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Disease Alert

प्रकोप चेतावनी

Monthly Surveillance Report
From
Integrated Disease Surveillance Programme
National Health Mission

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**FINAL INVESTIGATION REPORT OF HEPATITIS OUTBREAK IN TOWN JAITU, DISTT.
FARIDKOT, PUNJAB**

BACKGROUND

Jaitu is a municipal council in Faridkot district. As per 2011 census, it has a population of 37377. Males constitute 53% of the population and females 47%. Jaitu has an average literacy rate of 62%, male literacy is 67% and female literacy is 56%.

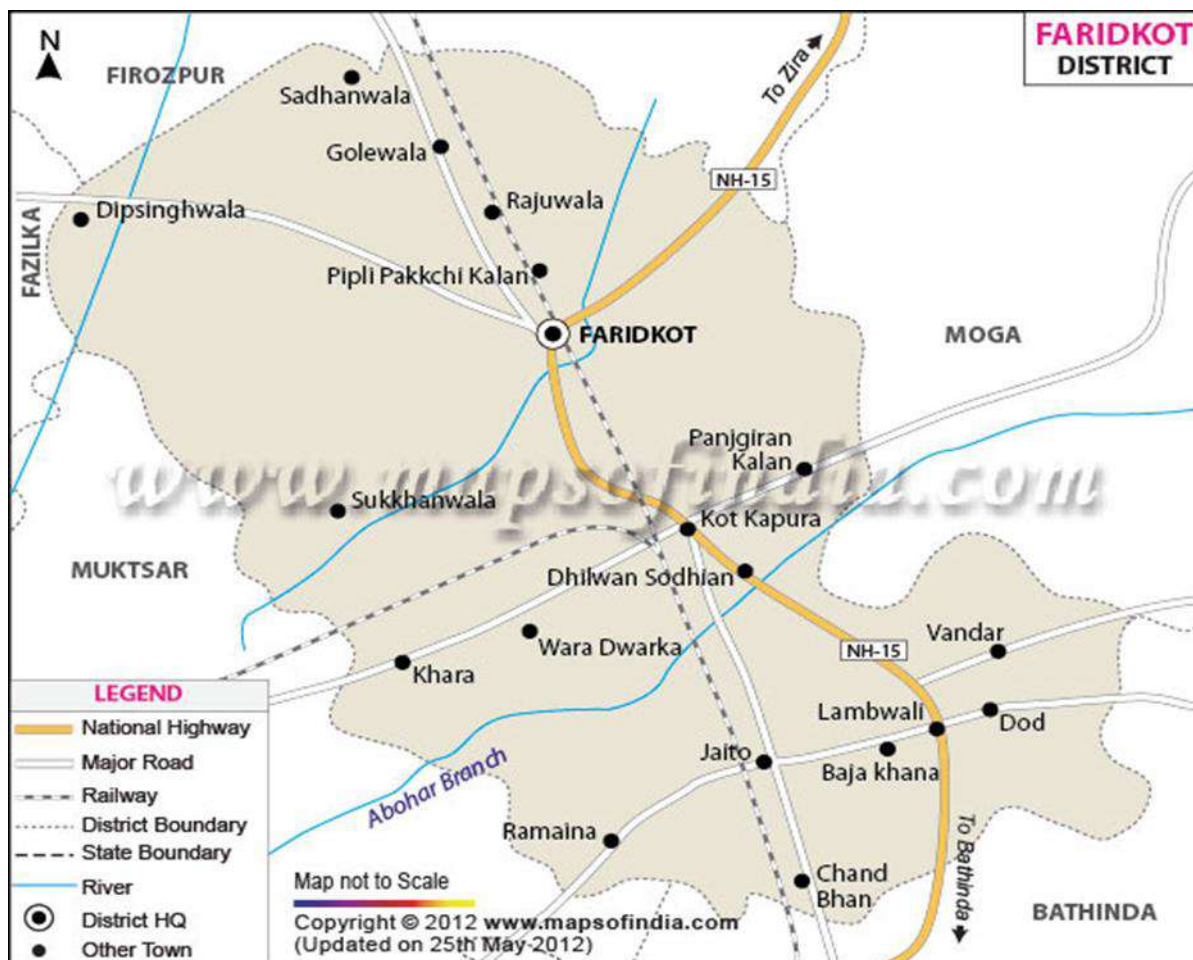


Fig. 1: Map of Faridkot District

Hepatitis A results infection with Hepatitis A virus (HAV). This is an acute, short-term disease that may not require treatment. However, if symptoms cause a great deal of discomfort, bed rest may be necessary. In addition, if the patient experiences vomiting or diarrhoea, doctor may recommend a dietary program to maintain hydration and nutrition.

On the other hand, Hepatitis E is a waterborne disease that results from exposure to Hepatitis E virus (HEV). Hepatitis E is mainly found in areas with poor sanitation and typically results from ingesting water contaminated with fecal matter. Hepatitis E is usually acute but can be particularly dangerous to pregnant women.

Both Hepatitis A and Hepatitis E occur due to exposure of HAV and HEV in food/water.

DETAILS OF INVESTIGATION:

An outbreak was reported on electronic media on 7th March' 2022. The report indicated that some private practitioners have found an unusual increase in cases with jaundice in surroundings of town Jaitu from past few days. The confirmation was done from the Medical Officer. Medicine Specialist posted at CHC Jaitu, along with SMO Jaitu. Private Physicians such as Sukhmani hospital and Lions EYE & General Hospital were inquired about the surge.

On getting the information, SSU, Faridkot employed an RRT consisting of District Epidemiologist, Medical Officer, Microbiologist, and Sanitary Inspector. It was assessed that population of about 36000 was at risk. The RRT reached the area on 8th March and started the investigation.

The RRT formalized a case definition to identify the infected. It was –

Confirmed Case: A person with acute illness including acute jaundice, dark urine, anorexia, malaise, extreme fatigue and right upper quadrant tenderness. Signs - Increased urine urobilinogen, >2.5 times the upper limit of serum alamine aminotransferase.

Probable: Patients with history of acute diarrhoea, dark urine, anorexia, malaise, extreme fatigue and right upper quadrant tenderness were also included in suspect in last two months. (Feb-March 2022)

(Contd.)

The following additional steps were undertaken -

- To confirm the diagnosis, Blood samples were taken to detect hepatitis A and E and were sent to Medical College, Amritsar.
- To rule out any complications in cases, patients were examined by Medical Officer at Jaitu. Health camp was organized the same day.
- Door to Door survey was started by Multipurpose Health worker males to actively search new cases of jaundice.
- To study epidemiological features line list of all affected cases was compiled. Demographic information related to Age, Gender, date of onset of fever and swelling, socio economic background, Vaccination status, treatment details was collected.
- Data was entered in MS Excel and Descriptive Analysis was done.
- Sampling: Convenient Sampling was done. Mostly passive sampling of the patients visiting hospital was done and sent to Govt. Medical College, Amritsar for confirmation.
- Study Tool: A questionnaire was prepared which included questions on recent symptoms and various other factors which were postulated to be associated with hepatitis were included.
- Data Collection: Data was collected by Multi-purpose Health Workers using the questionnaire prepared. Verbal consent was taken from subjects before interviewing them.

RESULTS:

From 08-03-2022 to 31-3-2022, 62 blood samples of suspected cases were sent to Govt Medical College, Amritsar for detection of Hepatitis A and E. Out of this, 13 samples were reported for Hepatitis A and 2 samples were reported for Hepatitis E.

35 Water samples were also taken out of which 13 were potable and 22 were non potable.

(Contd.)



Figure 2: Reverse flow from gutters (Photo 1)



Figure 3: Reverse flow from gutters (Photo 2)

Please note that when these pictures were taken there was no history of rains from last 10-15 days. This may be the reason for outbreak.

