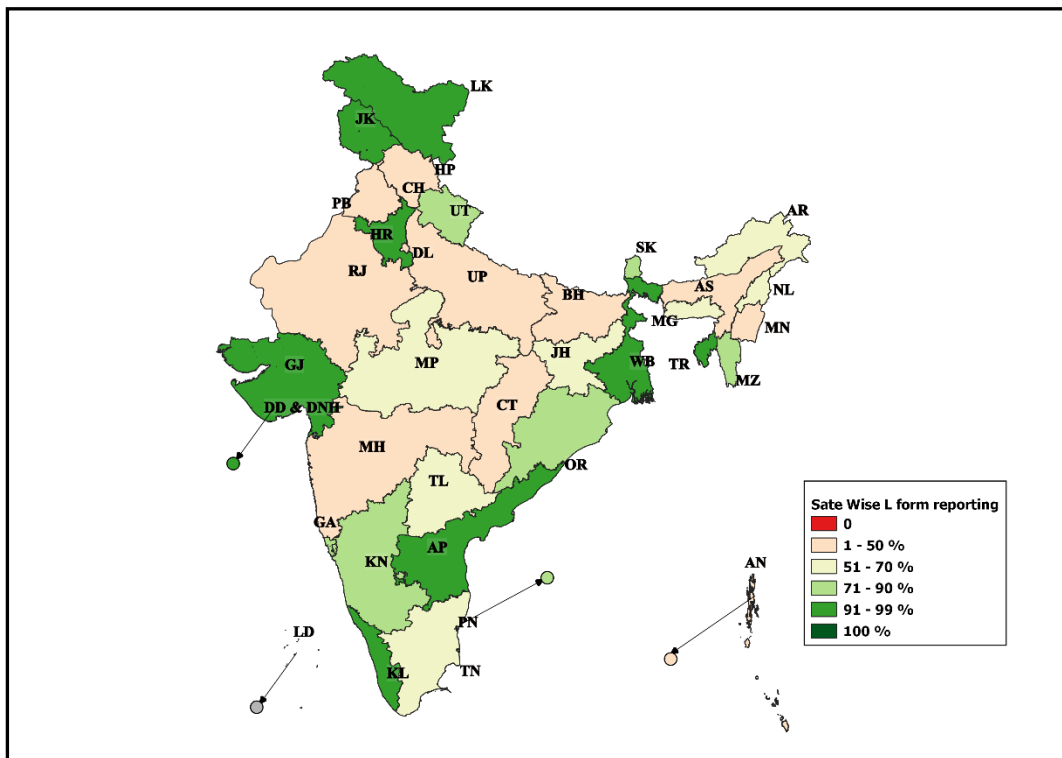
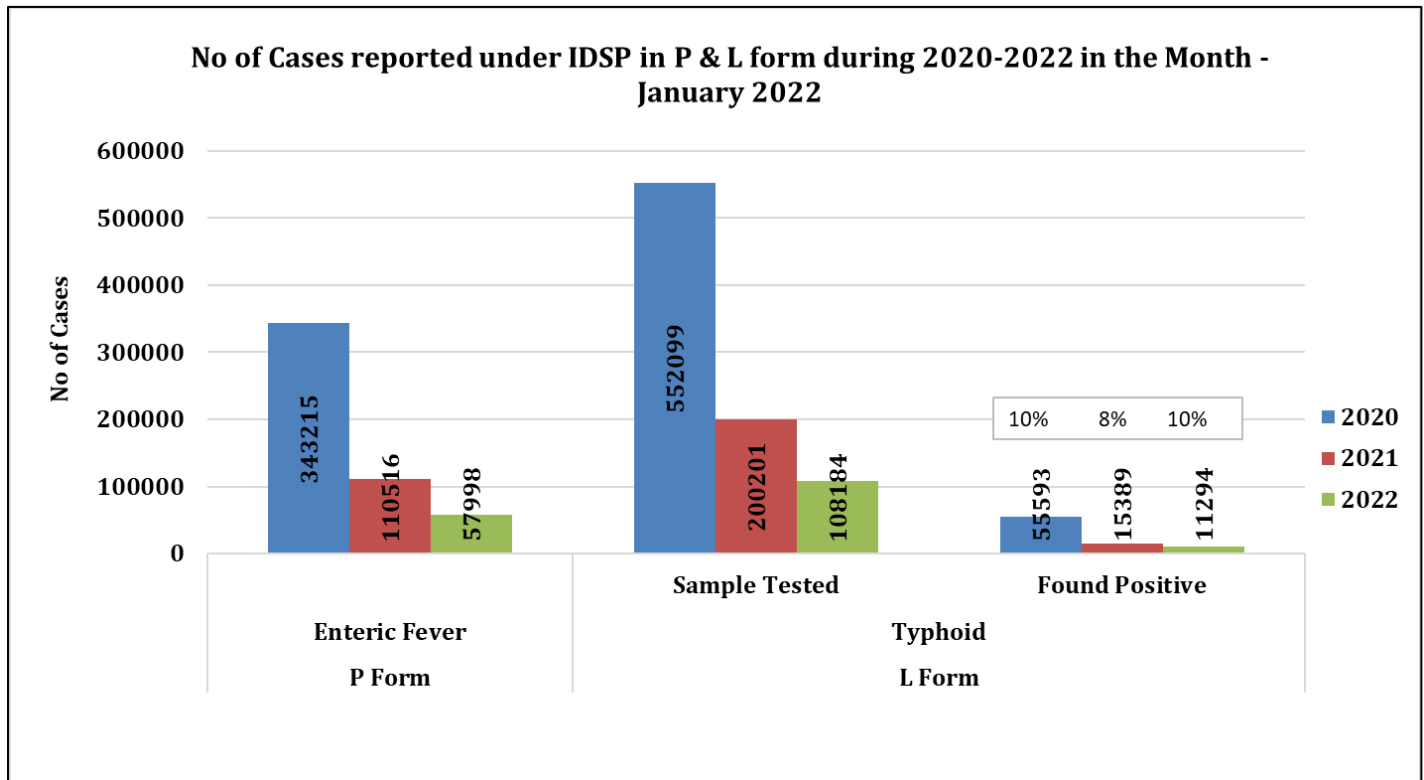


Fig. 5: No. of Enteric Fever Cases reported under P & L form during January 2020 - 2022



As shown in Fig. 5, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 343215 in January 2020; 110516 in January 2021 and 57998 in January 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2020; 552099 samples were tested for Typhoid, out of which 55593 were found positive. In January 2021; out of 200201 samples, 15389 were found to be positive and in January 2022, out of 108184 samples, 11294 were found to be positive.

Sample positivity has been 10%, 8% and 10% in January 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.

