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# Disease Alert

## प्रकोप चेतावनी

**Monthly Surveillance Report**  
**From**  
**Integrated Disease Surveillance Programme**  
**National Health Mission**

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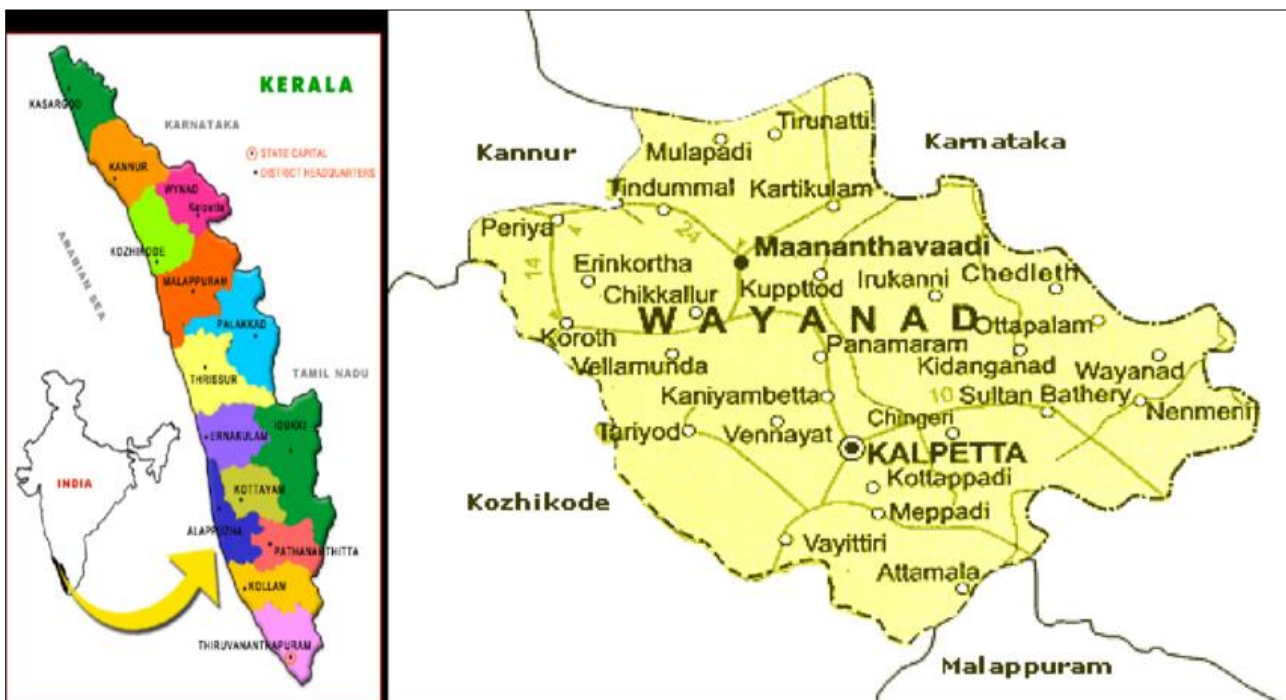
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**INVESTIGATION REPORT OF MUMPS OUTBREAK –**  
**PHC VARADOOR, WAYANAD DISTRICT, KERALA**

## BACKGROUND

Sub centre Palliyara is under Panchayat Kaniyambatta in Wayanad district of Kerala. The area falls in PHC Varadoor. Wayanad is situated in North-Eastern side in Kerala and is in continuation of Mysore plateau. It is mostly a hilly and less populated area.

According to 2011 census of India, Wayanad district has population of about 8.17 lakhs. District headquarter is Kalpetta. The sex ratio is 1035:1000 (Female: Male). The average literacy of district is 89.03%.



*Fig. 1: Wayand District*

### **EPIDEMIOLOGY OF MUMPS:**

According to WHO ([Mumps \(who.int\)](https://www.who.int)), Mumps is an acute disease of children and young adults. It is caused by a paramyxovirus of which there is only a single serotype. Humans are the only known host for mumps virus, which spreads via direct contact or by airborne droplets from the upper respiratory tract of infected individuals.

It is frequently reported in children aged 5-9 years of age, although both adolescents and adults may be affected. After an incubation period of some 2 to 4 weeks, mumps begins with non-specific symptoms such as myalgia, headache, malaise and low-grade fever. Within days, these symptoms are followed by unilateral or bilateral swelling of the parotid salivary glands, with other salivary glands affected in 10% of cases.

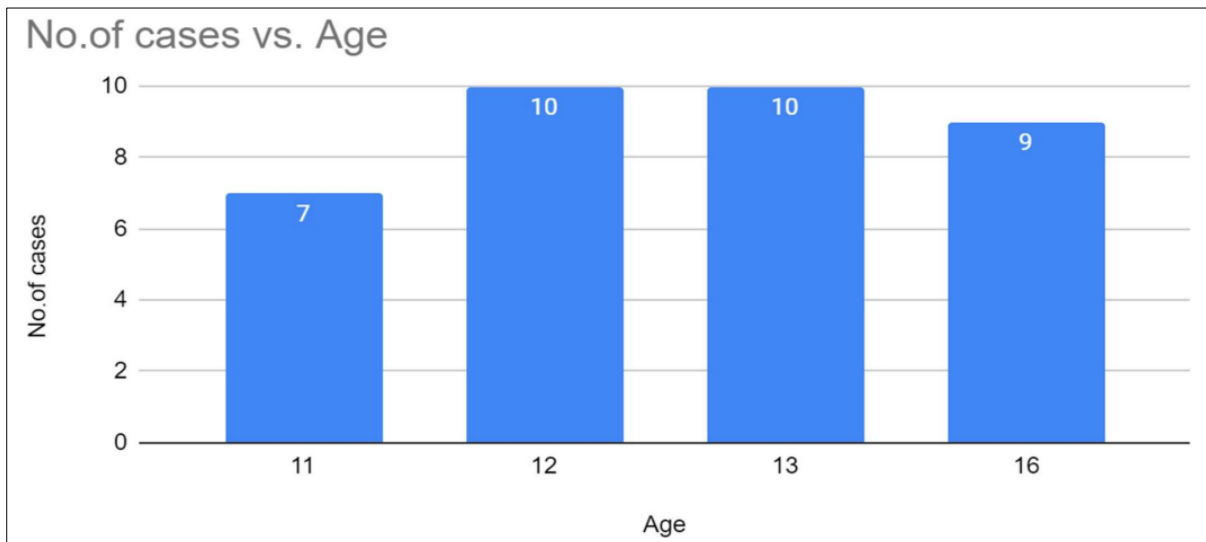
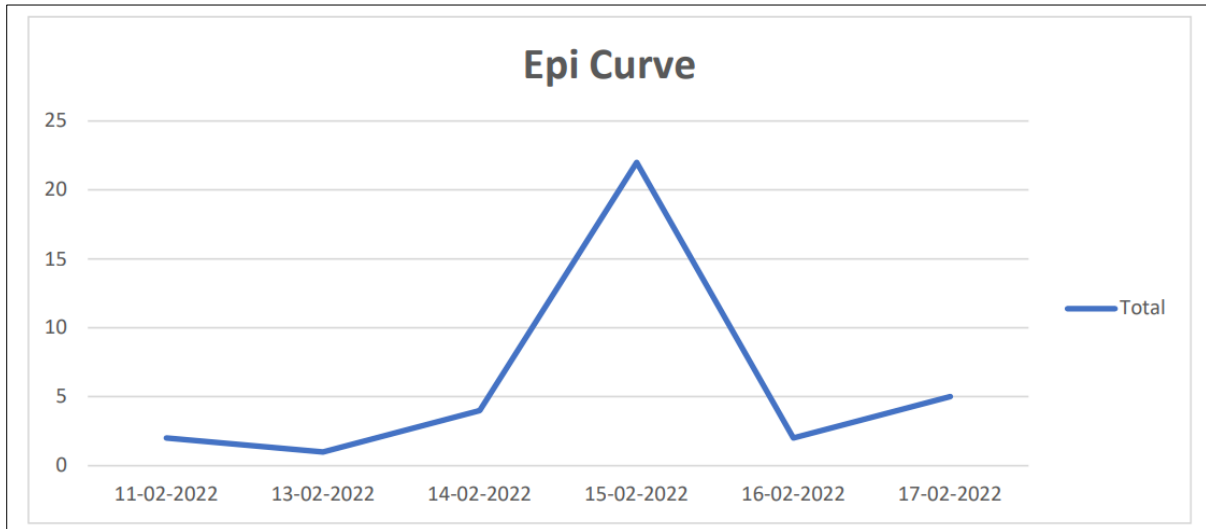
**Mumps vaccines:** Live attenuated mumps vaccines based on live attenuated virus strains including the Jeryl-Lynn, RIT 4385, Leningrad-3, Leningrad-Zagreb, Urabe Am9, S79, Rubini, and others, have been available since the 1960s. However, due to the low level of seroconversion obtained with the Rubini strain, WHO has recommended that this strain should not be used in national immunization programmes. These vaccines are produced by growing the virus in cell cultures or in embryonated chicken eggs. The virus is then purified, formulated with a stabilizer such as gelatine or sorbitol and lyophilized. Mumps vaccines are available as a monovalent vaccine, a bivalent measles-mumps vaccine, or as a trivalent measles-mumps-rubella vaccine (MMR).