DESCRIPTIVE EPIDEMIOLOGY:

A total of 388 cases were reported during house to house survey.

Age Wise Distribution

Age group	No of cases
0-15	121
15-30	152
30-45	80
>45	35

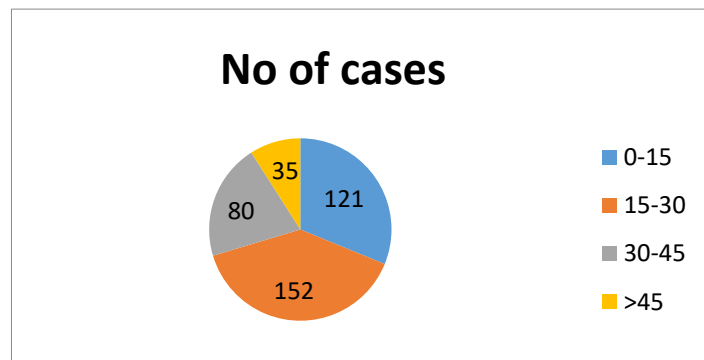


Figure 4: Age wise distribution of cases of Jaundice reported from town Jaitu

The above chart depicts the age distribution of jaundice cases. Most of the cases belonged to 0-30 years age group. Cases above age of 45 years were less reported.

Gender wise distribution

Gender	No of cases
Female	195
Male	193

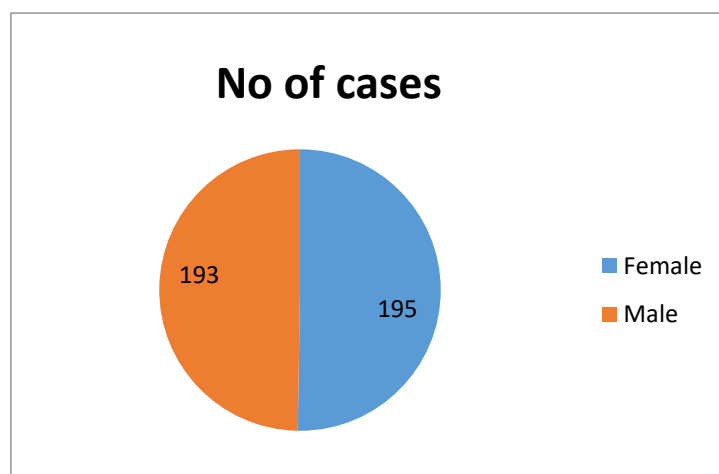


Figure 5: Gender wise distribution of Jaundice cases reported from town Jaitu

The chart shows Gender wise distribution of cases of jaundice reported. The incidence of disease was almost equal in both sexes.

The spot map was prepared using following legend

S.No.	Colour of pins	No. of cases
1.	Red pins	>10 cases
2.	Blue pins	5-10 cases
3.	Green pins	3-5 cases
4.	Yellow pins	2 cases
5.	White pins	1 case

CONTROL MEASURES:

1. Rapid Response Team was immediately activated.
2. All the present cases were examined by Medical Officer and blood samples were sent for confirmation.
3. Active search for new cases by door to door survey was started by MPHWS (male), ANM and ASHA.
4. During home to home survey health education regarding Hepatitis was imparted. Following points were highlighted:
 - a. Use filtered or boiled water for drinking.
 - b. The cases were advised to take proper treatment.
 - c. Washing of the fruits and vegetables with clean water before consumption.
 - d. Use of chlorine pellets which were distributed in drinking water before consumption.
 - e. Awareness camps were organized in Government Schools, Jaitu towns. School authorities were asked to notify any case if they encounter and grant leave to all those students who are infected.
5. State level team visited the spot and guided through the investigation of the outbreak
6. Intersectoral meeting was conducted with the Sub Divisional Officer, water and sanitation department reporting about the outbreak and for taking necessary steps
7. Interview of the patients those who were admitted to detect the cause of the outbreak was conducted.
8. The chlorine pellets were arranged with the help of state around 50,000 and were distributed with the help of MPHWS teams those who conducted survey as well as distributed the tablets.
9. Awareness created among masses with the use of print and electronic media with the help of Senior Medical Officer, Jaitu as well as Medicine specialist, Jaitu
10. Intersectoral meeting with the municipal officers with suggestion of necessary steps and encouragement of following actions- As a result sewage lines were cleaned to overcome the problem of any blocked sewage
11. Regular camps were conducted for reporting of patients with the help of medical officer in the survey area and required medicines and ORS were distributed.

12. Coordination developed with private practitioners such as Lion's eye care and general hospital for reporting of patients.
13. Meeting and contact established with Executive Engineer of the area and shared the important information such as spot map, reports of water samples etc.

CONCLUSION:

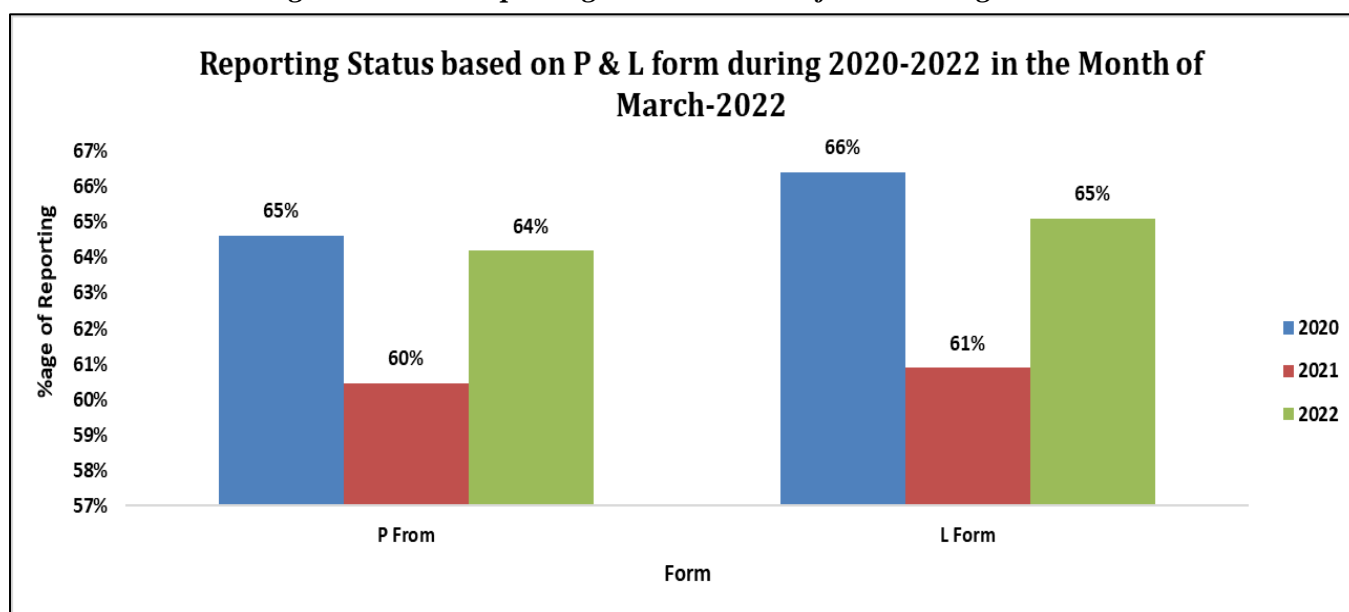
Hepatitis outbreak started in Jaitu town in February 2022. Total 388 cases were reported till 26-04-2022. Immediately after receiving information control measures were started. Several factors like use of unboiled and unfiltered water, socio-economic status of patients were factors associated with it. There were no complication in any case. Surveillance was continued till double the incubation period counted from last case reported. After that outbreak was declared to be over.