Fig. 6: State/UT wise Presumptive Enteric fever cases & outbreaks for January 2022

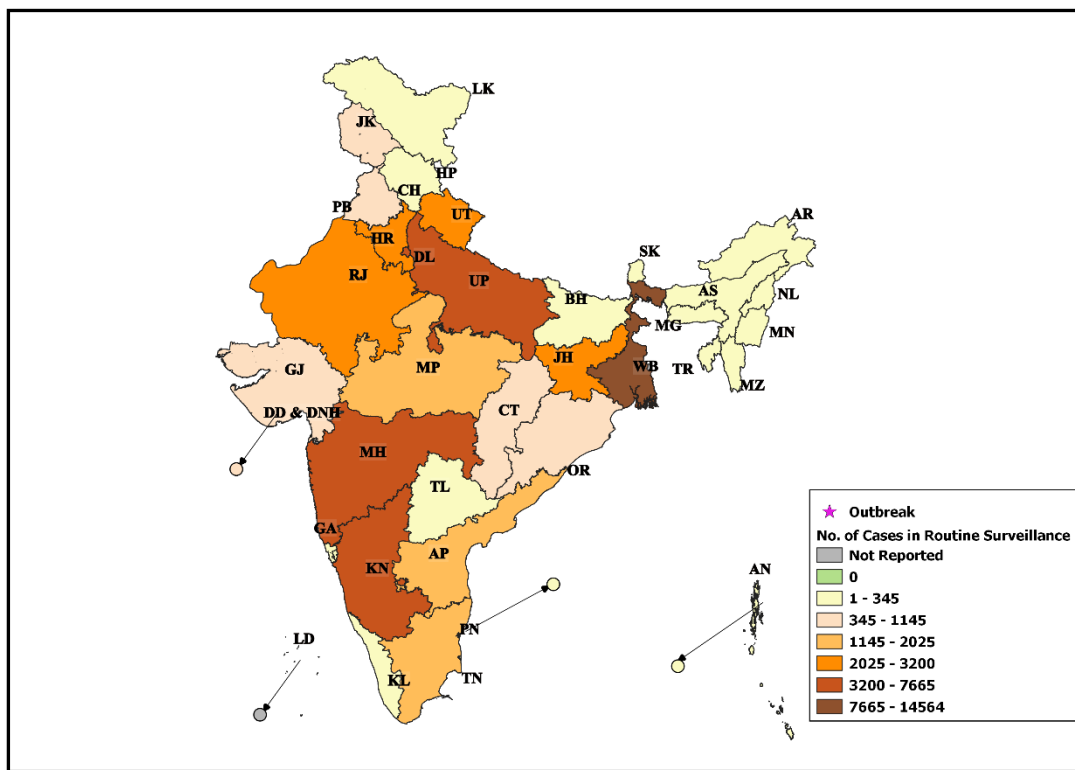


Fig. 7: State/UT wise Lab Confirmed Typhoid cases and outbreaks for January 2022

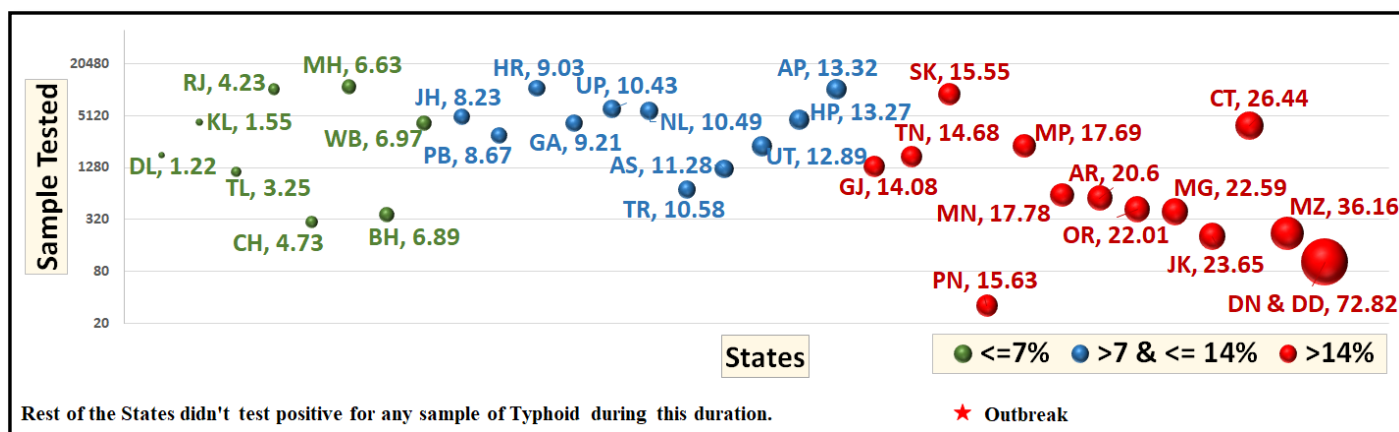
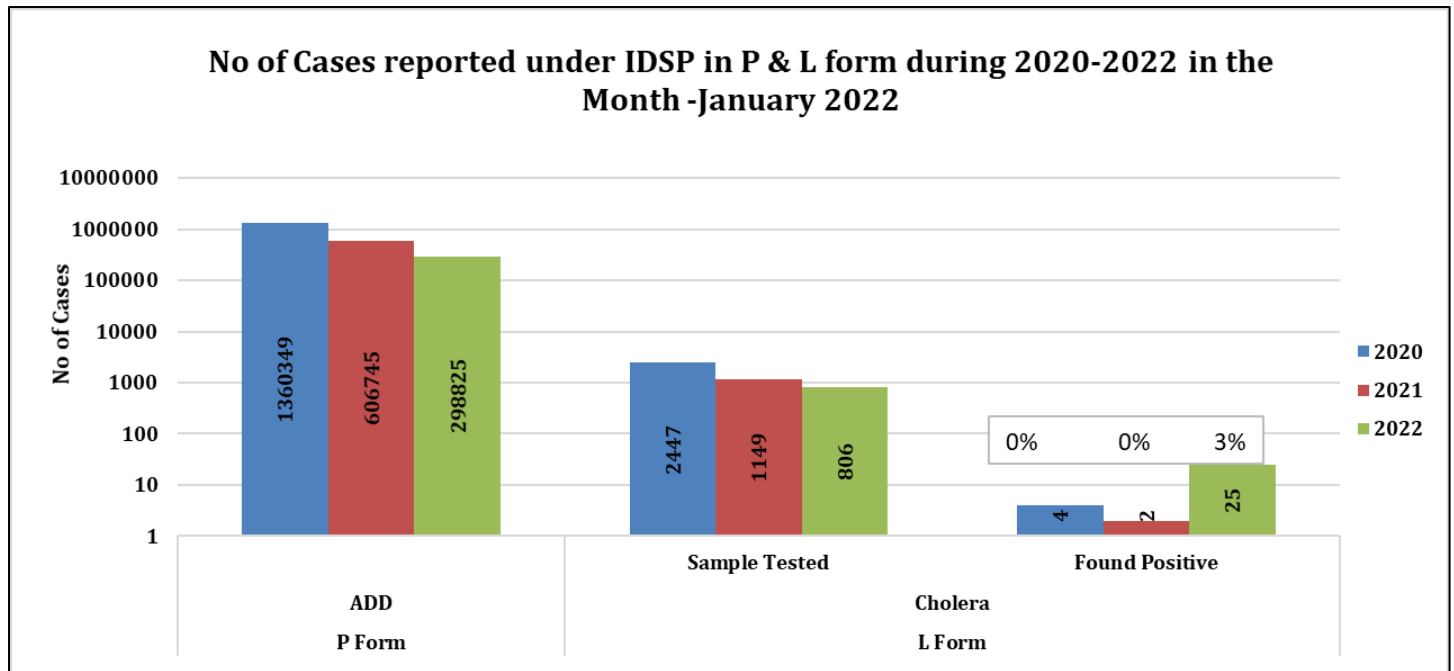


Fig. 8: No. of ADD Cases reported under IDSP in P Form & Lab confirmed Cholera cases in L form during January 2020 - 2022



As shown in Fig. 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1360349 in January 2020, 606745 in January 2021 and 298825 in January 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2020, 2447 samples were tested for Cholera out of which 4 tested positive; in January 2021, out of 1149 samples, 2 tested positive for Cholera and in January 2022, out of 763 samples, 25 tested positive.