In countries like India where large-scale immunizations have been implemented, Measles incidence has come down significantly. In IDSP, sporadic outbreaks of Mumps have been reported over the years.

### **OUTBREAK CHRONOLGY:**

On 11th February, cases of swollen glands with pain was reported from Government Model Residence School for Girls falling under SC Palliyara, PHC Varadoor.

On receipt of this information, District RRT was deployed in the area to further investigate and initiate control measures.



**Following were the key findings of RRT team:**

- The residential school has 343 students along with 52 teaching & non-teaching staff.
- On case finding, 30 cases were identified in various phases of illness
- The affected patients were between 11 and 17 years of age.
- All the affected patients indicated had swollen gland in the neck (i.e., salivary gland) with pain in the swollen region. They also indicated that pain was accentuated on chewing. Few patients also reported fever, lethargy, and malaise.
- All cases were isolated in hostel and given symptomatic treatment.

**LABORATORY INVESTIGATIONS:**

10 blood samples were collected and sent to NIV, Alappuzha. Out of these, 5 tested positive for Mumps by IgM ELISA.

**CONTROL MEASURES TAKEN:** These included –

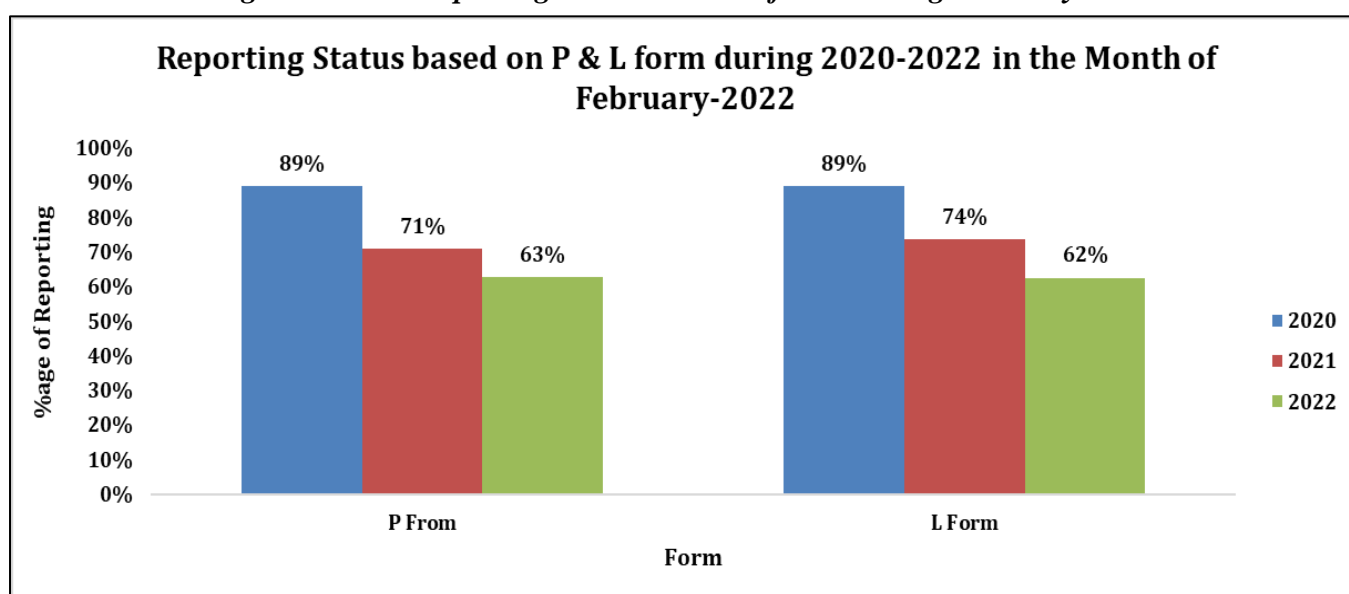
1. Affected patients were isolated in the hostel itself.
2. Symptomatic treatment given to all cases.
3. Medical camp organized in the area.
4. Symptomatic surveillance continued on a daily basis.
5. Health education regarding Mumps and personal hygiene given.

**RECOMMENDATIONS:** Following are the recommendations to reduce risk of Mumps –

1. Mumps vaccination is part of routine immunization. It usually given as part of MMR (Mumps, Measles, Rubella) vaccine. Indian Academy of Pediatrics (IAP) recommends 2 doses of MMR – one at 15-18 months and second at 4-6 years of age (at school entry).
2. Mumps has an incubation period (IP) of 16-18 days. It is recommended to isolate patients for at least 5 days after onset of parotitis.
3. Since Mumps usually spreads by direct contact or through airborne droplets, precautions in these regards is warranted.

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

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



As shown in Fig. 2, in February 2020, 2021 and 2022, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 89 %, 71% and 63% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 89%, 74% and 62% 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 February 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 February 2022