RECOMMENDATIONS:

- 1) MPHWs, ANMs and ASHA workers should be sensitized for early detection and quick reporting to District Surveillance Unit.
- 2) Coordination must be established with Rural Medical Practitioners (RMPs) as most of people in rural settings consult them in diseases like Hepatitis.
- 3) IEC activities need to be done in the area to sensitize the community members about occurrence and prevention of these kind of diseases.
- 4) School authorities of the area are needed to be sensitized about symptoms, prevention and treatment of communicable diseases so that in case of emergency they are able to refer such types of cases to the health authorities for further action.
- 5) The Inter-sectoral cooperation should be encouraged so that quick steps may be taken to end the outbreak.
- 6) Awareness should be spread among the masses so that the use of filters or boiling to avoid spread of such diseases in future.
- 7) Stress should be laid on infrastructure development to avoid mixing of tap water and sewage water.

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

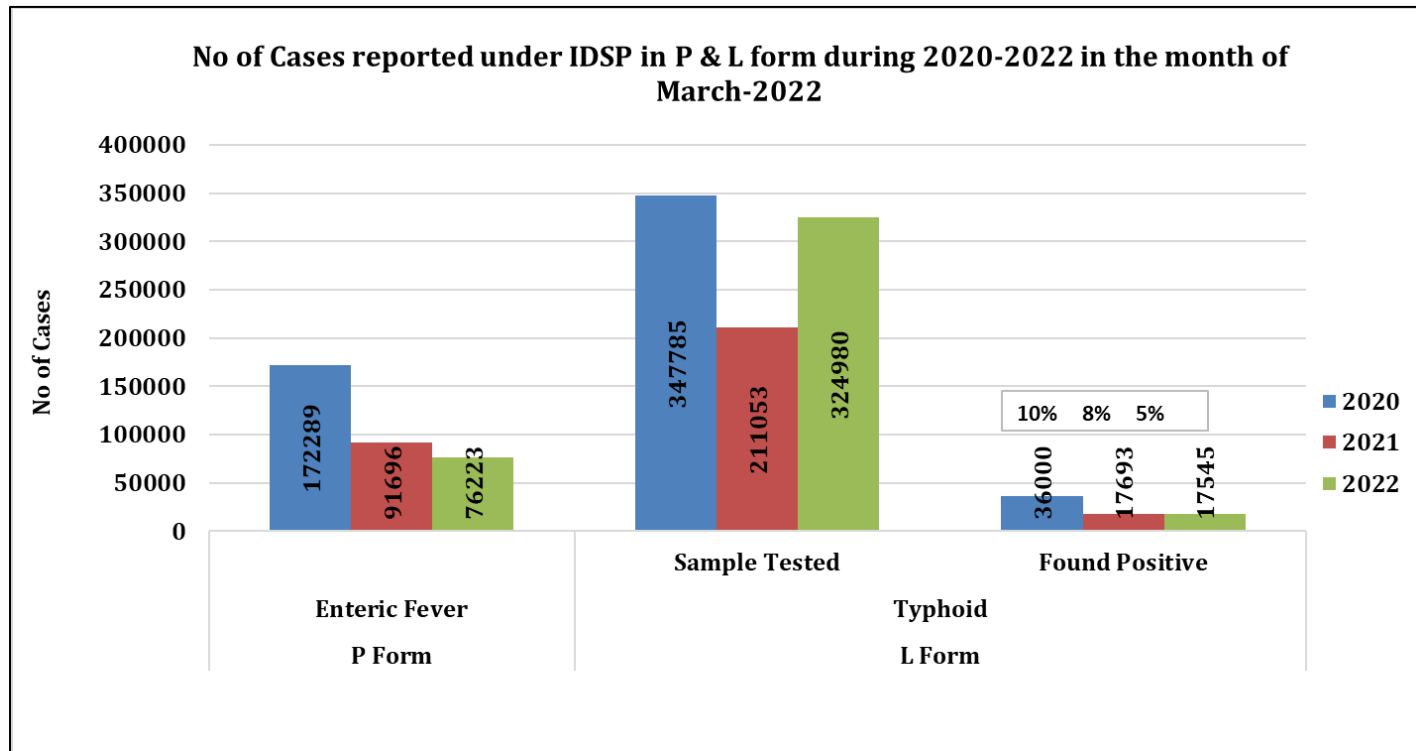
Fig. 8: RU-wise reporting based on P & L forms during March2022



As shown in Fig. 8, in March 2020, 2021 and 2022, the ‘P’ form reporting percentage (i.e. % RU reporting out of total in P form) was 65 %, 60% and 64% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 66%, 61% and 65% 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 March 2022 compared to the same month in previous years for both P and L forms, thereby improving the quality of surveillance data.

Fig. 11: No. of Enteric Fever Cases reported under P & L form during March 2020 - 2022



As shown in Fig. 11, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 172289 in March 2020; 91696 in March 2021 and 76223 in March 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2020; 347785 samples were tested for Typhoid, out of which 36000 were found positive. In March 2021; out of 211053 samples, 17693 were found to be positive and in March 2022, out of 324980 samples, 17545 were found to be positive.

Sample positivity has been 10 %, 8 % and 5% in March 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. 12: State/UT wise Presumptive Enteric fever cases & outbreaks for March 2022