Sample positivity of samples tested for Cholera has been 0 %, 0% and 3 % in January month of 2020, 2021 & 2022 respectively.

Fig. 9: State/UT wise Presumptive ADD cases and outbreaks for January 2022

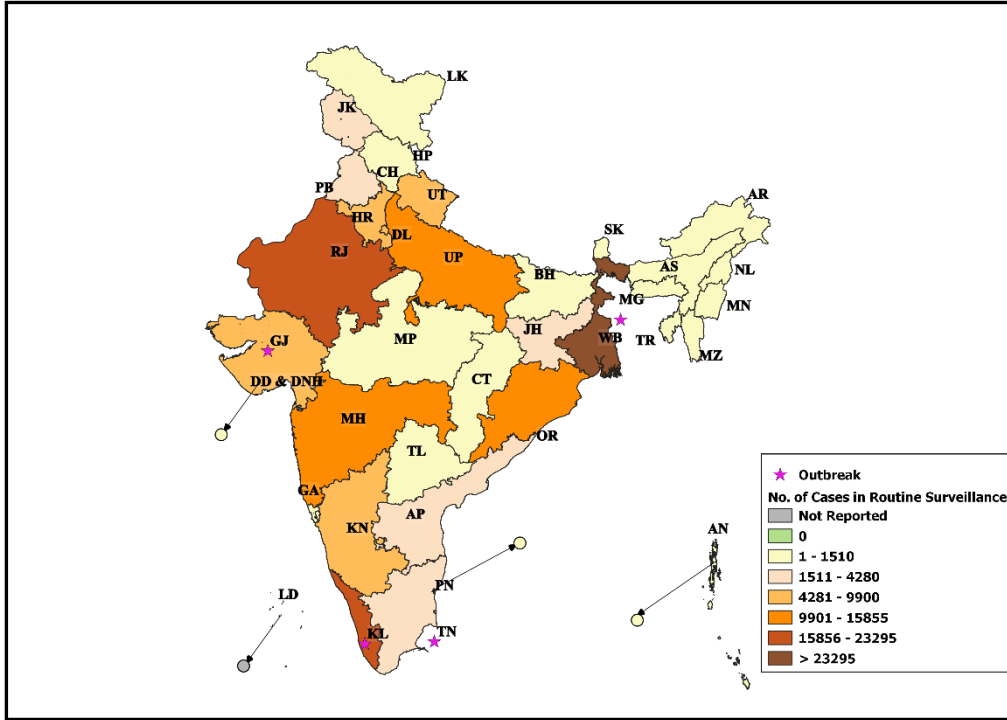


Fig. 10: State/UT wise Lab Confirmed Cholera cases and outbreaks for January 2022

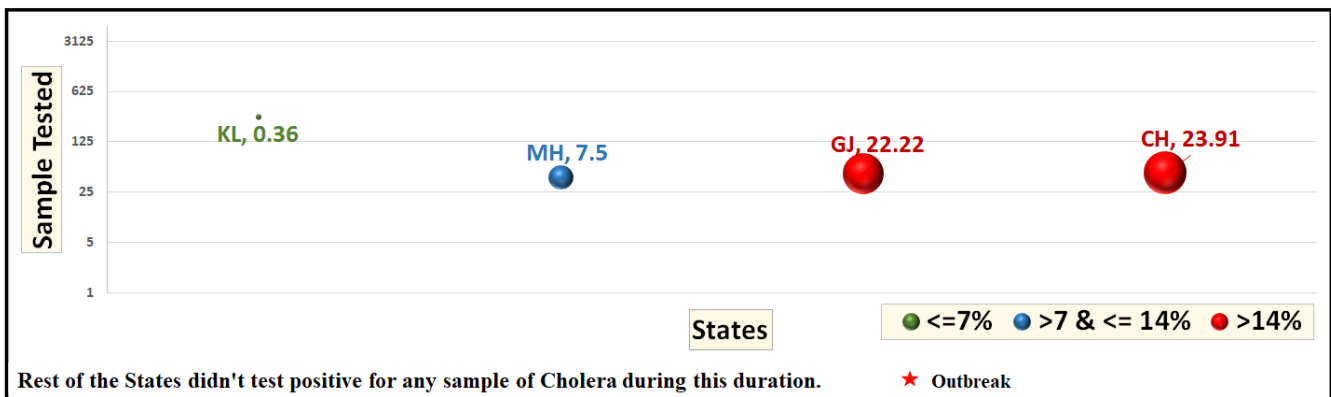
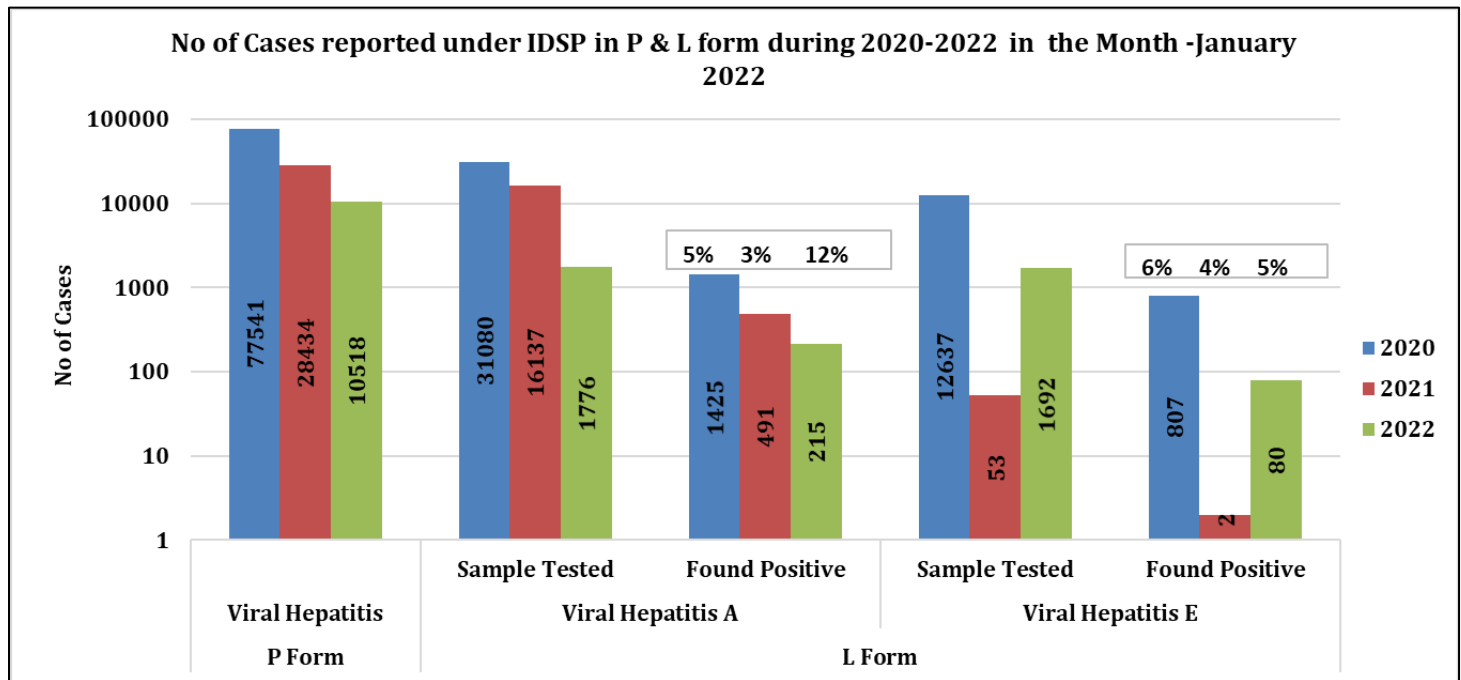