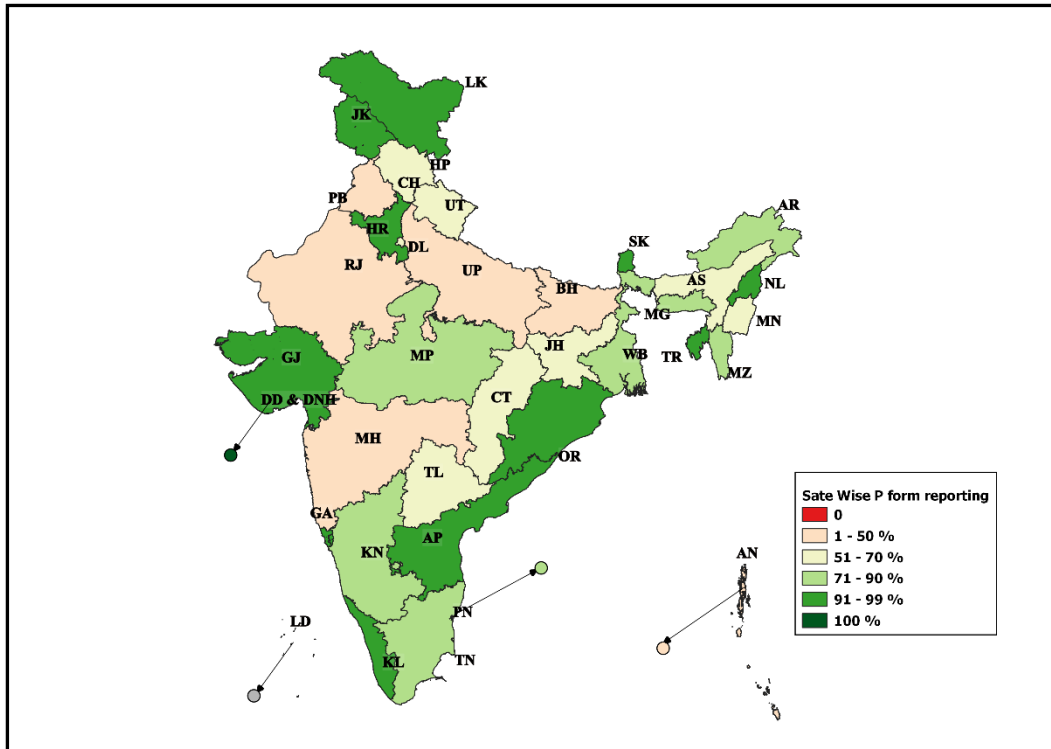


Fig. 4: State/UT wise L form completeness % for February 2022

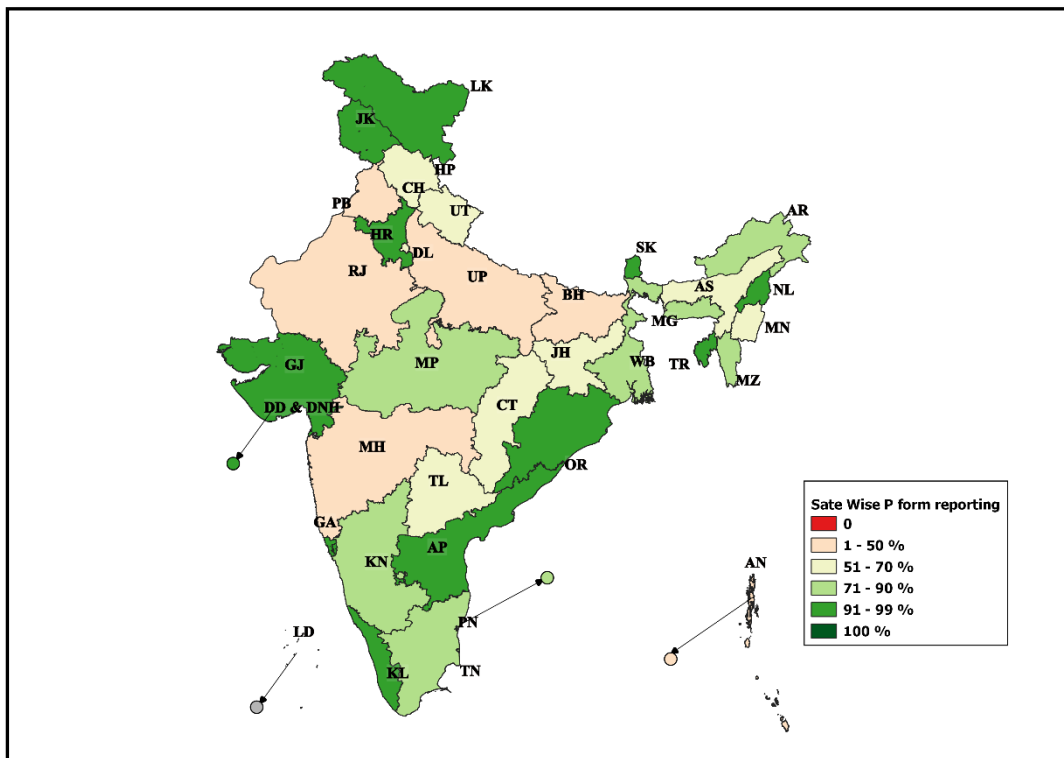
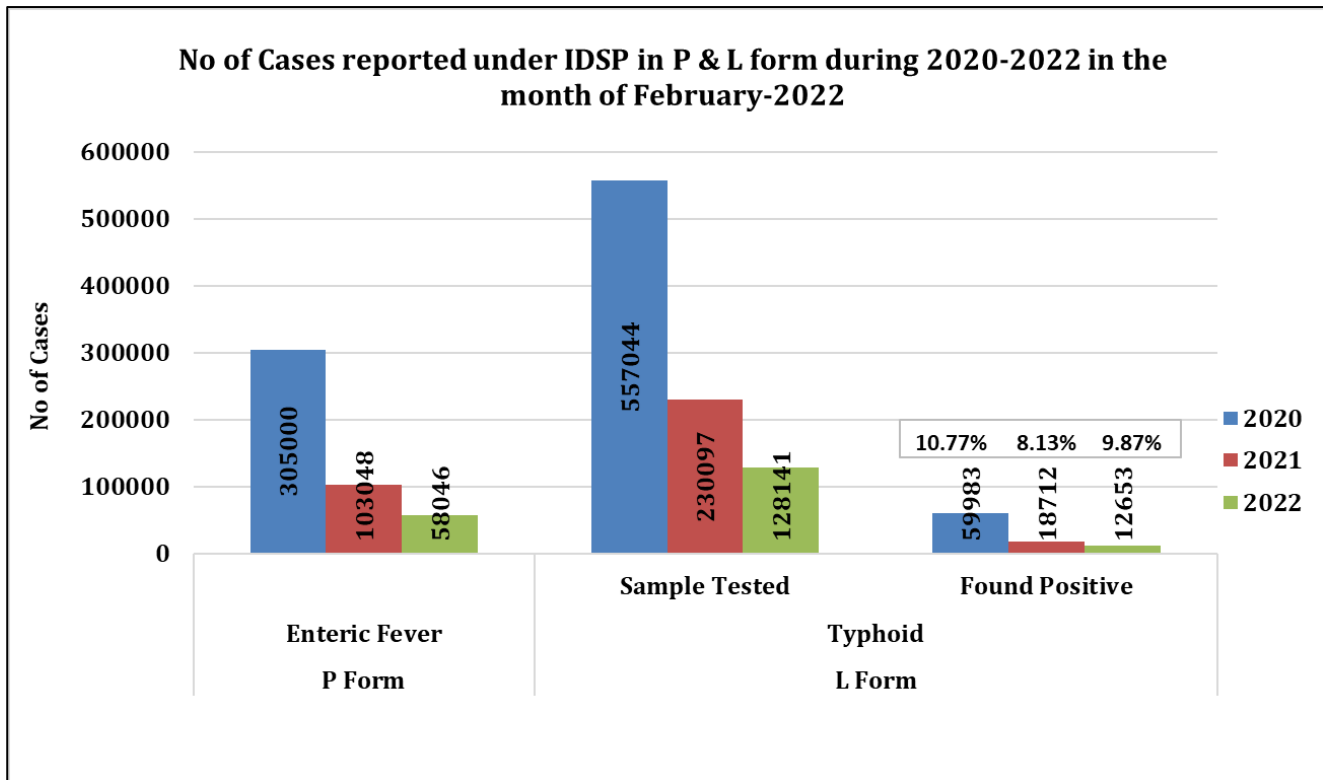


Fig. 5: No. of Enteric Fever Cases reported under P & L form during February 2020 - 2022



As shown in Fig. 5, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 305000 in February 2020; 103048 in February 2021 and 58046 in February 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in February 2020; 557044 samples were tested for Typhoid, out of which 59983 were found positive. In February 2021; out of 230097 samples, 18712 were found to be positive and in February 2022, out of 128141 samples, 12653 were found to be positive.

Sample positivity has been 10.8%, 8.1% and 9.9 % in February 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 February 2022

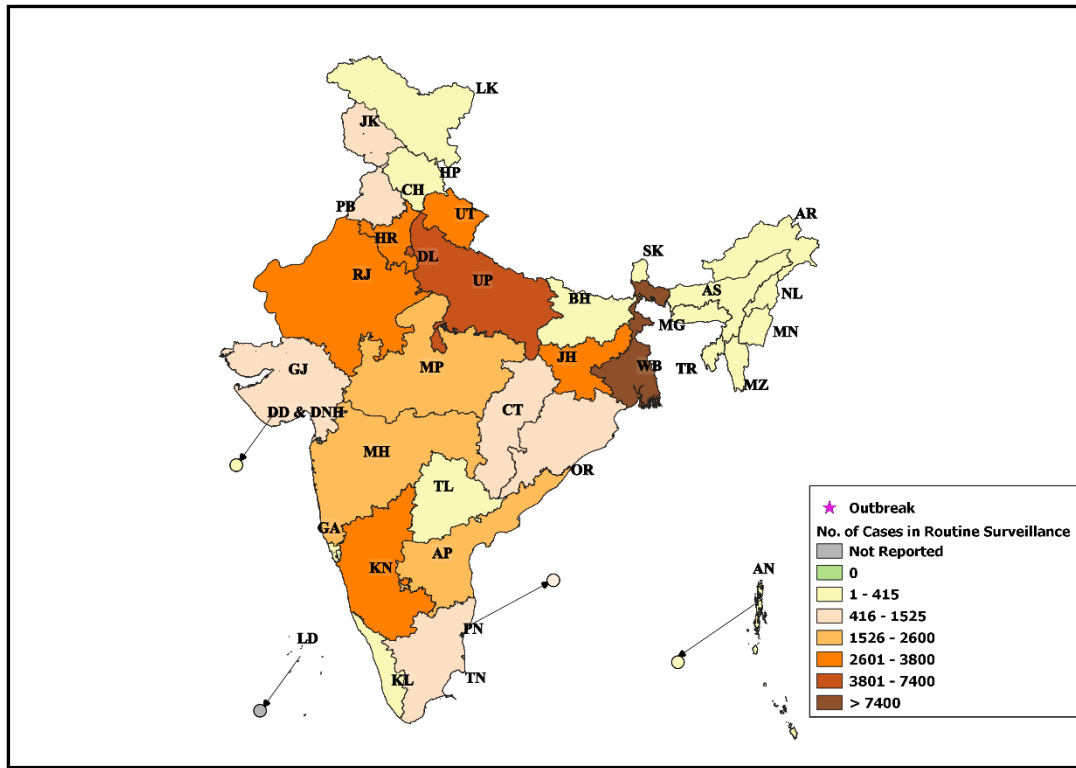
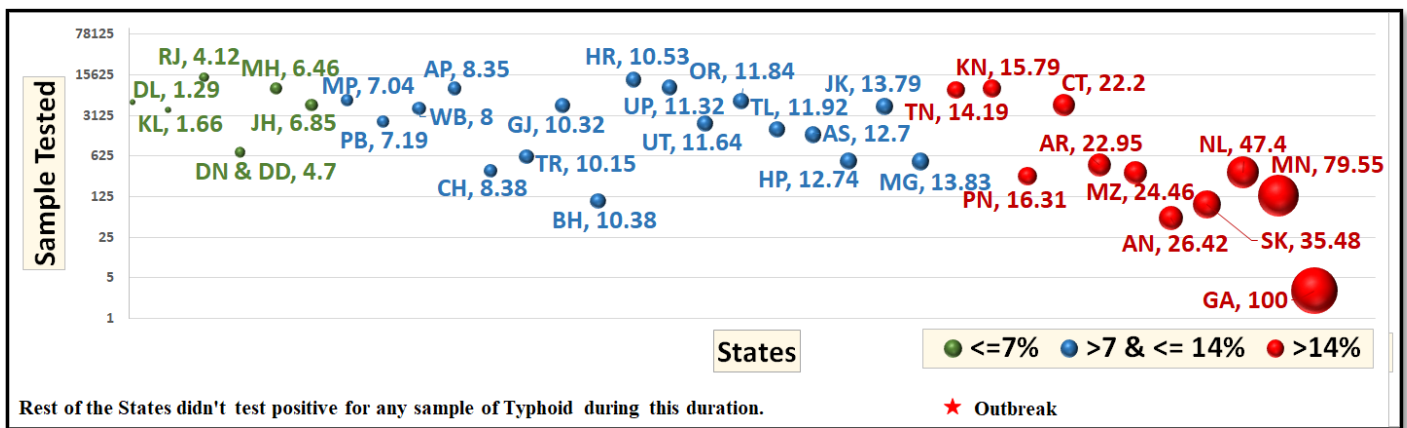
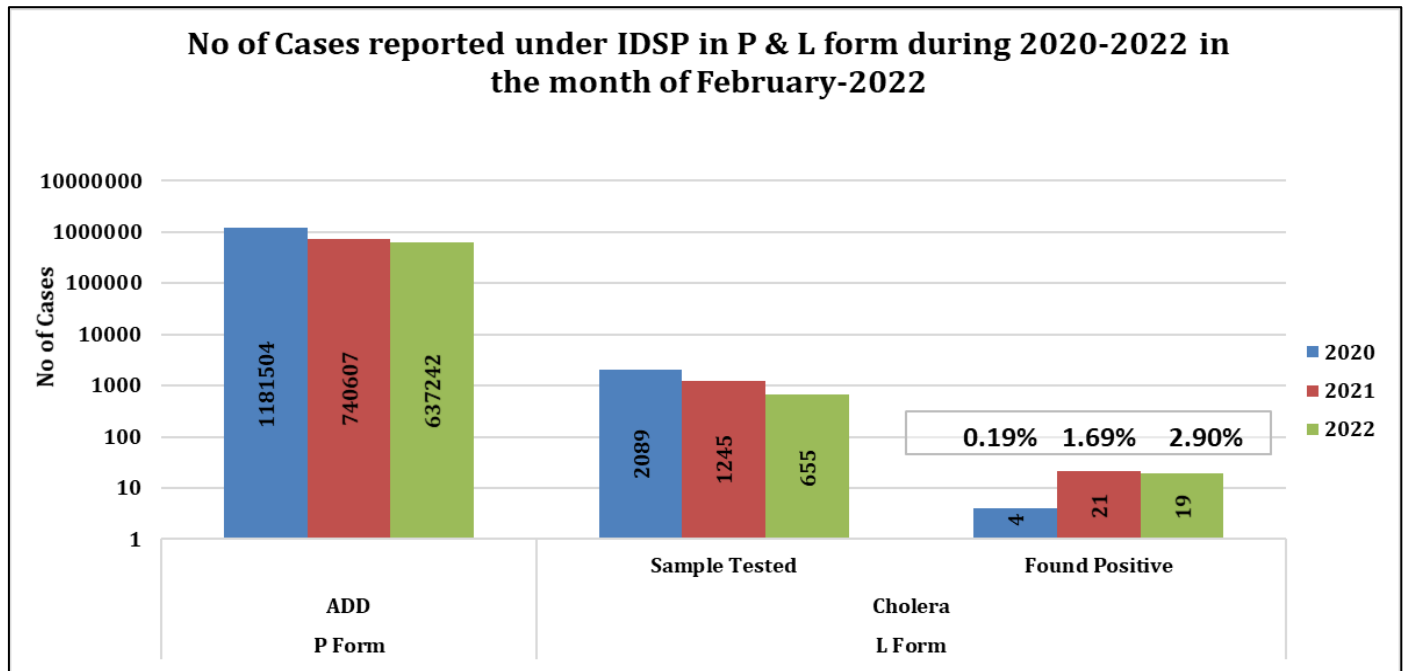