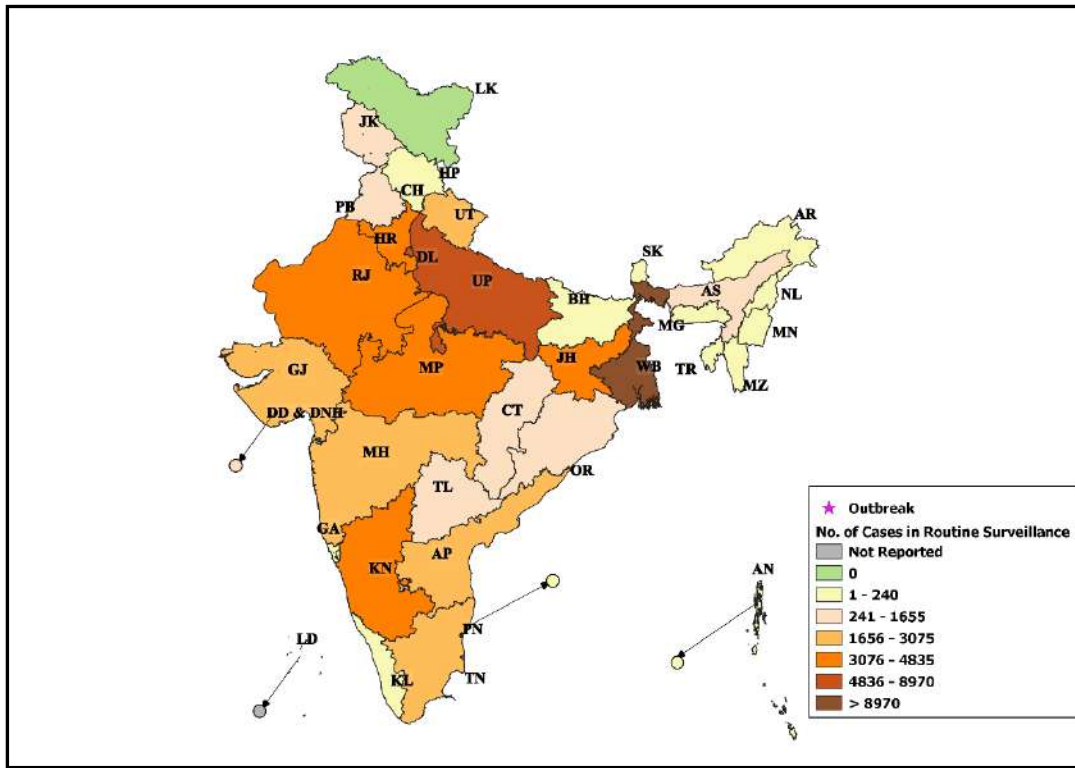


Fig. 13: State/UT wise Lab Confirmed Typhoid cases and outbreaks for March 2022

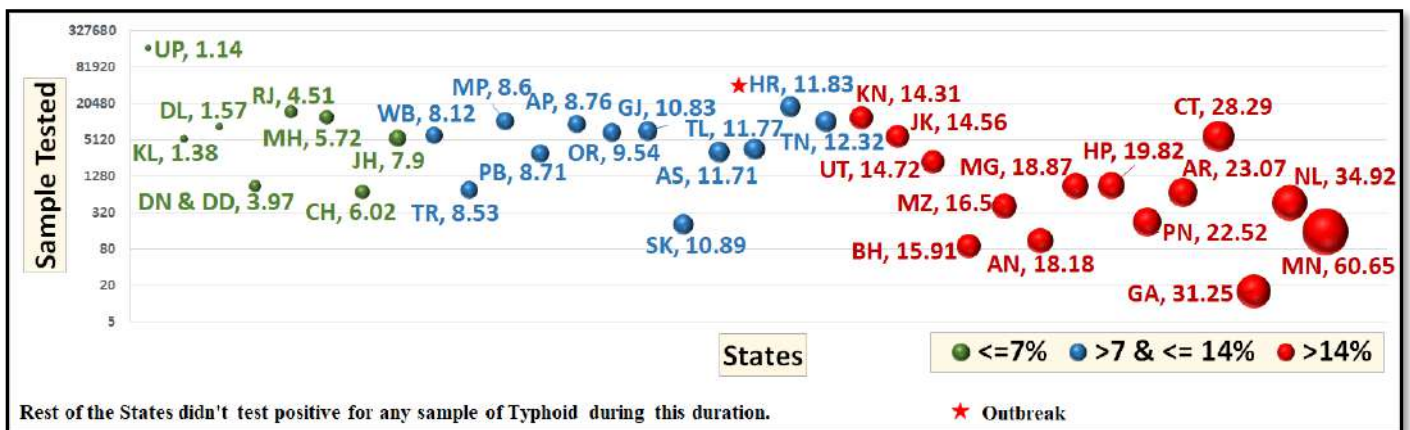
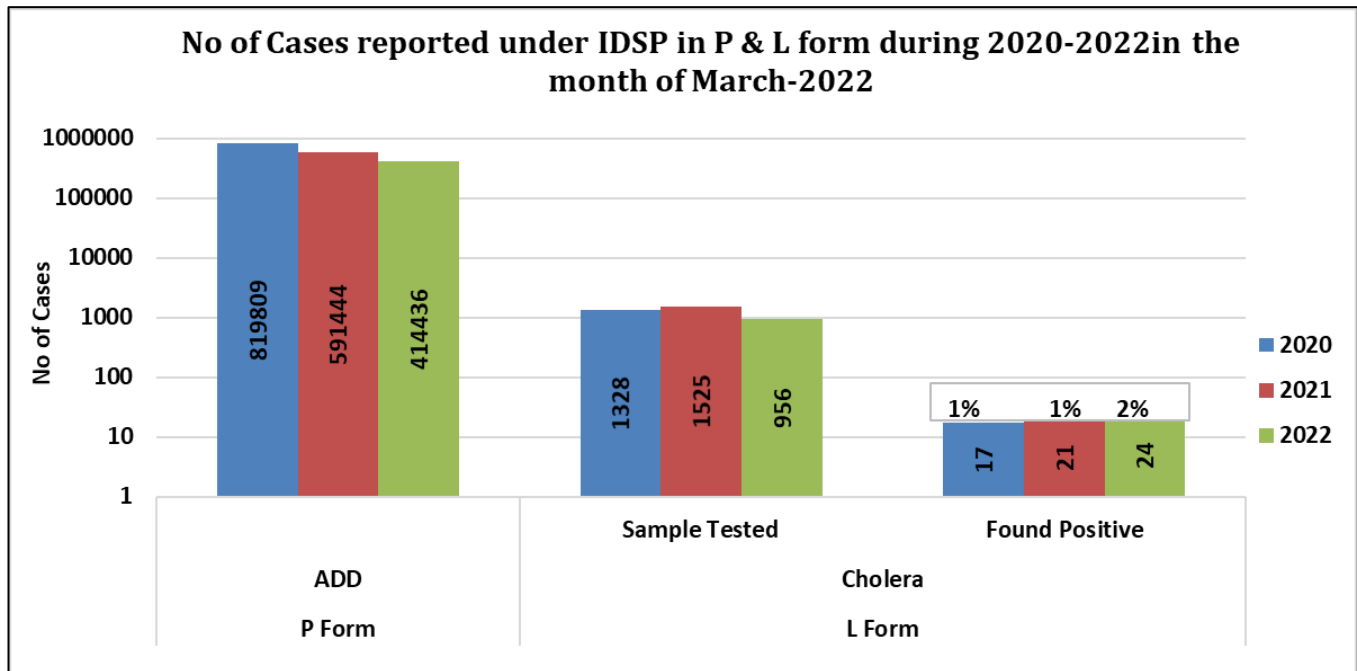


Fig. 14: No. of ADD Cases reported under IDSP in P Form & Lab confirmed Cholera cases in L form during March 2020 - 2022



As shown in Fig. 14, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 819809 in March 2020, 591444 in March 2021 and 414436 in March 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2020, 1328 samples were tested for Cholera out of which 17 tested positive; in March 2021, out of 1525 samples, 21 tested positive for Cholera and in March 2022, out of 956 samples, 24 tested positive.

Sample positivity of samples tested for Cholera has been 1 %, 1% and 2 % in March month of 2020, 2021 & 2022 respectively.