Fig. 11: No. of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during January 2020 - 2022



As shown in Fig. 11, the number of presumptive Viral Hepatitis cases was 77541 in January 2020, 28434 in January 2021 and 10518 in January 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 January 2020; 31080 samples were tested out of which 1425 were found positive. In January 2021 out of 16137 samples, 491 were found to be positive and in January 2022, out of 1776 samples, 215 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 5%, 3% and 12% in January month of 2020, 2021 & 2022 respectively.

As reported in L form for Viral Hepatitis E, in January 2020; 12637 samples were tested out of which 807 were found positive. In January 2021; out of 53 samples, 2 were found to be positive and in January 2022, out of 1692 samples, 80 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 6%, 4% and 5% in January month of 2020, 2021 & 2022 respectively.

Fig. 12: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for January 2022

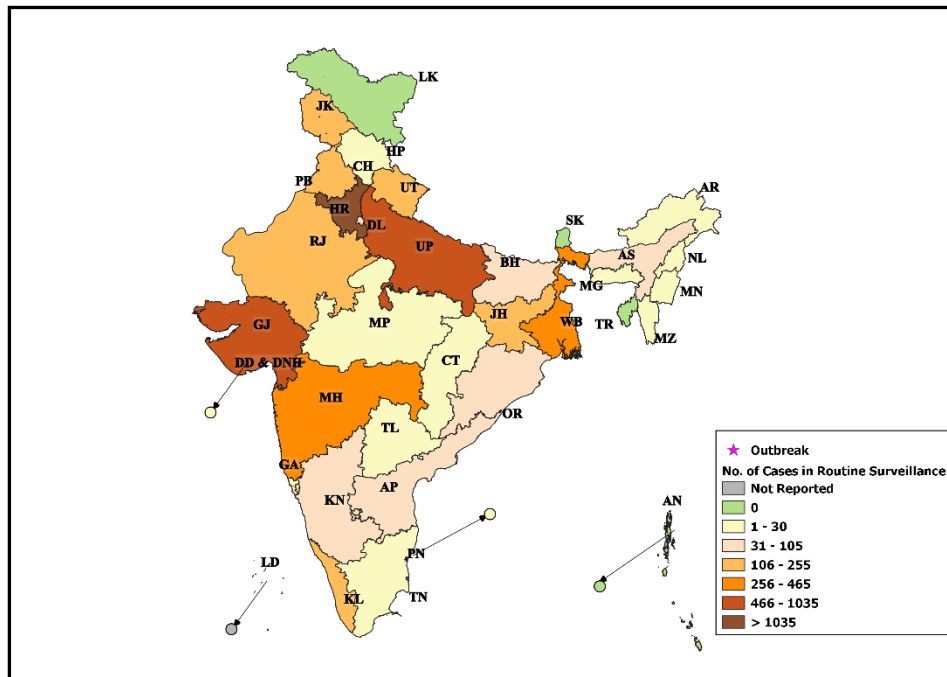


Fig. 13: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for January 2022

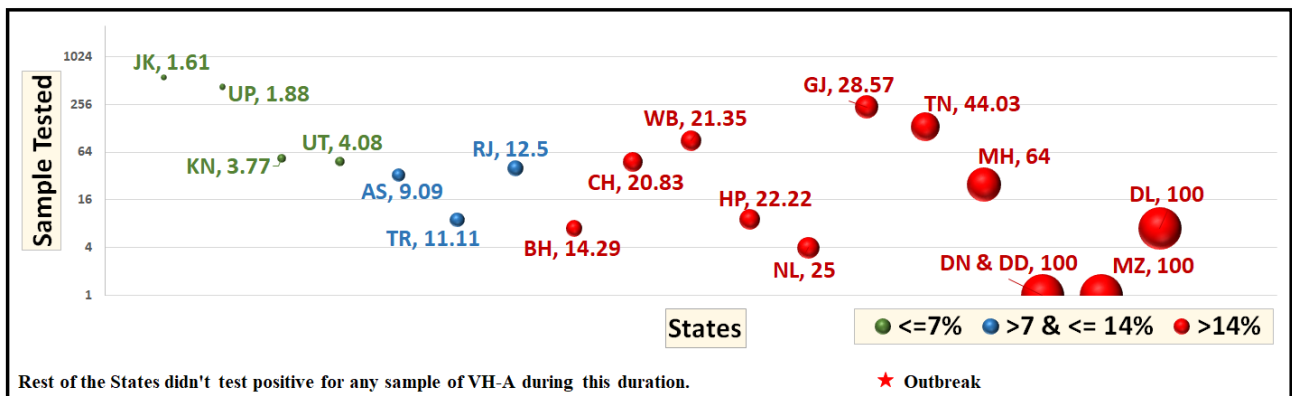


Fig. 14: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for January 2022

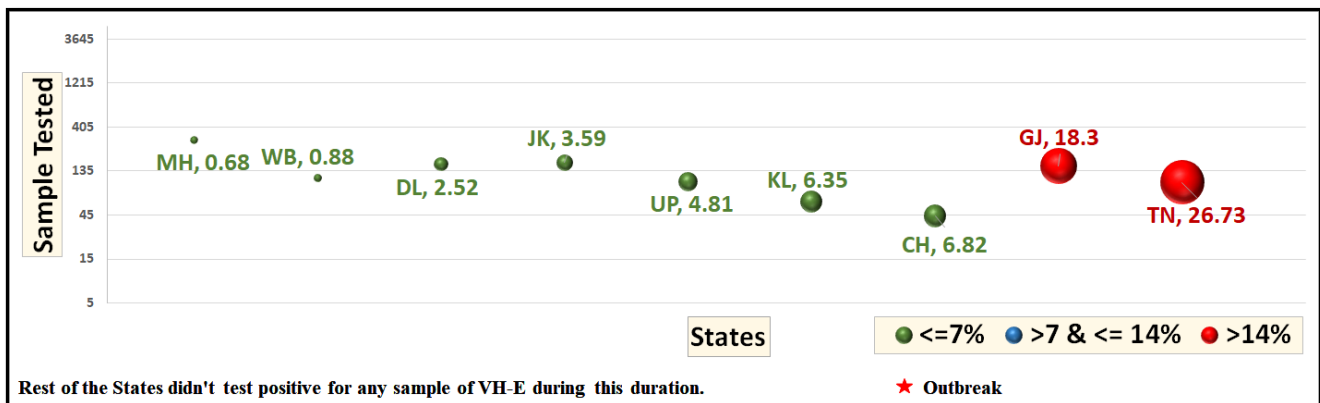
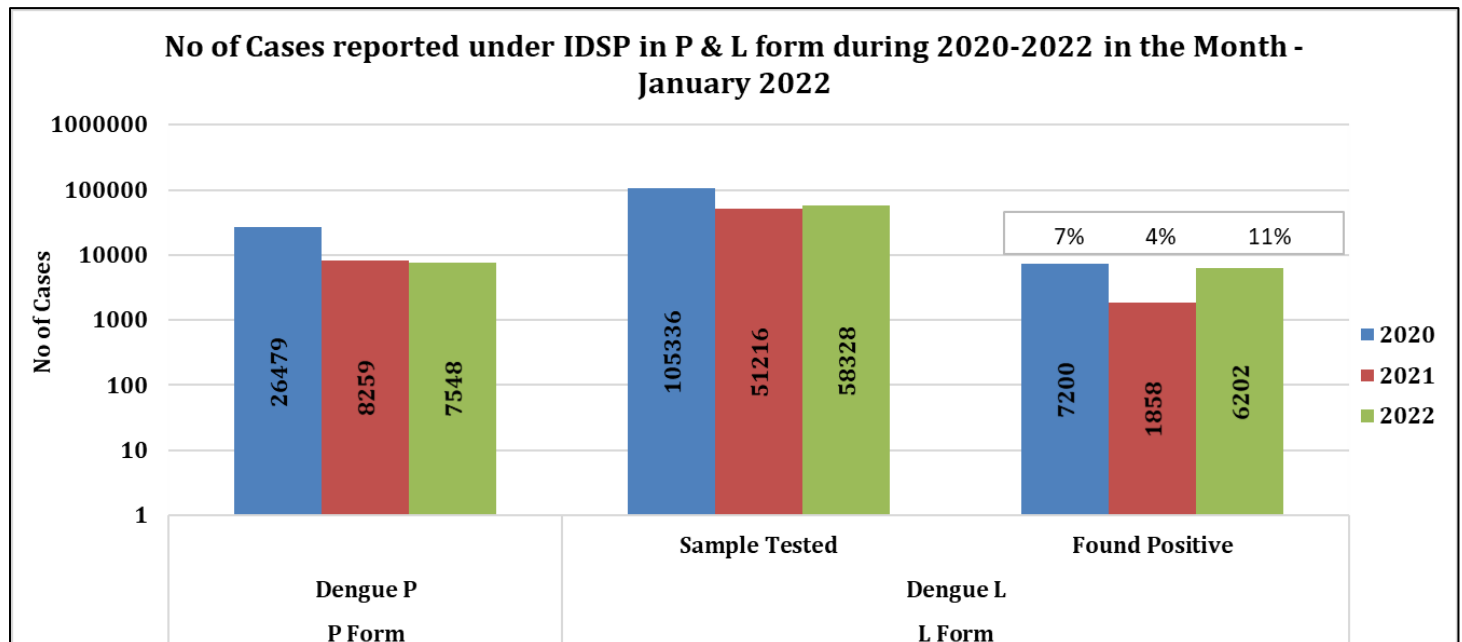


Fig. 15: No. of Dengue cases reported under IDSP in P & L form during January 2022



As shown in Fig. 15, number of presumptive Dengue cases, as reported by States/UTs in ‘P’ form was 24679 in January 2020; 8259 in January 2021 and 7548 in January 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2020; 105336 samples were tested for Dengue, out of which 7200 were found positive. In January 2021; out of 51216 samples, 1858 were found to be positive and in January 2022, out of 58328 samples, 6202 were found to be positive.

Sample positivity of samples tested for Dengue has been 7%, 4 % and 11% in January month of 2020, 2021 & 2022 respectively.