Fig. 7: State/UT wise Lab Confirmed Typhoid cases and outbreaks for February 2022



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



As shown in Fig. 8, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1181504 in February 2020, 740607 in February 2021 and 637242 in February 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in February 2020, 2089 samples were tested for Cholera out of which 4 tested positive; in February 2021, out of 1245 samples, 21 tested positive for Cholera and in February 2022, out of 655 samples, 19 tested positive.

Sample positivity of samples tested for Cholera has been 0.2 %, 1.69% and 2.9 % in February month of 2020, 2021 & 2022 respectively.

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

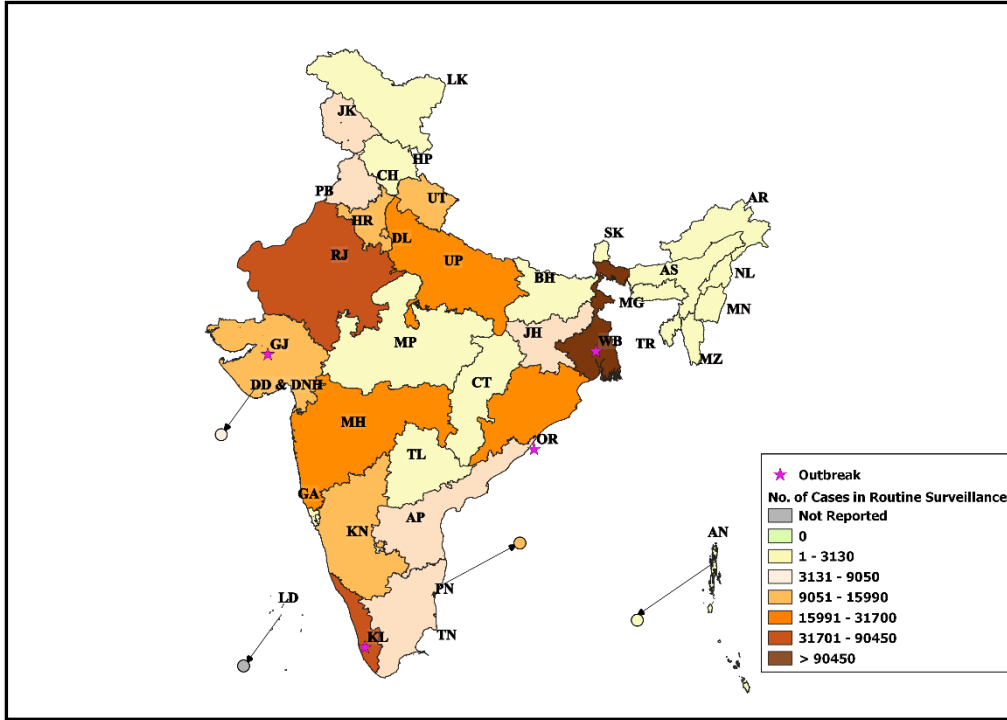
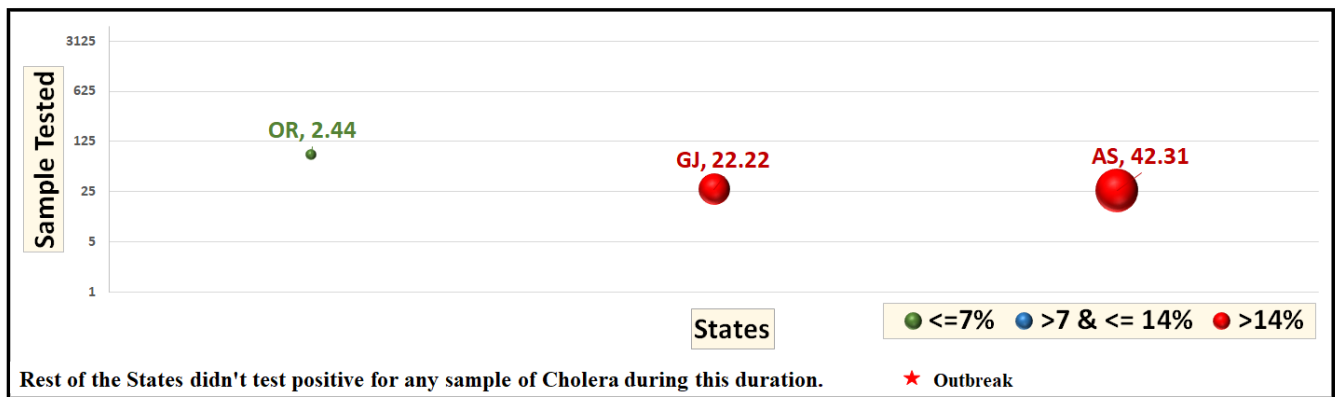
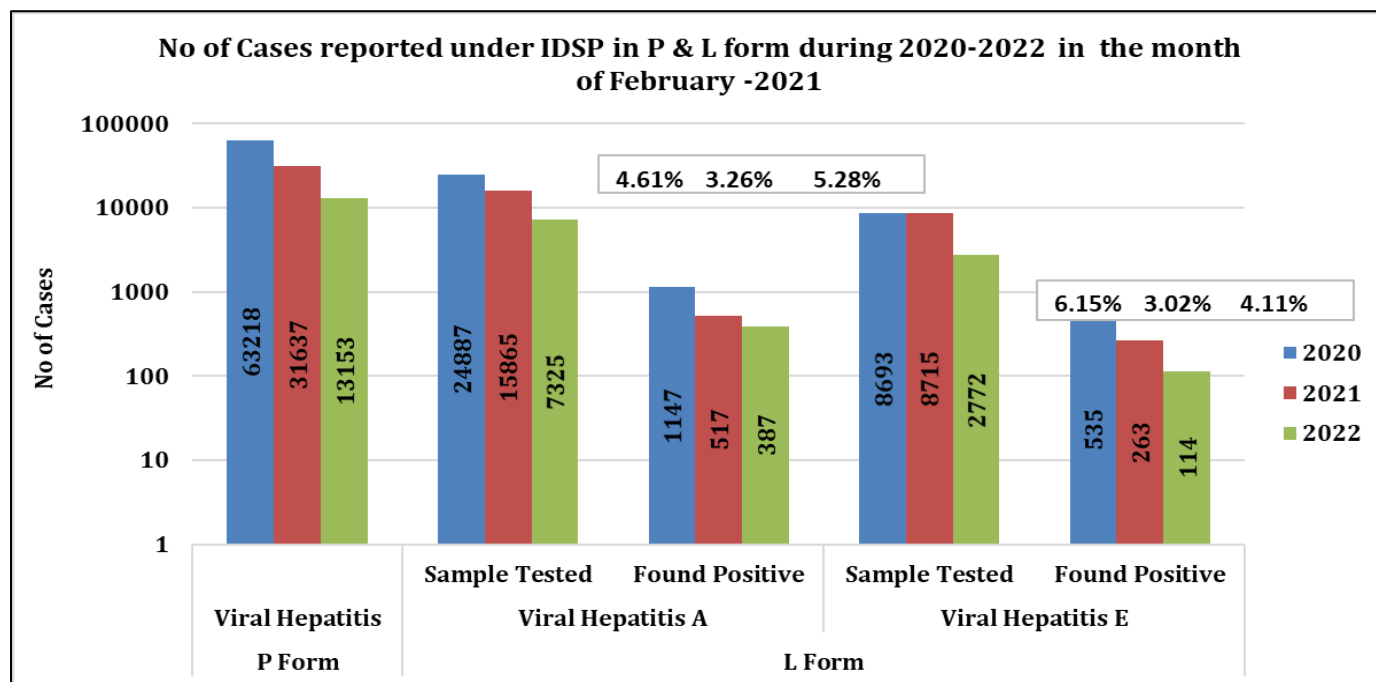