Fig. 15: State/UT wise Presumptive ADD cases and outbreaks for March 2022

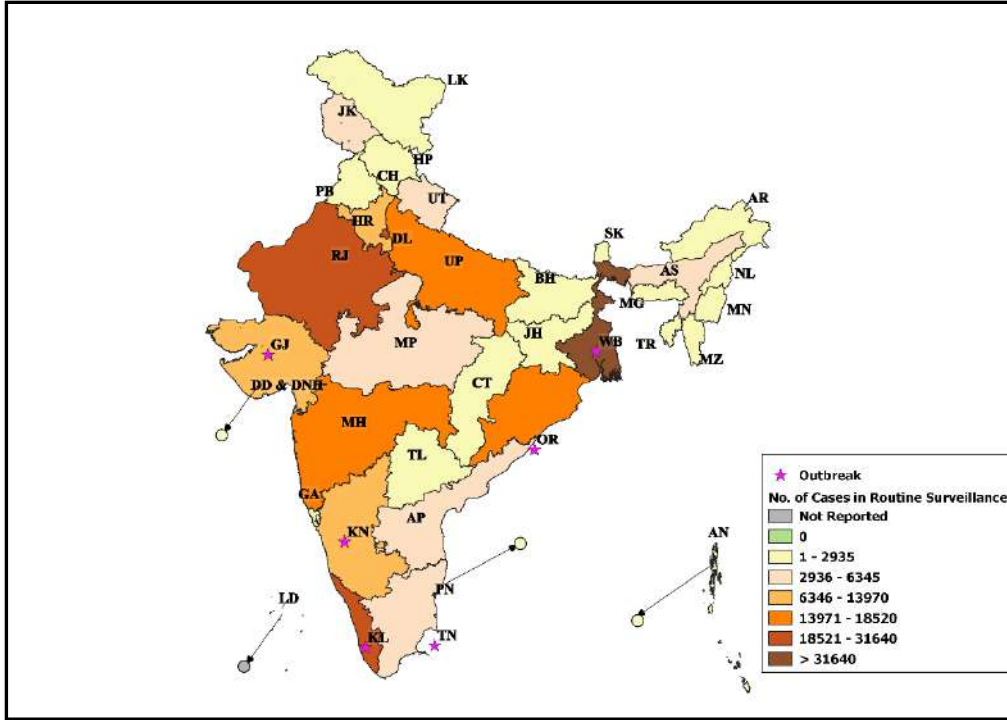


Fig. 16: State/UT wise Lab Confirmed Cholera cases and outbreaks for March 2022

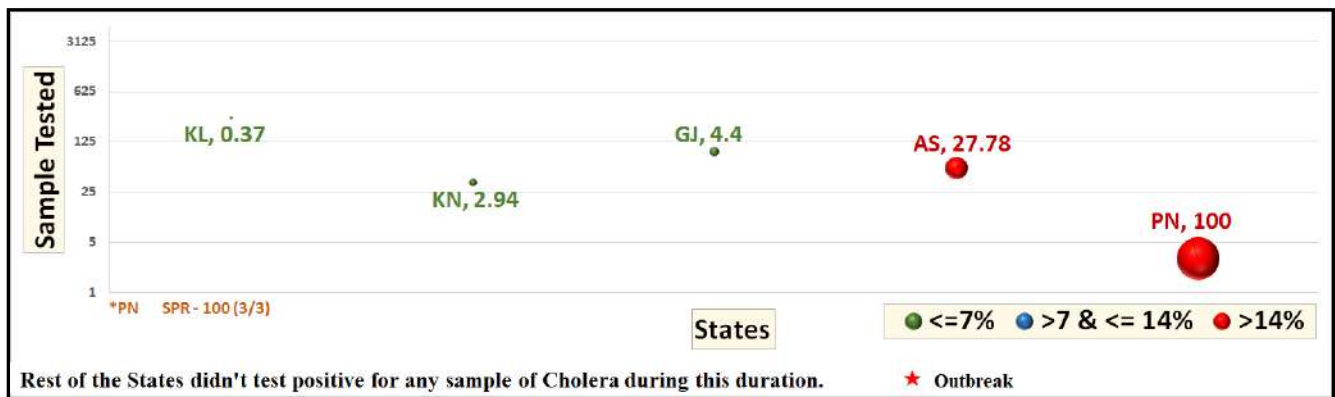
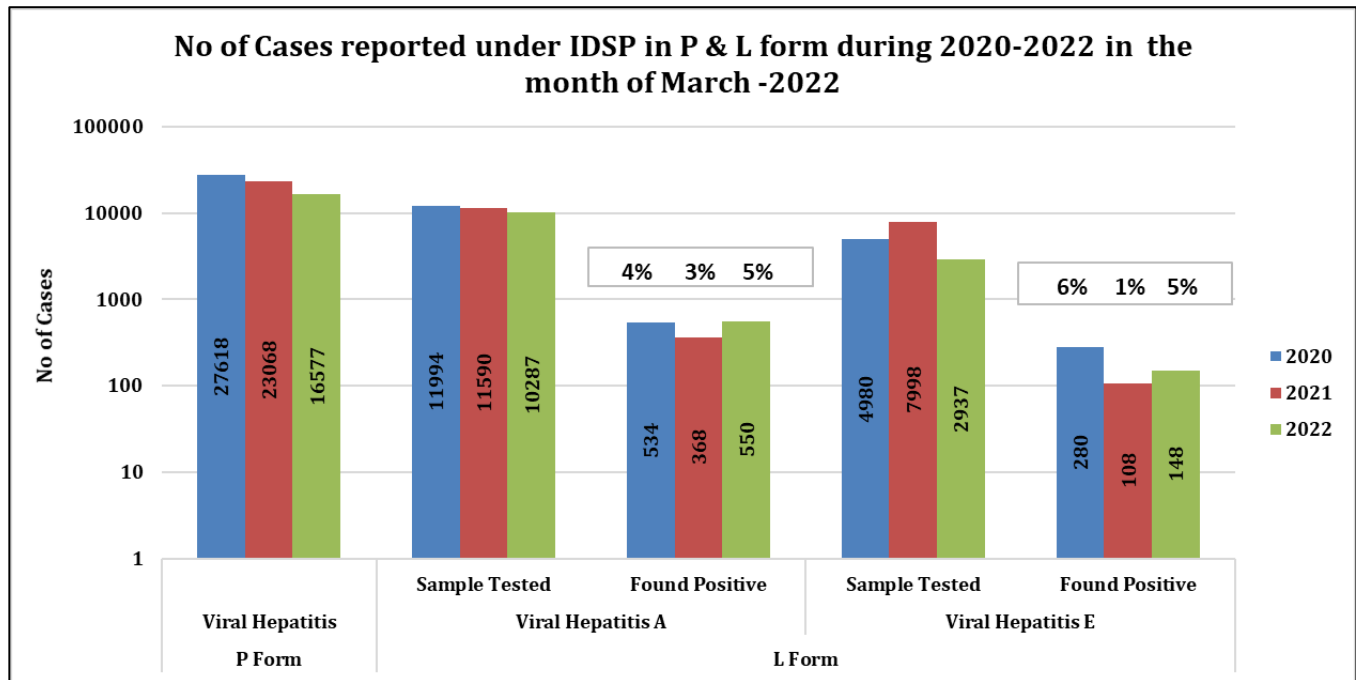


Fig. 17: No. of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during March 2020 - 2022



As shown in Fig. 17, the number of presumptive Viral Hepatitis cases was 77541 in March 2020, 28434 in March 2021 and 10518 in March 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 March 2020; 31080 samples were tested out of which 1425 were found positive. In March 2021 out of 16137 samples, 491 were found to be positive and in March 2022, out of 7776 samples, 215 were found to be positive.