Fig. 16: State/UT wise Lab Confirmed Dengue cases and outbreaks for January 2022

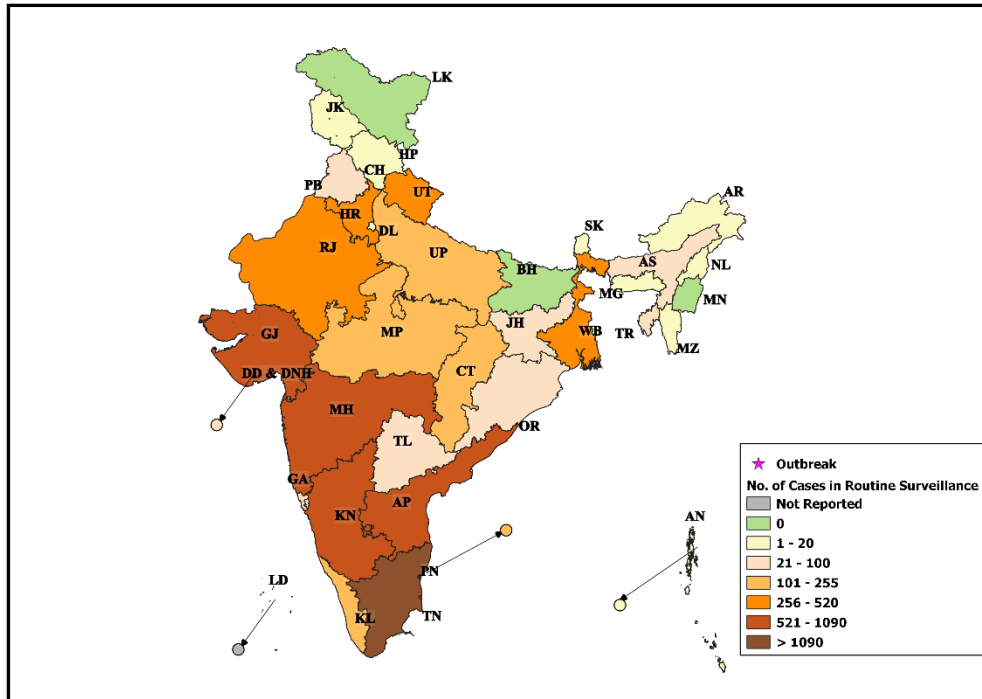


Fig. 17: State/UT wise Presumptive Dengue cases and outbreaks for January 2022

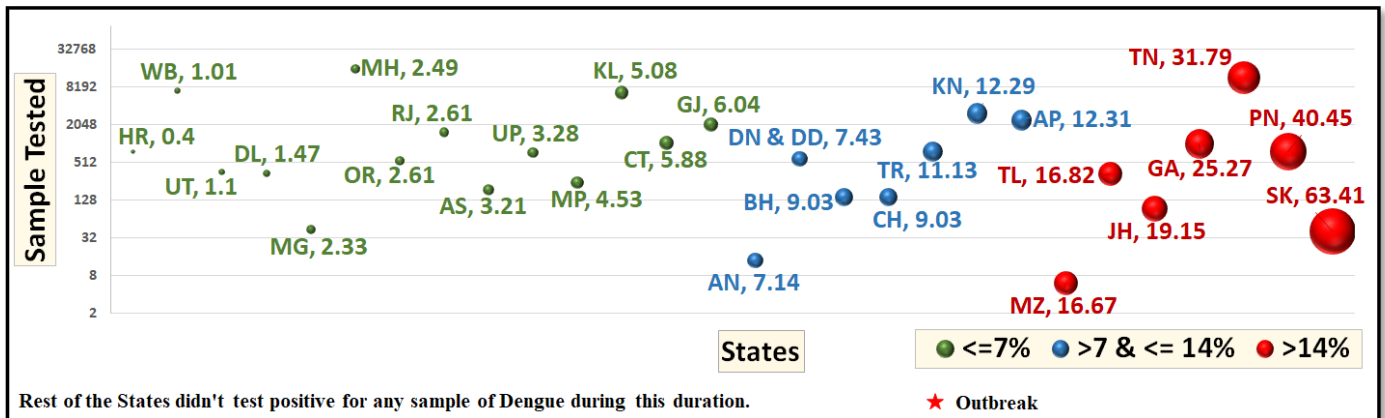
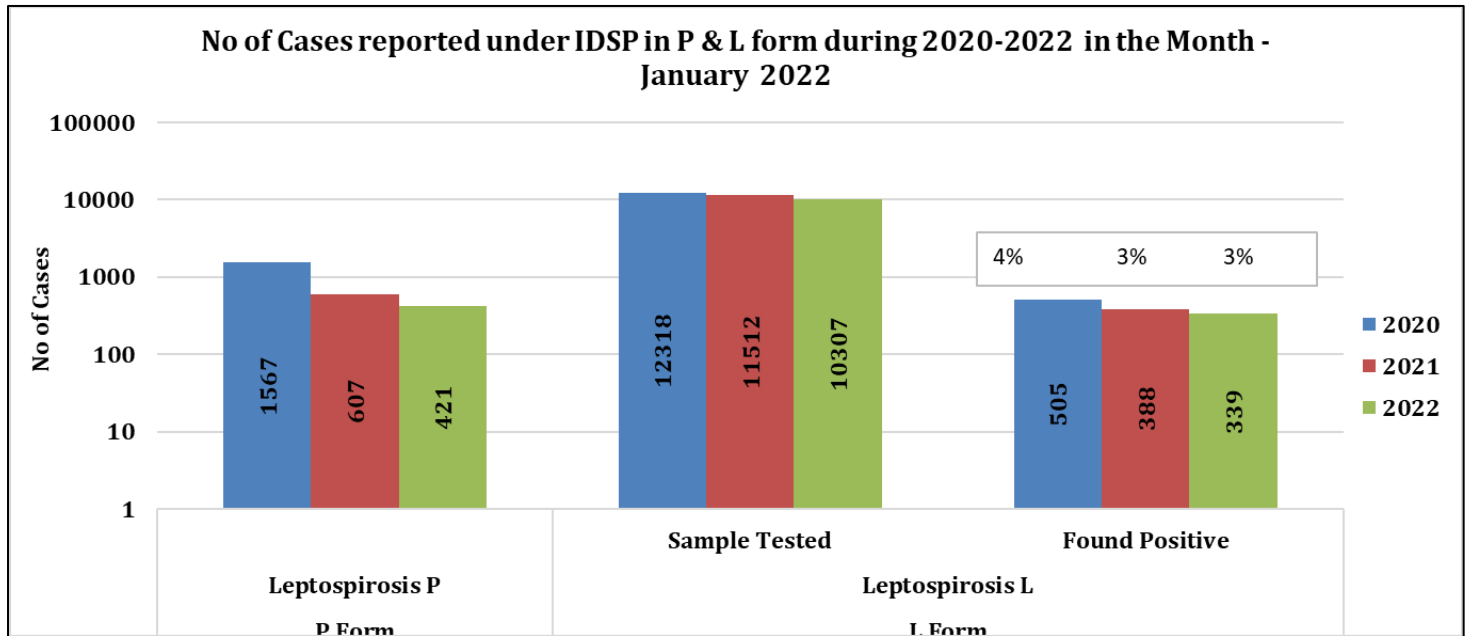


Fig. 18: No. of Leptospirosis Cases reported under IDSP in P & L form during January 2020 - 2022



As shown in Fig. 18, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 1567 in January 2020; 607 in January 2021 and 421 in January 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2020; 12318 samples were tested for Leptospirosis, out of which 505 were found positive. In January 2021; out of 11512 samples, 388 were found to be positive and in January 2022, out of 10307 samples, 339 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 4%, 3% and 3% in January month of 2020, 2021 & 2022 respectively.

Fig. 19: State/UT wise Presumptive Leptospirosis cases and outbreaks for January 2022