Fig. 10: State/UT wise Lab Confirmed Cholera cases and outbreaks for February 2022



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



As shown in Fig. 11, the number of presumptive Viral Hepatitis cases was 63218 in February 2020, 31637 in February 2021 and 13153 in February 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 February 2020; 24887 samples were tested out of which 1147 were found positive. In February 2021 out of 15865 samples, 517 were found to be positive and in February 2022, out of 7325 samples, 387 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 4.6%, 3.3% and 5.3% in February month of 2020, 2021 & 2022 respectively.

As reported in L form for Viral Hepatitis E, in February 2020; 8693 samples were tested out of which 535 were found positive. In February 2021; out of 8715 samples, 263 were found to be positive and in February 2022, out of 2772 samples, 114 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 6.2%, 3% and 4.1% in February month of 2020, 2021 & 2022 respectively.

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

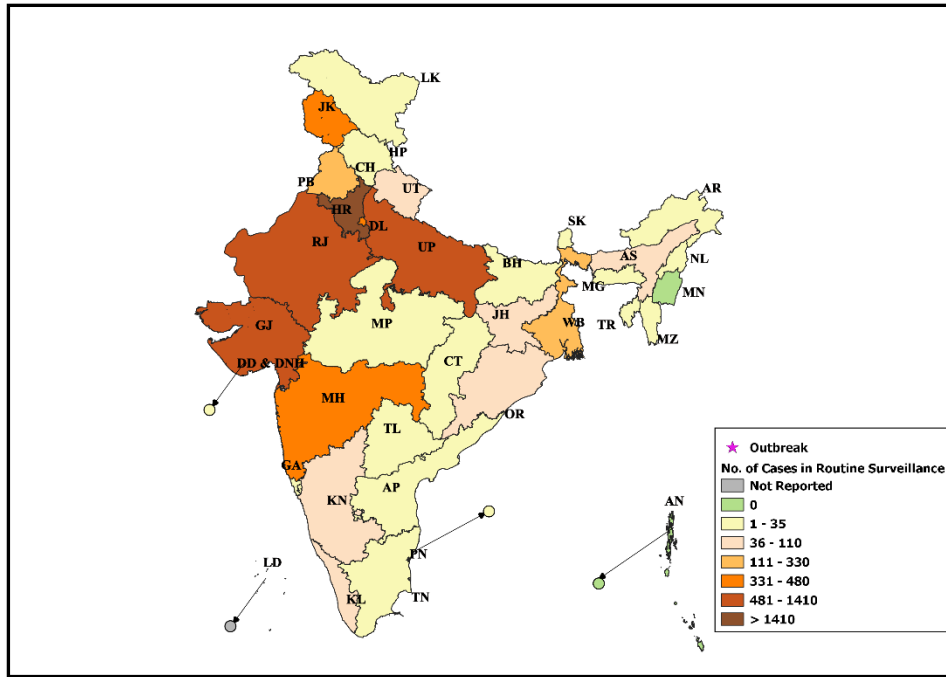


Fig. 13: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for February 2022

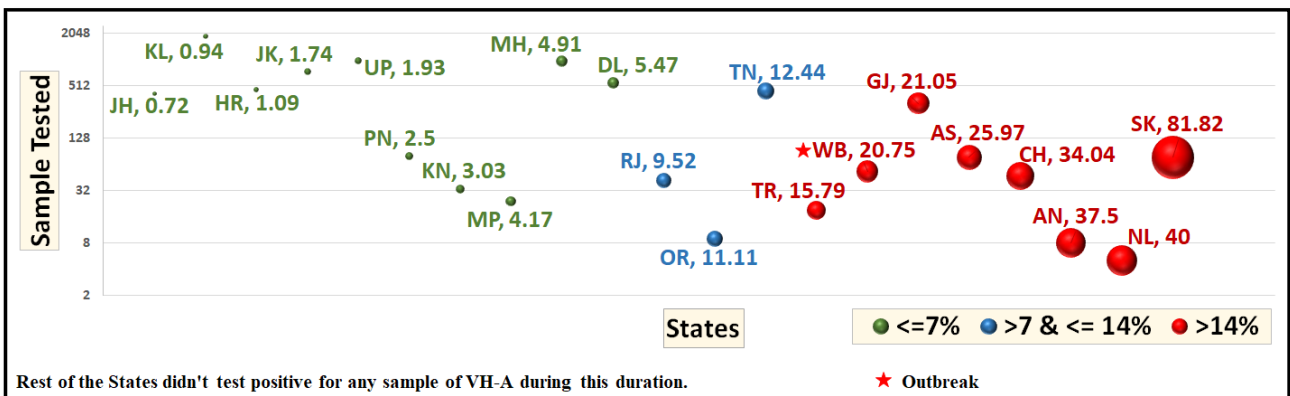
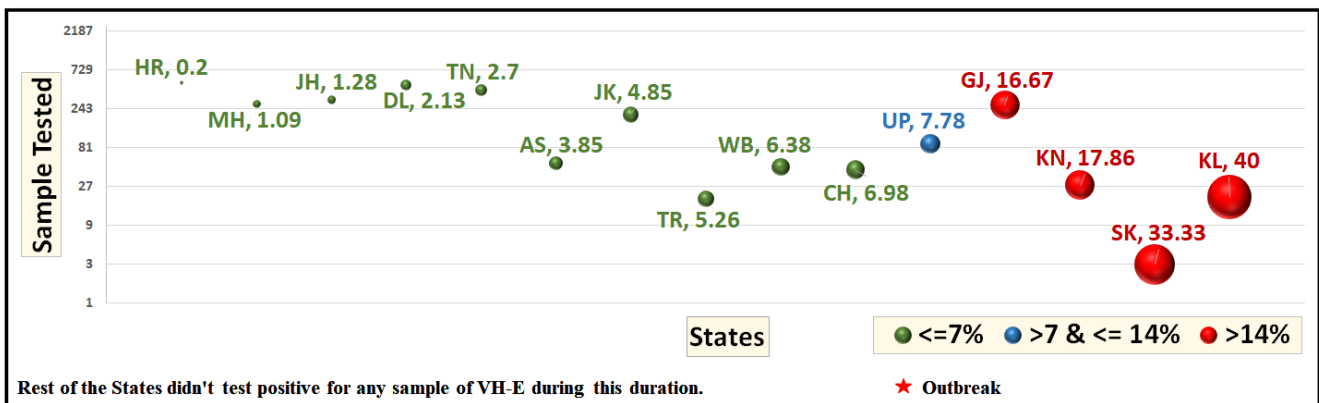
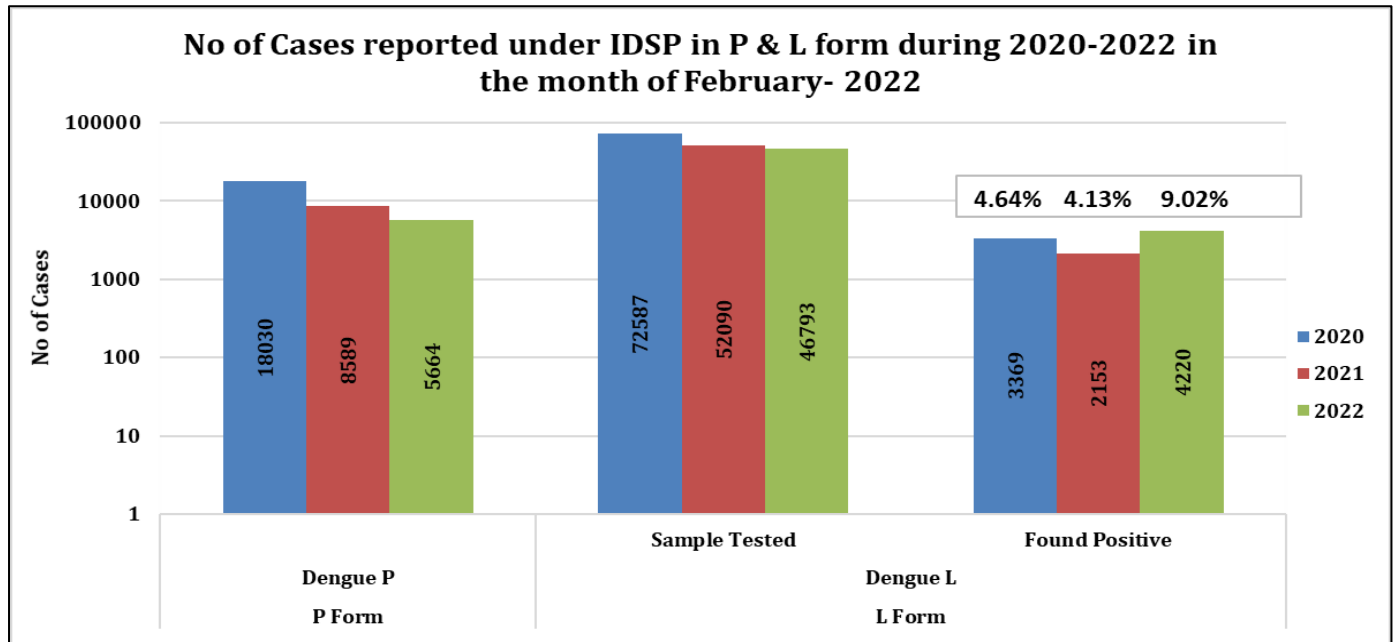