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

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

Fig. 18: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for March 2022

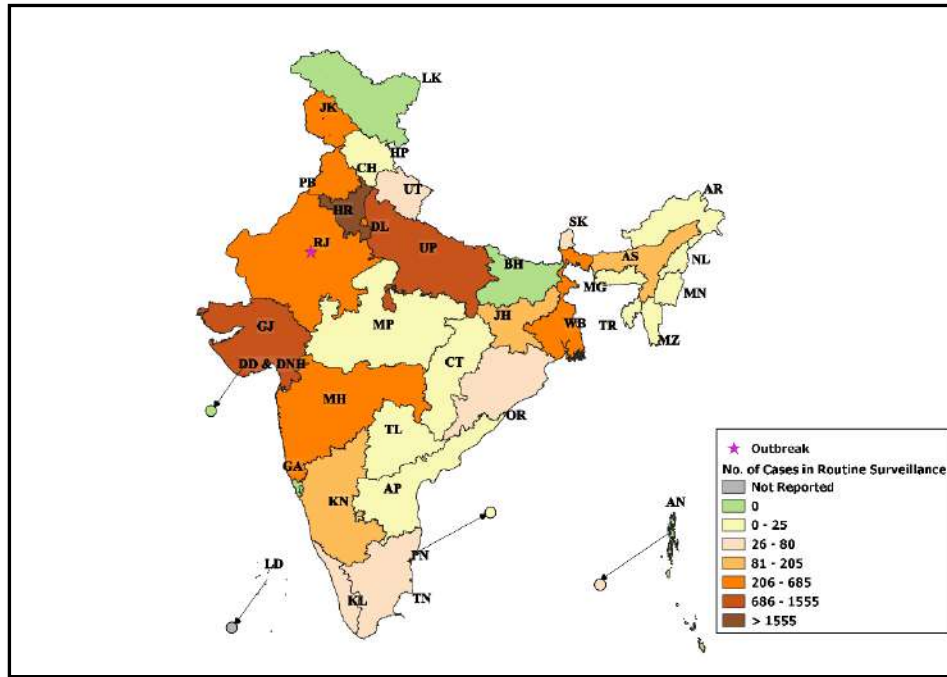


Fig. 19: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for March 2022

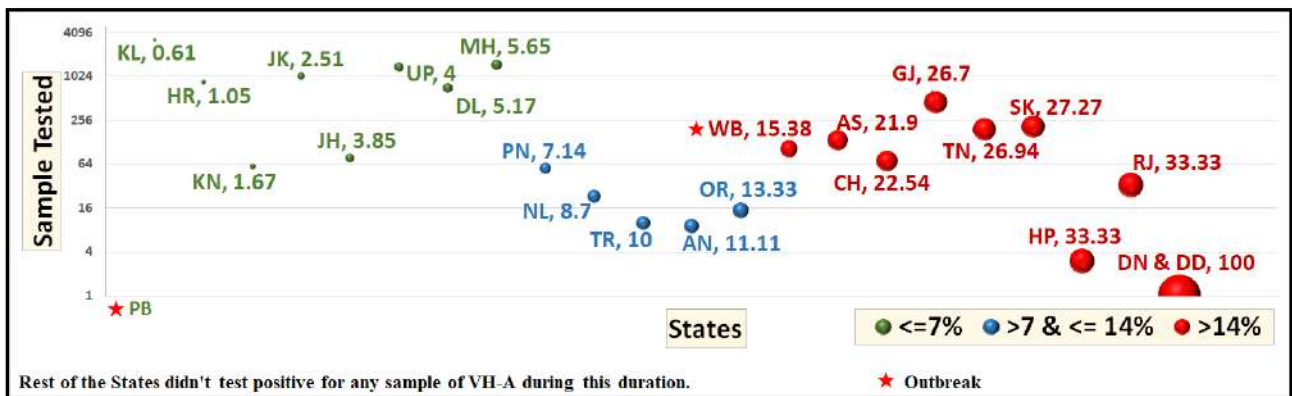


Fig. 20: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for March 2022

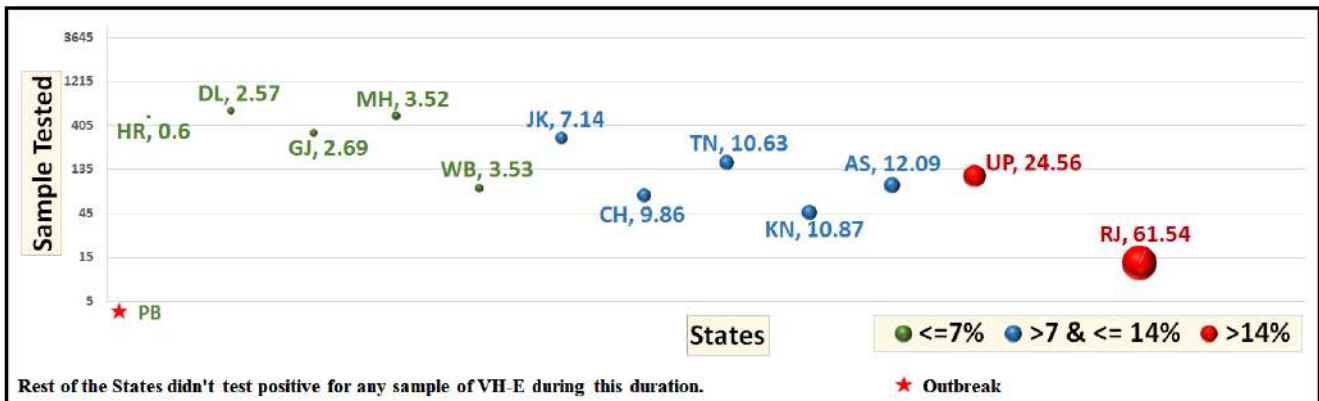
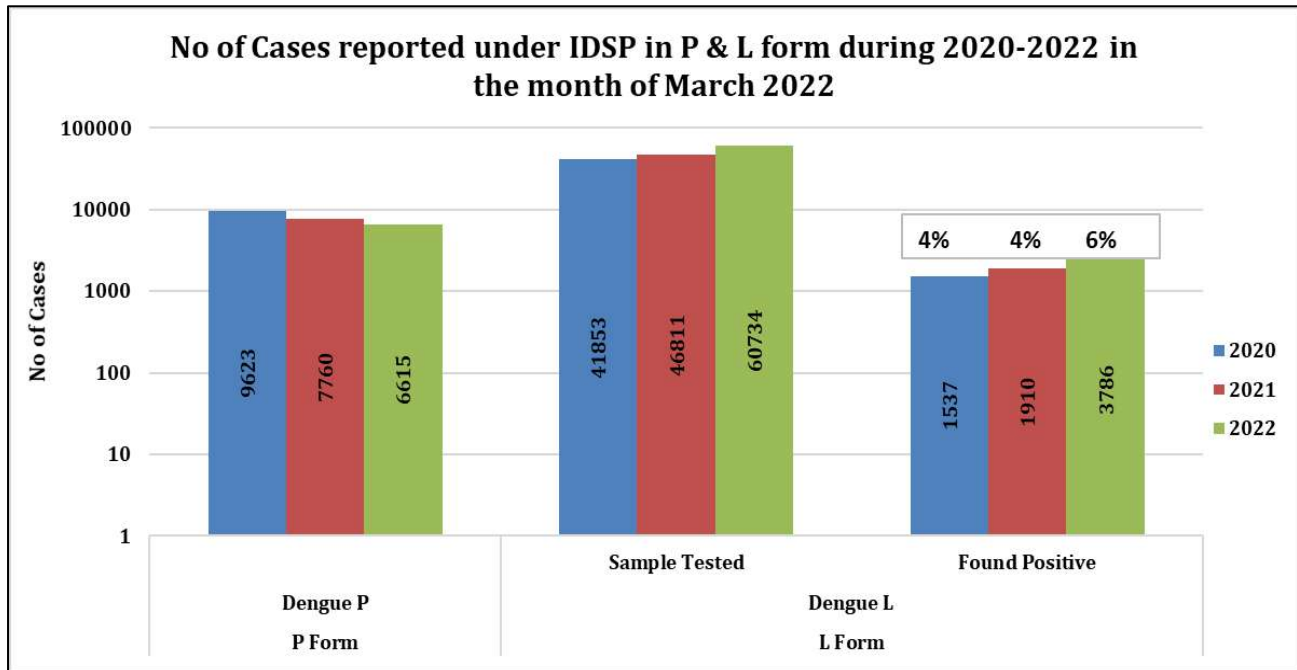


Fig. 21: No. of Dengue cases reported under IDSP in P & L form during March 2022



As shown in Fig. 21, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 9623 in March 2020; 7760 in March 2021 and 6615 in March 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2020; 41853 samples were tested for Dengue, out of which 1537 were found positive. In March 2021; out of 46811 samples, 1910 were found to be positive and in March 2022, out of 60734 samples, 3786 were found to be positive.

Sample positivity of samples tested for Dengue has been 4%, 4 % and 6 % in March month of 2020, 2021 & 2022 respectively.