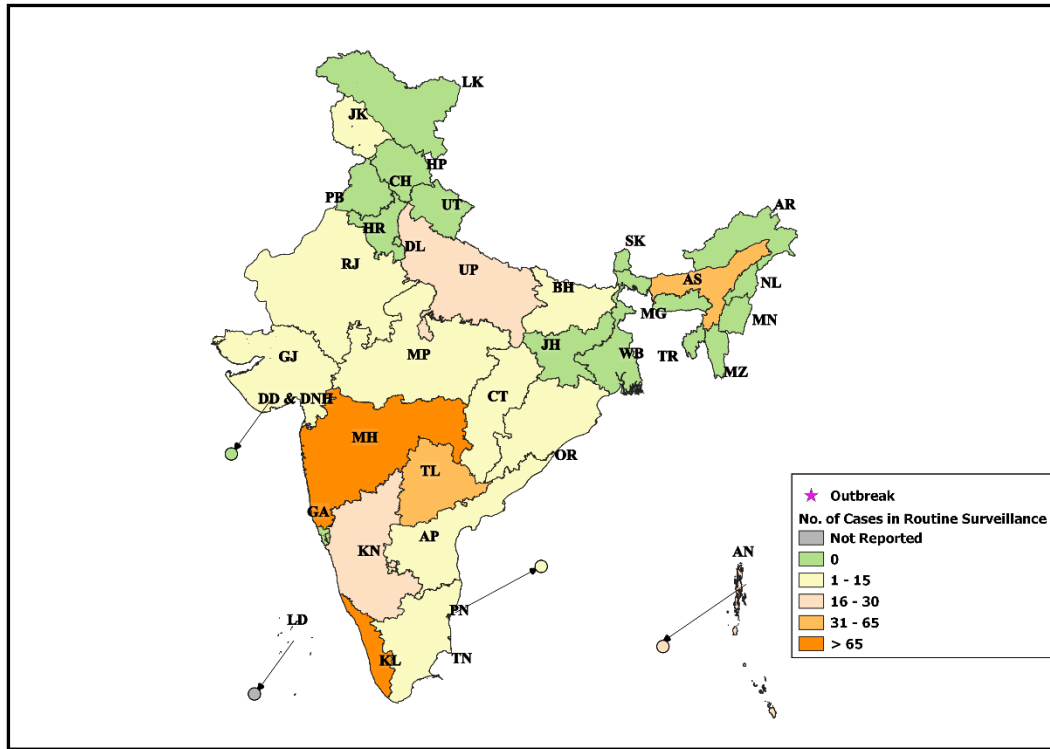


Fig. 20: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for January 2022

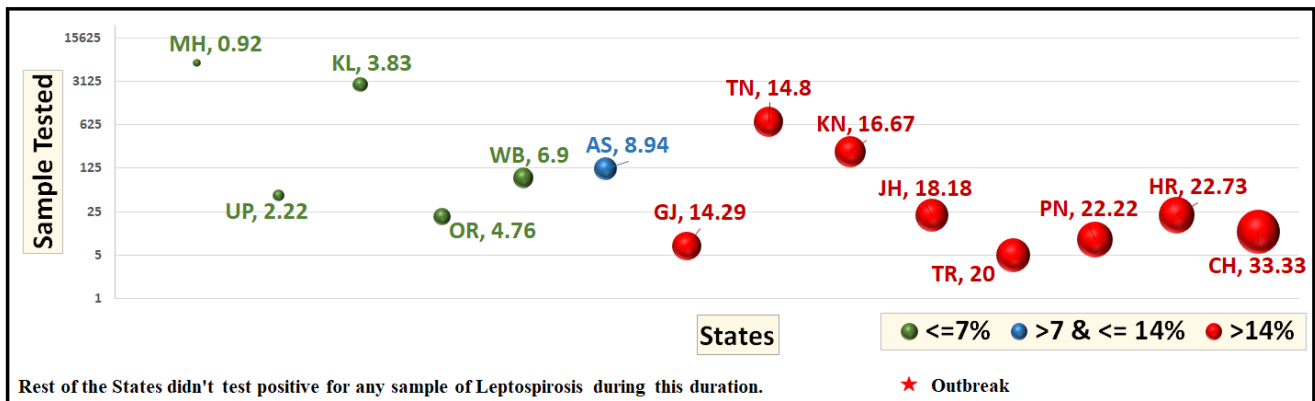
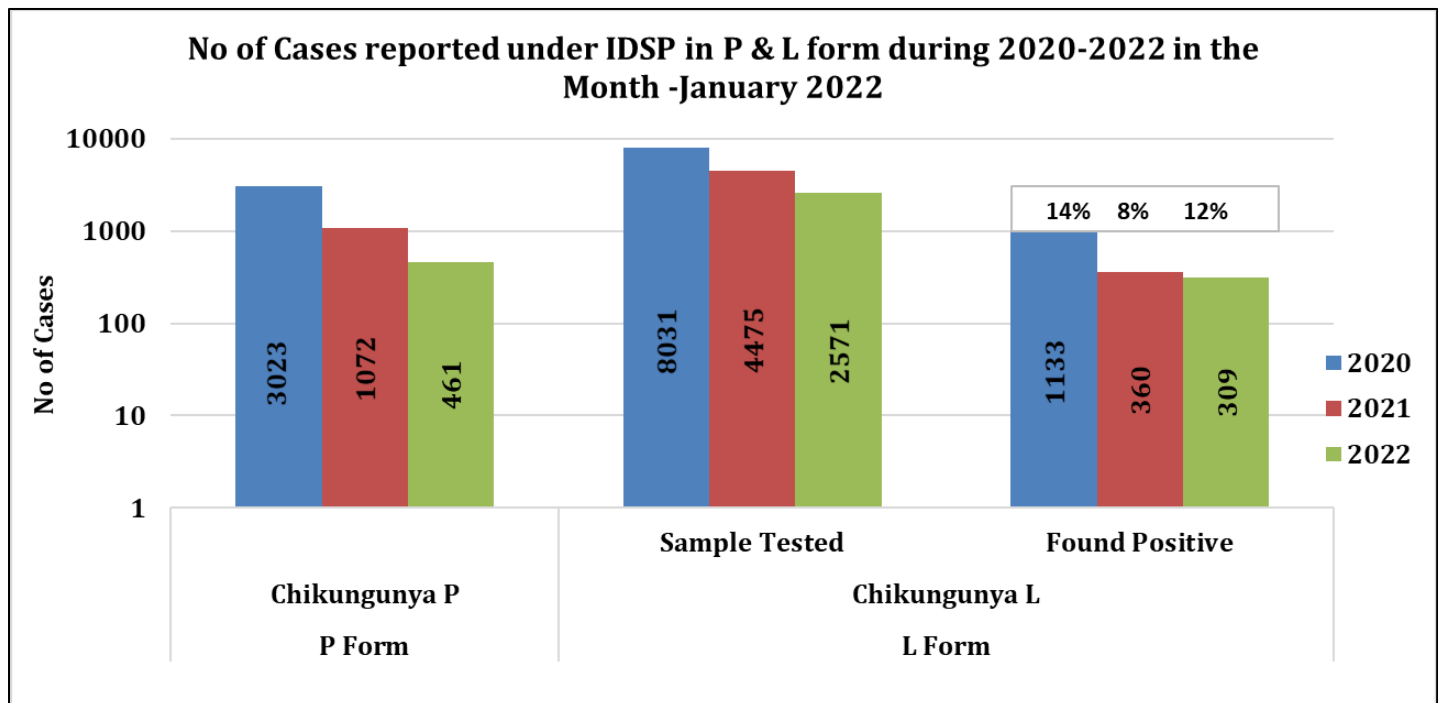


Fig. 21: No. of Chikungunya Cases reported under IDSP in P & L form during January 2020 - 2022



As shown in Fig. 21, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 3023 in January 2020; 1072 in January 2021 and 461 in January 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in January 2020; 8031 samples were tested for Chikungunya, out of which 1133 were found positive. In January 2021; out of 4475 samples, 360 were found to be positive and in January 2022, out of 2571 samples, 309 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 14%, 8% and 12% in January month of 2020, 2021 & 2022 respectively.

Fig. 22: State/UT wise Presumptive Chikungunya cases and outbreaks for January 2022