Fig. 14: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for February 2022



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



As shown in Fig. 15, number of presumptive Dengue cases, as reported by States/UTs in ‘P’ form was 18030 in February 2020; 8589 in February 2021 and 5664 in February 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in February 2020; 72587 samples were tested for Dengue, out of which 3369 were found positive. In February 2021; out of 52090 samples, 2153 were found to be positive and in February 2022, out of 46793 samples, 4220 were found to be positive.

Sample positivity of samples tested for Dengue has been 4.6%, 4.1 % and 9 % in February month of 2020, 2021 & 2022 respectively.

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

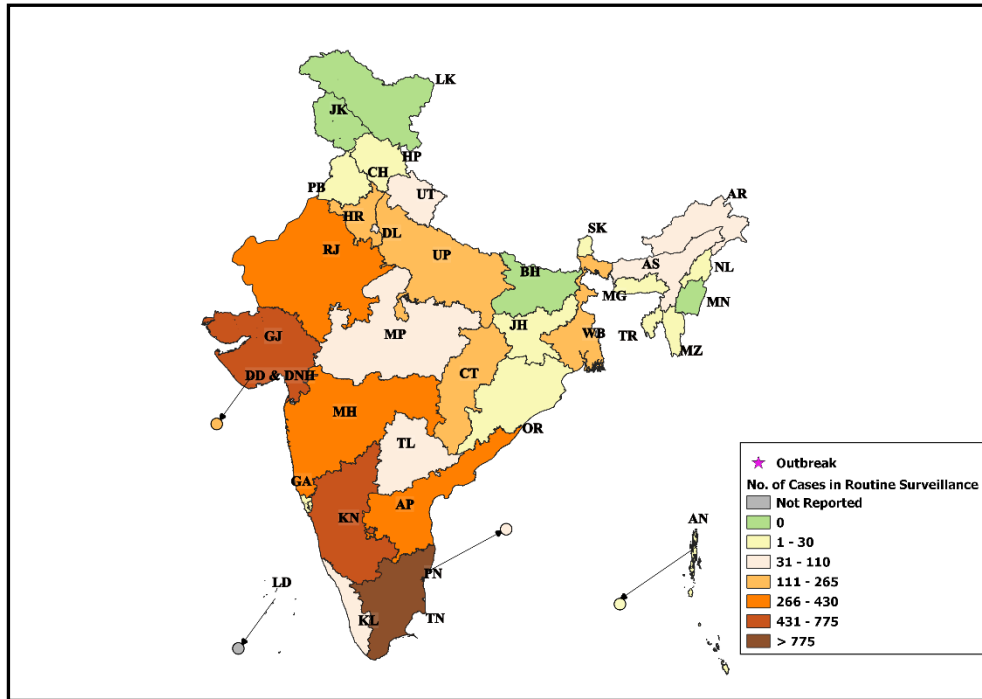
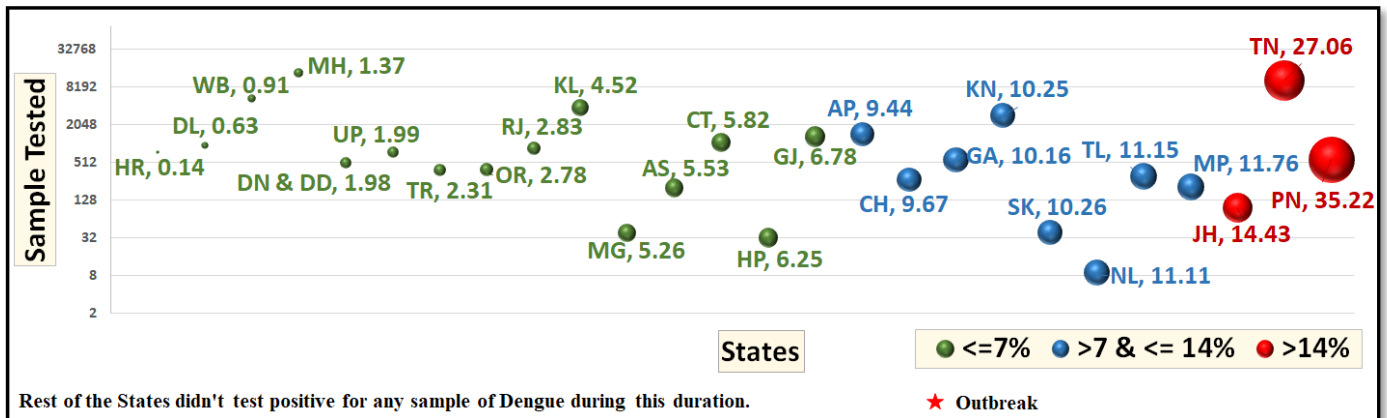
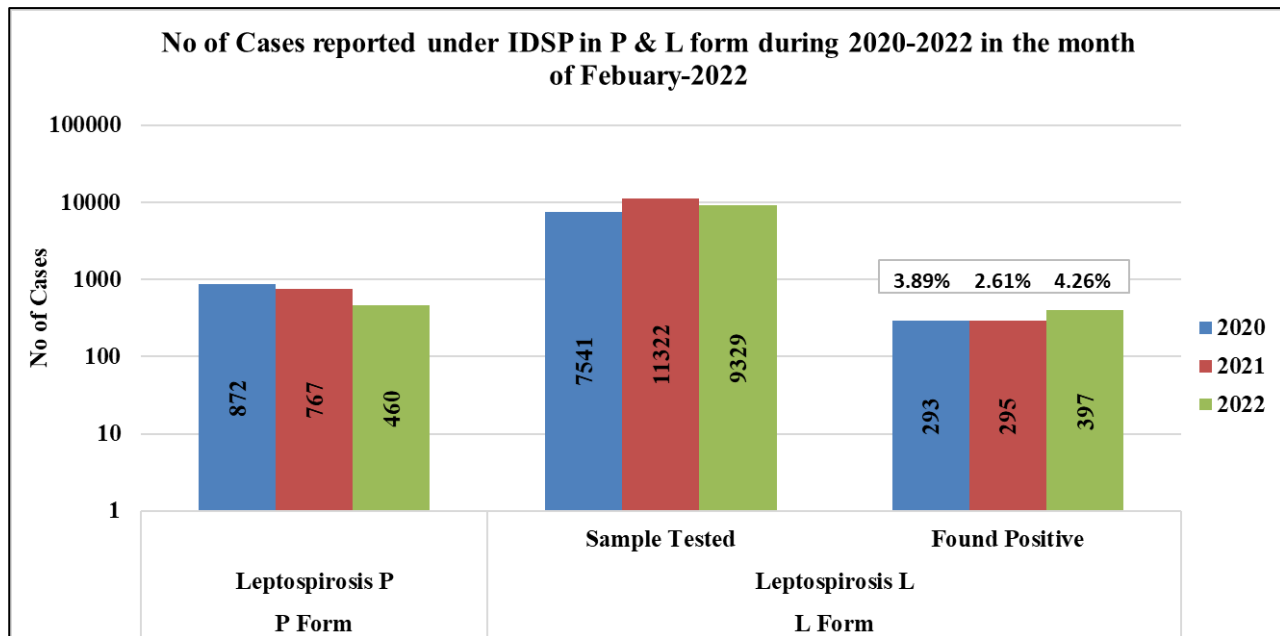


Fig. 17: State/UT wise Presumptive Dengue cases and outbreaks for February 2022



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



As shown in Fig. 18, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 872 in February 2020; 767 in February 2021 and 460 in February 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in February 2020; 7541 samples were tested for Leptospirosis, out of which 293 were found positive. In February 2021; out of 11322 samples, 295 were found to be positive and in February 2022, out of 9329 samples, 397 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 3.9%, 2.6 % and 4.3% in February month of 2020, 2021 & 2022 respectively.