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

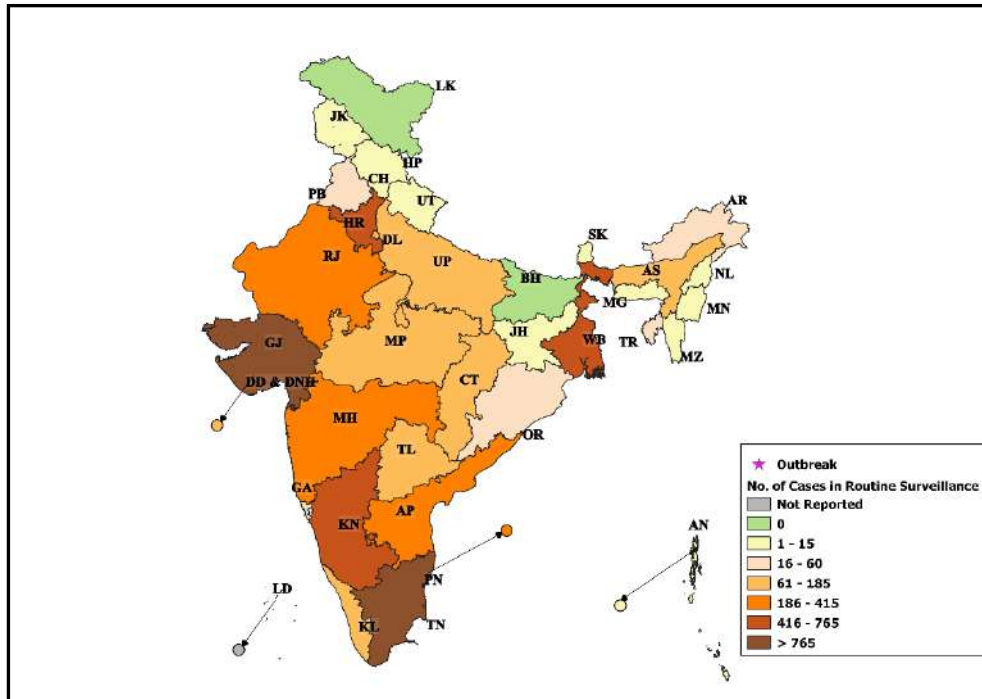


Fig. 23: State/UT wise Presumptive Dengue cases and outbreaks for March 2022

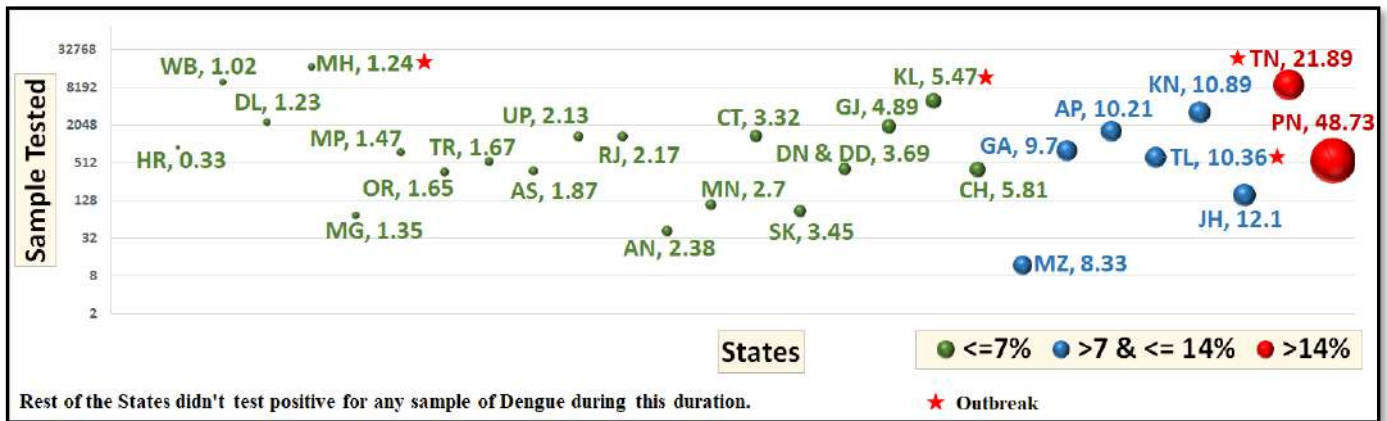
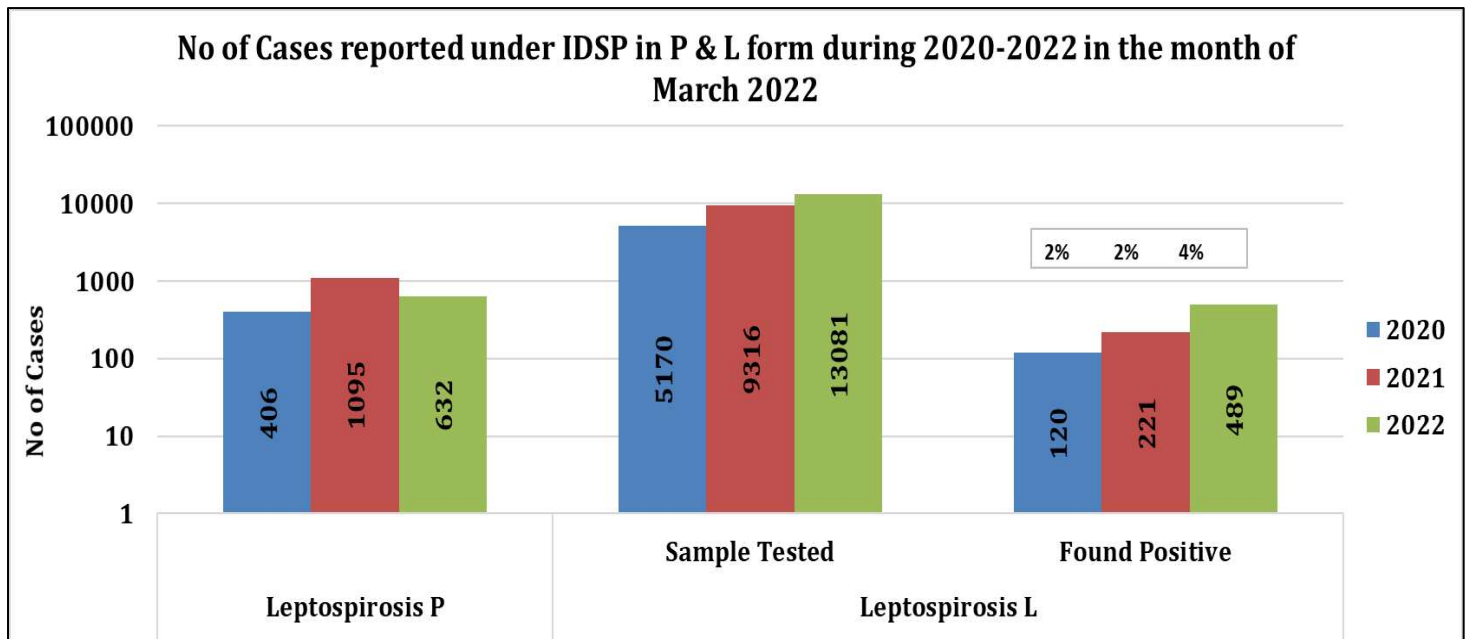


Fig. 24: No. of Leptospirosis Cases reported under IDSP in P & L form during March 2020 - 2022



As shown in Fig. 24, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 406 in March 2020; 1095 in March 2021 and 632 in March 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2020; 5170 samples were tested for Leptospirosis, out of which 120 were found positive. In March 2021; out of 9316 samples, 221 were found to be positive and in March 2022, out of 13081 samples, 489 were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 2 %, 2 % and 4% in March month of 2020, 2021 & 2022 respectively.