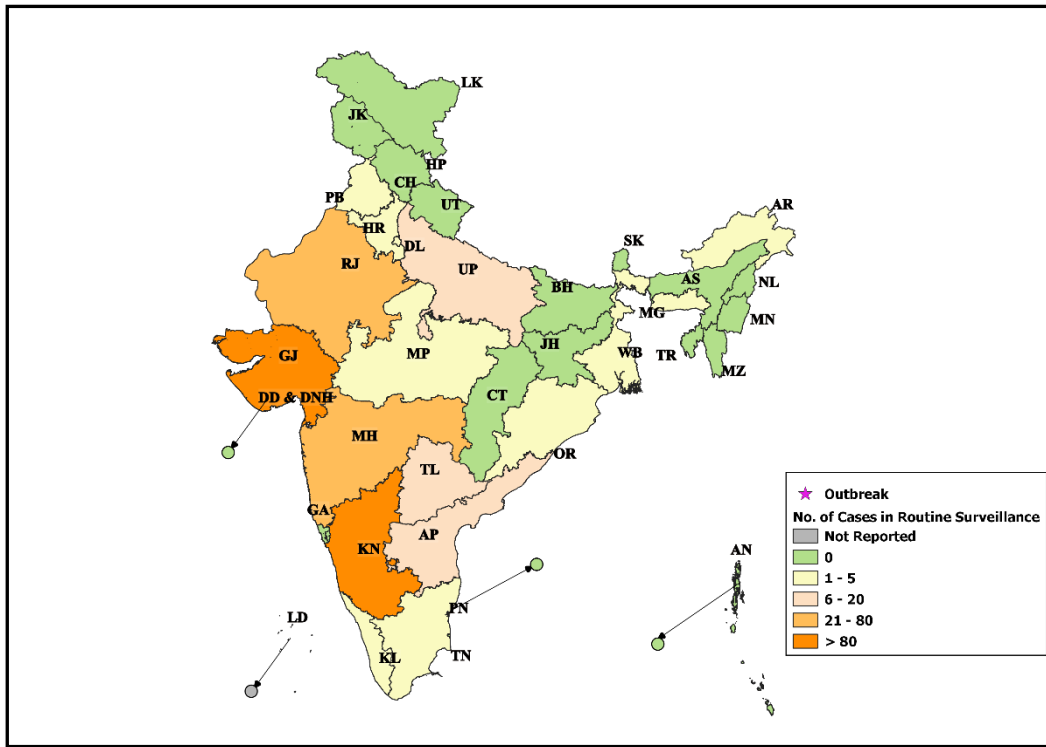


Fig. 23: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for January 2022

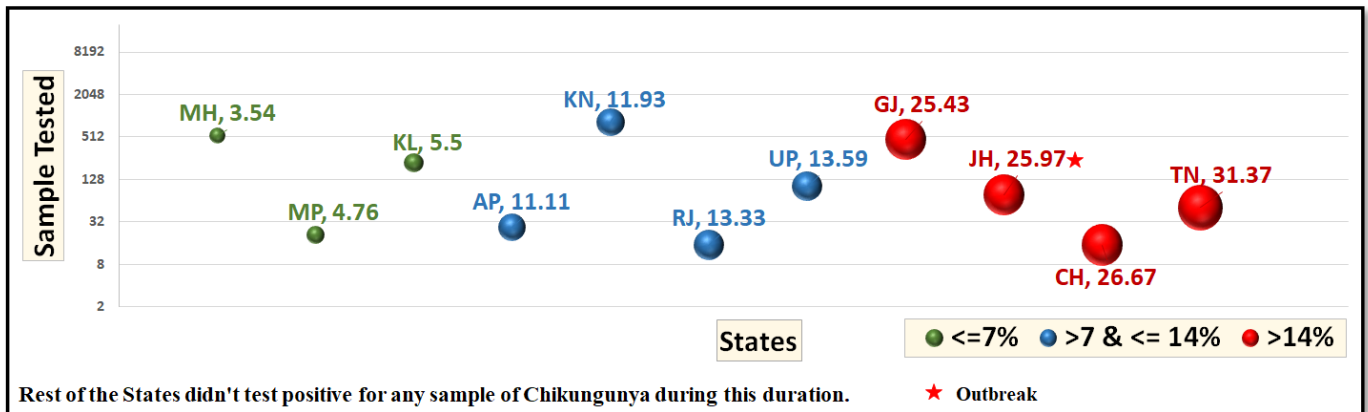
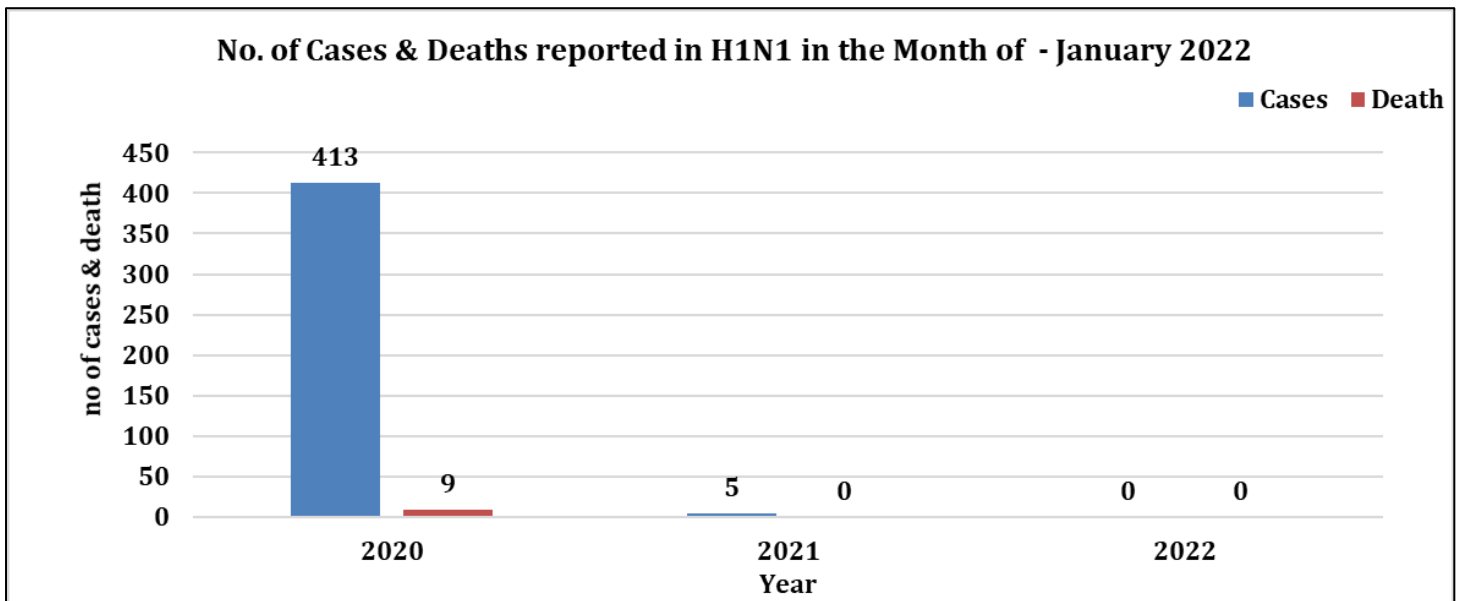


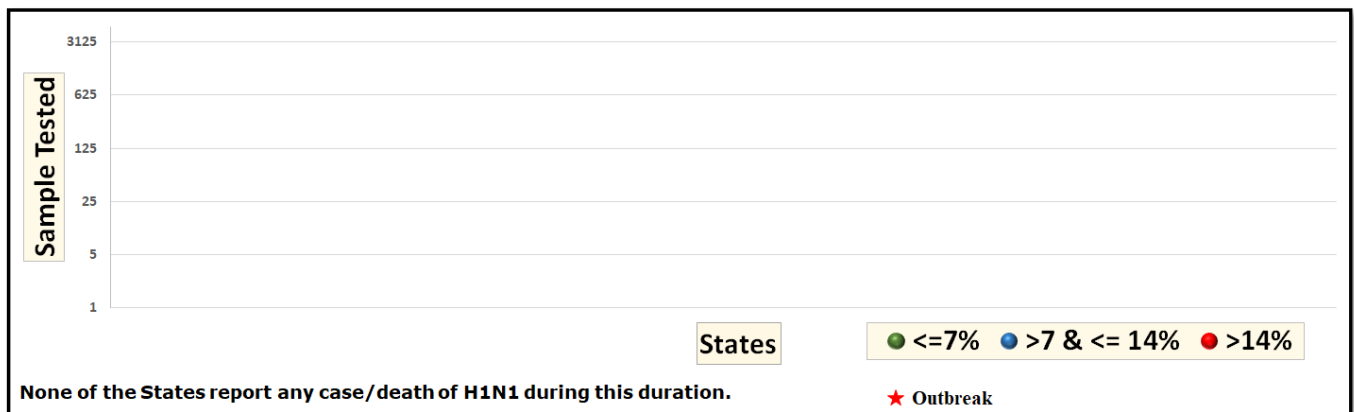
Fig. 24: H1N1 cases & deaths reported under IDSP in L Form during 2020-2022 in January



As shown in Fig. 24, as reported in L form, in January 2020, there were 413 cases and 9 deaths. In January 2021, there were 5 cases and 0 deaths; and in January 2022, there were 0 cases and 0 deaths.

Case fatality rate for H1N1 were 2.2%, 0.00% and 0.00 % in January month of 2020, 2021 & 2022 respectively.

Fig. 25: State/UT wise H1N1 cases and outbreaks for January 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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