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

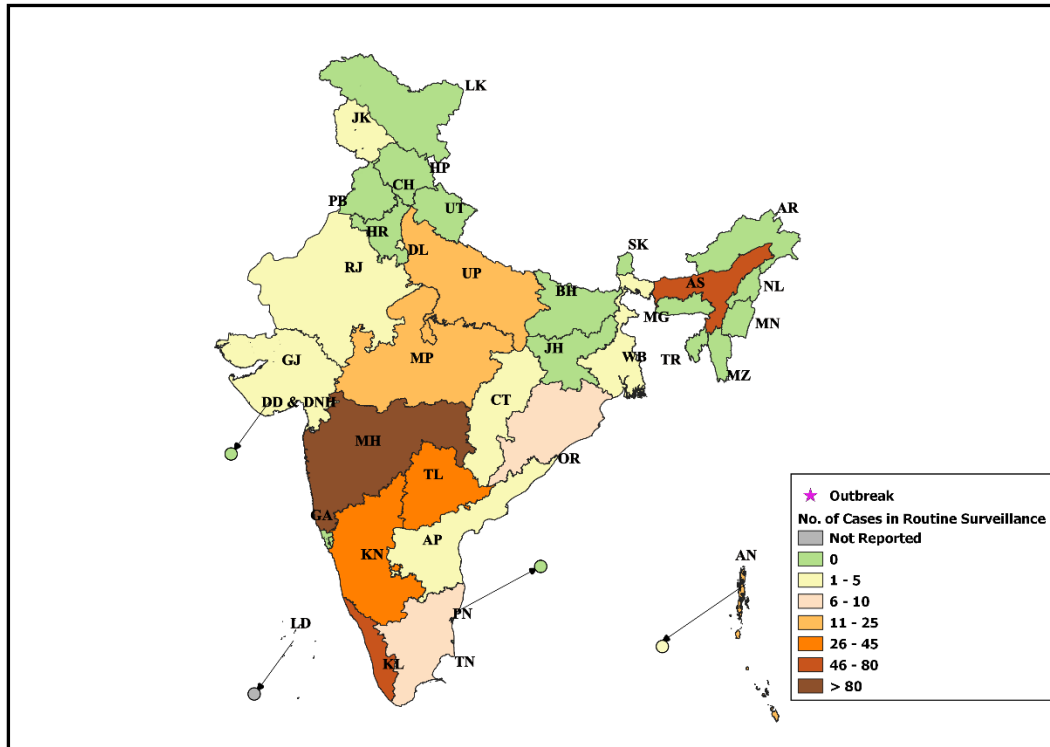
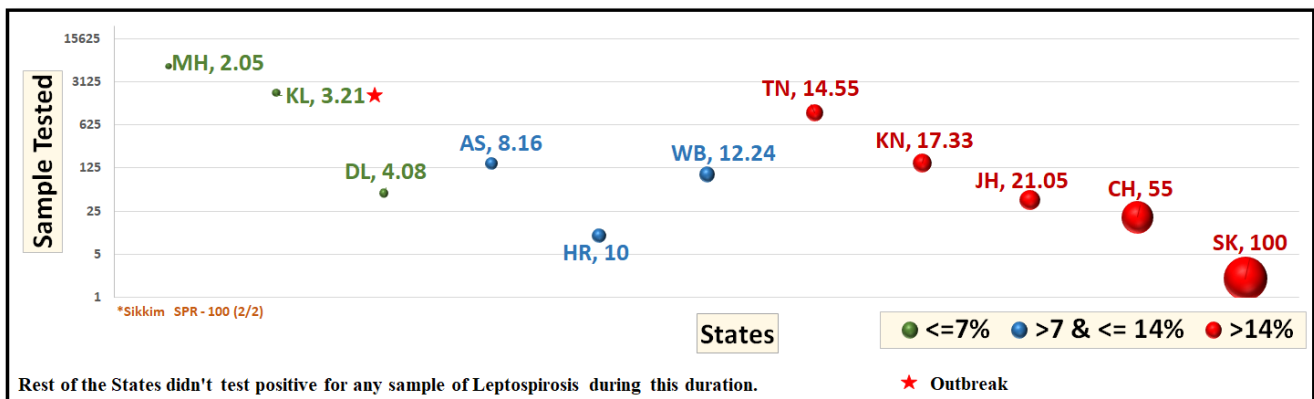
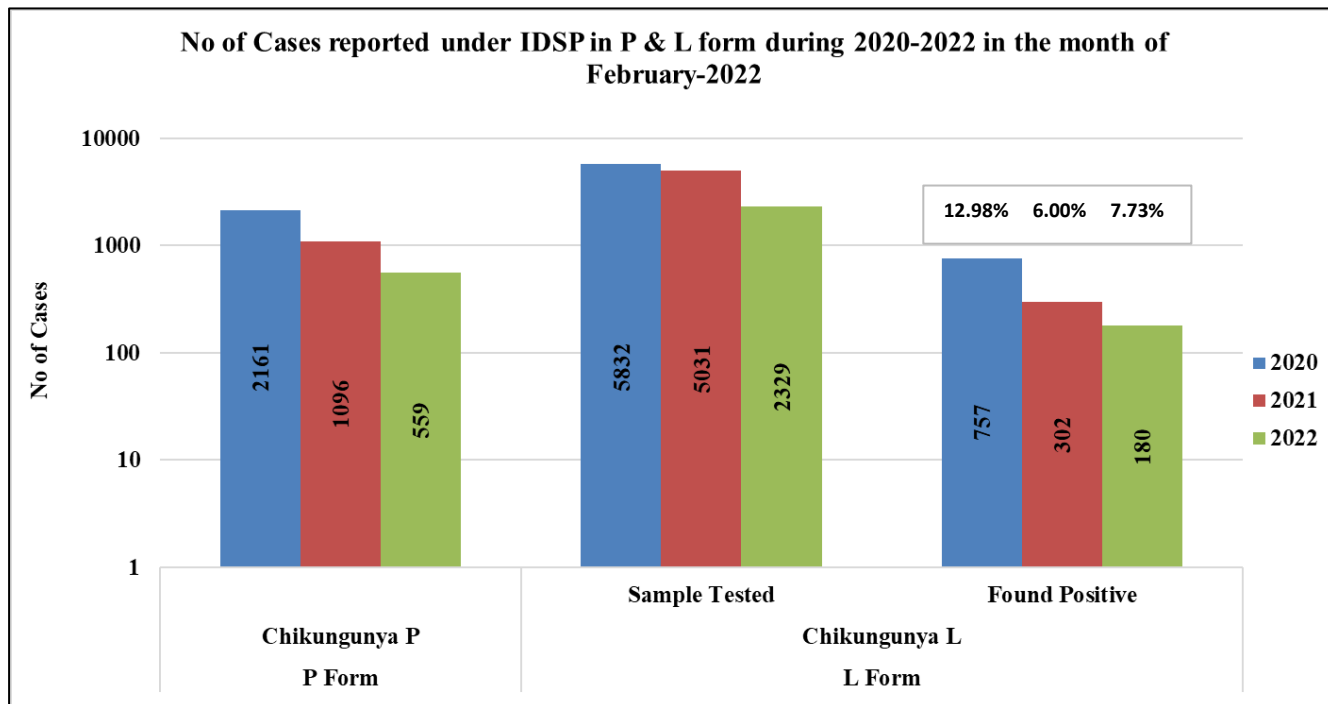


Fig. 20: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for February 2022



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



As shown in Fig. 21, number of presumptive Chikungunya cases, as reported by States/UTs in ‘P’ form 2161 in February 2020; 1096 in February 2021 and 559 in February 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in February 2020; 5832 samples were tested for Chikungunya, out of which 757 were found positive. In February 2021; out of 5031 samples, 302 were found to be positive and in February 2022, out of 2329 samples, 180 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 13%, 6% and 7.7% in February month of 2020, 2021 & 2022 respectively.

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

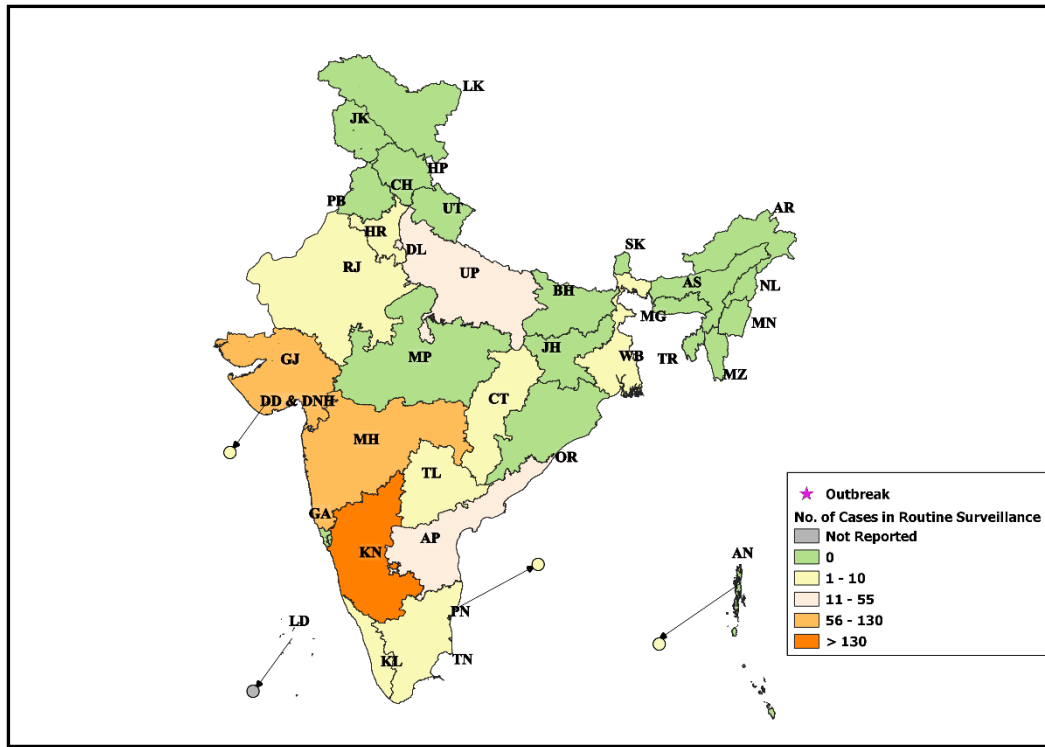


Fig. 23: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for February 2022

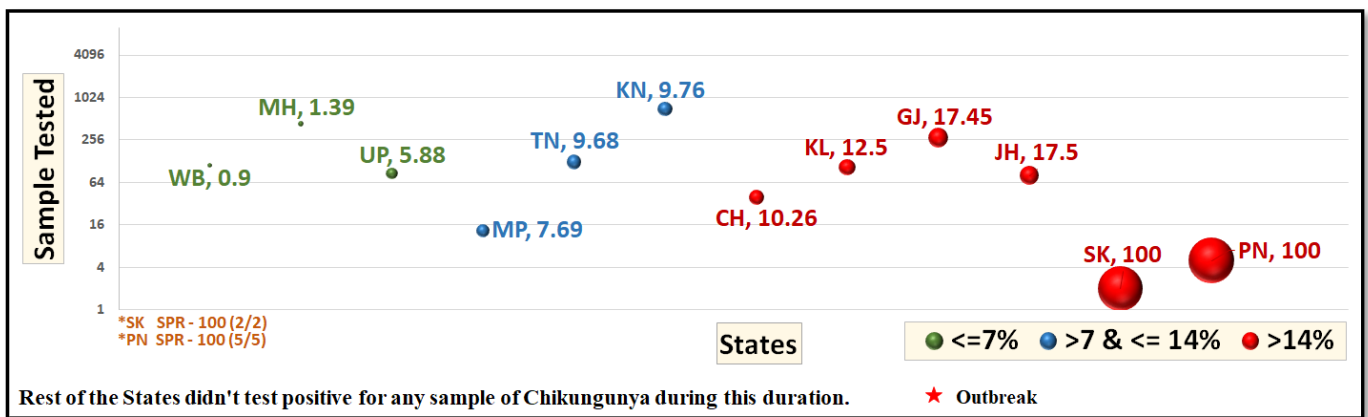
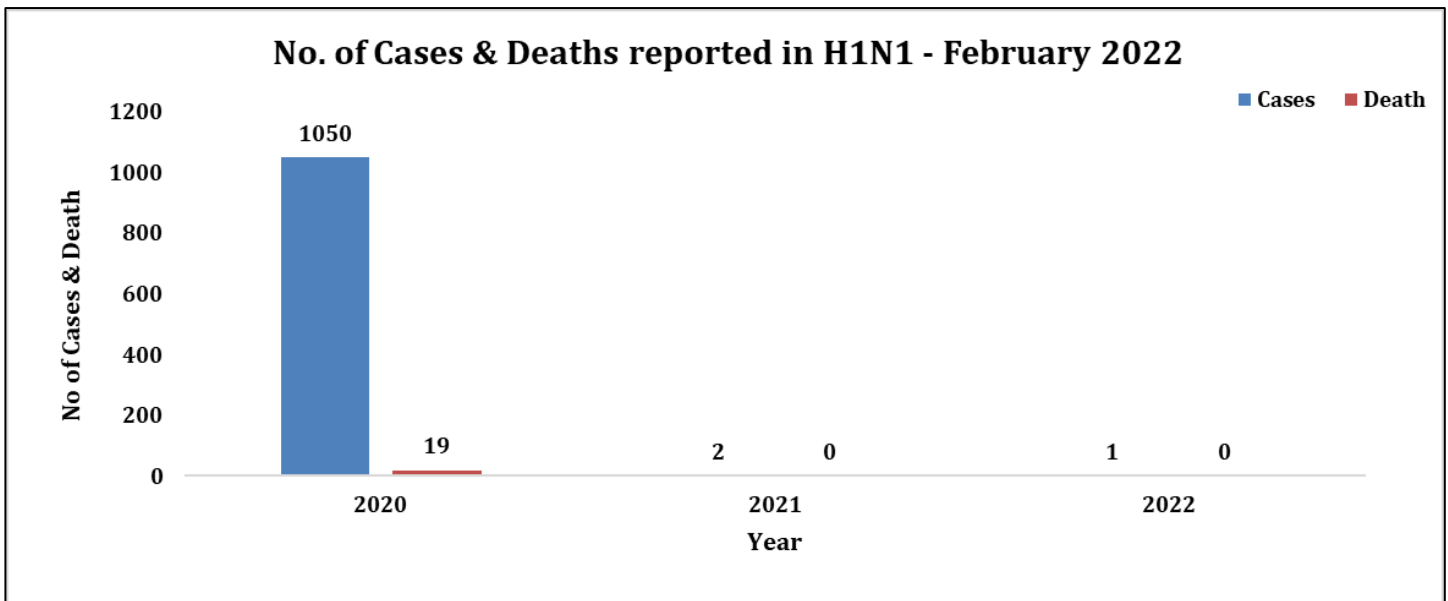
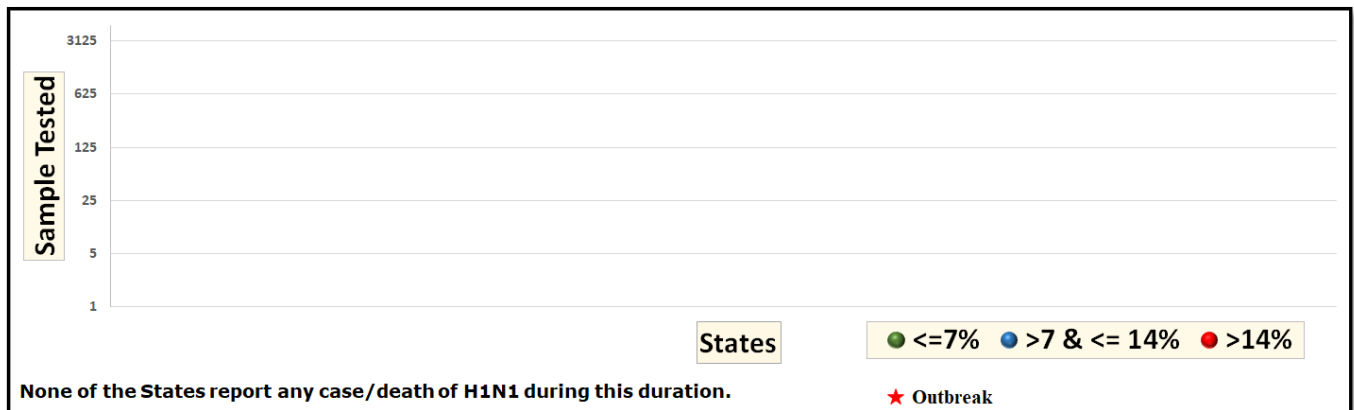


Fig. 24: H1N1 cases & deaths reported under IDSP in L Form during 2020-2022 in February



As shown in Fig. 24, as reported in L form, in February 2020, there were 1050 cases and 19 deaths. In February 2021, there were 2 cases and 0 deaths; and in February 2022, there were 1 cases and 0 deaths. Case fatality rate for H1N1 were 1.8 %, 0.00% and 0.00 % in February month of 2020, 2021 & 2022 respectively.

Fig. 25: State/UT wise H1N1 cases and outbreaks for February 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](mailto:dircid@nic.in) & [idsp-npo@nic.in](mailto:idsp-npo@nic.in)

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