Fig. 25: State/UT wise Presumptive Leptospirosis cases and outbreaks for March 2022

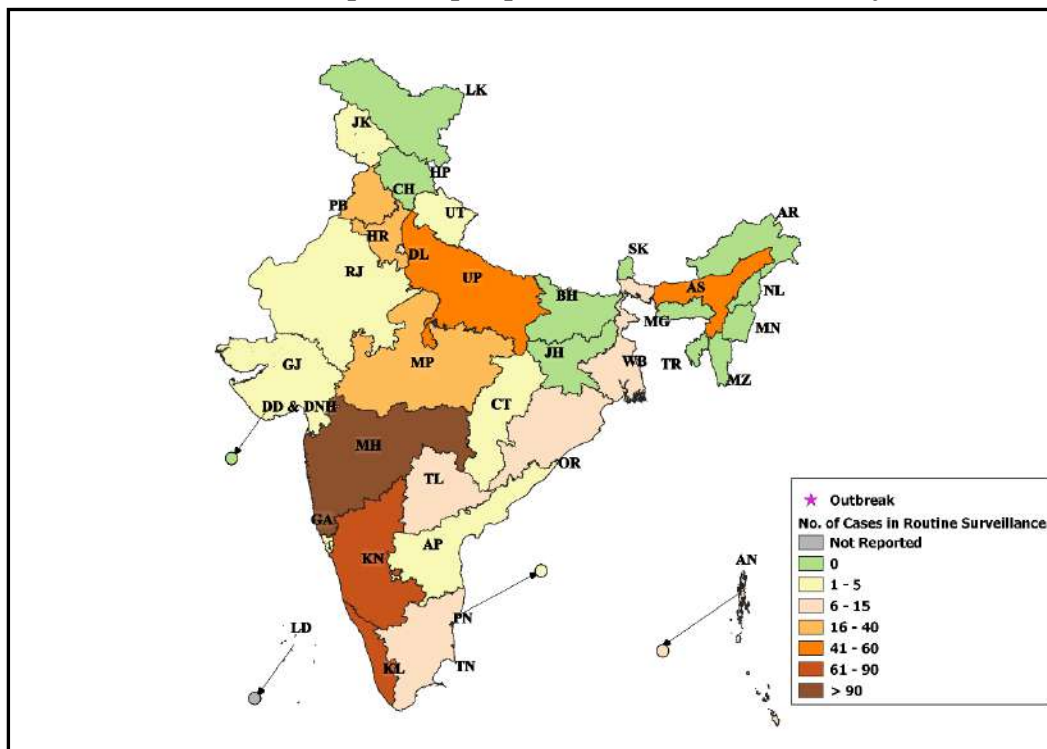


Fig. 26: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for March 2022

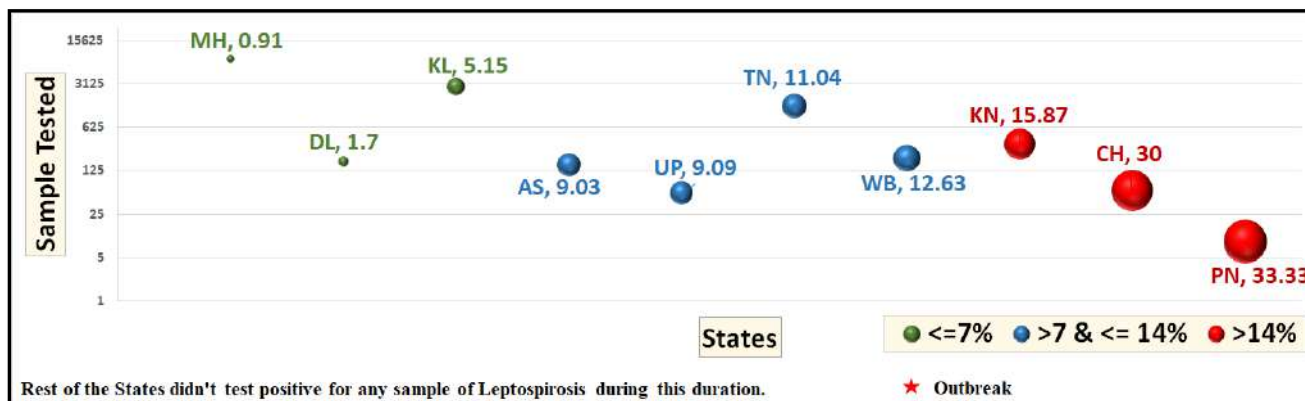
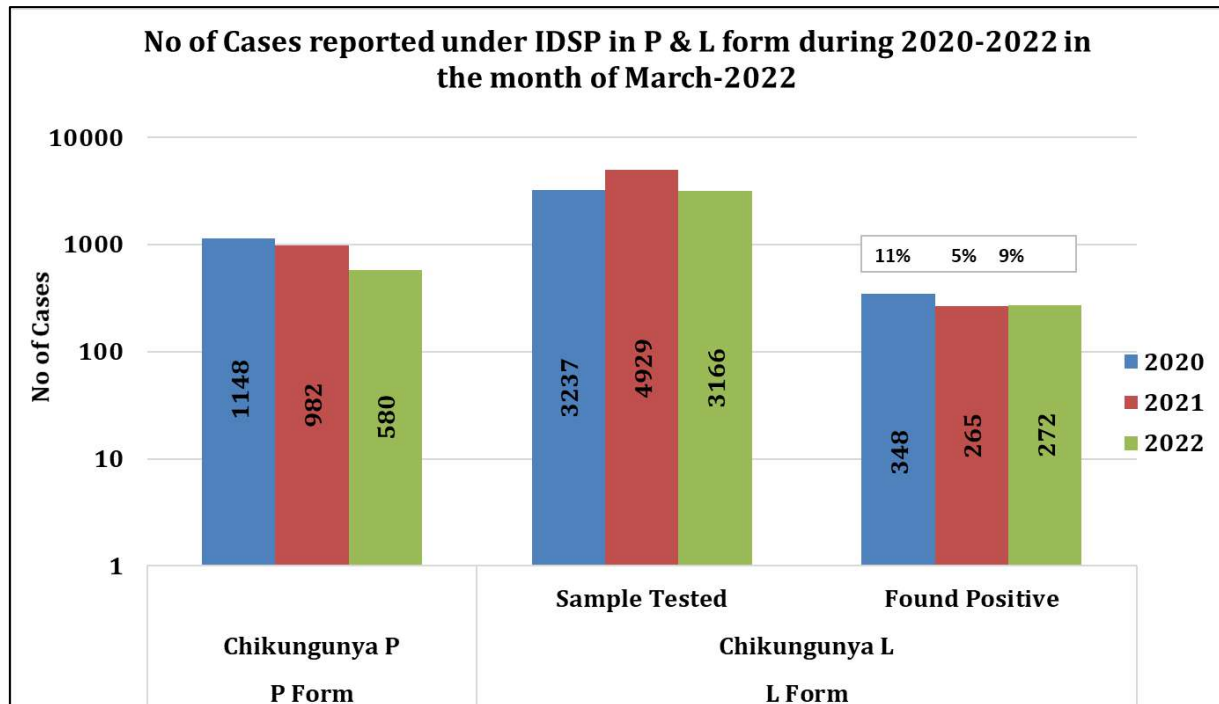


Fig. 27: No. of Chikungunya Cases reported under IDSP in P & L form during March 2020 - 2022



As shown in Fig. 27, number of presumptive Chikungunya cases, as reported by States/UTs in ‘P’ form was 1148 in March 2020; 982 in March 2021 and 580 in March 2022. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in March 2020; 3237 samples were tested for Chikungunya, out of which 348 were found positive. In March 2021; out of 4929 samples, 265 were found to be positive and in March 2022, out of 3166 samples, 272 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 11%, 5% and 9% in March month of 2020, 2021 & 2022 respectively.

Fig. 28: State/UT wise Presumptive Chikungunya cases and outbreaks for March 2022

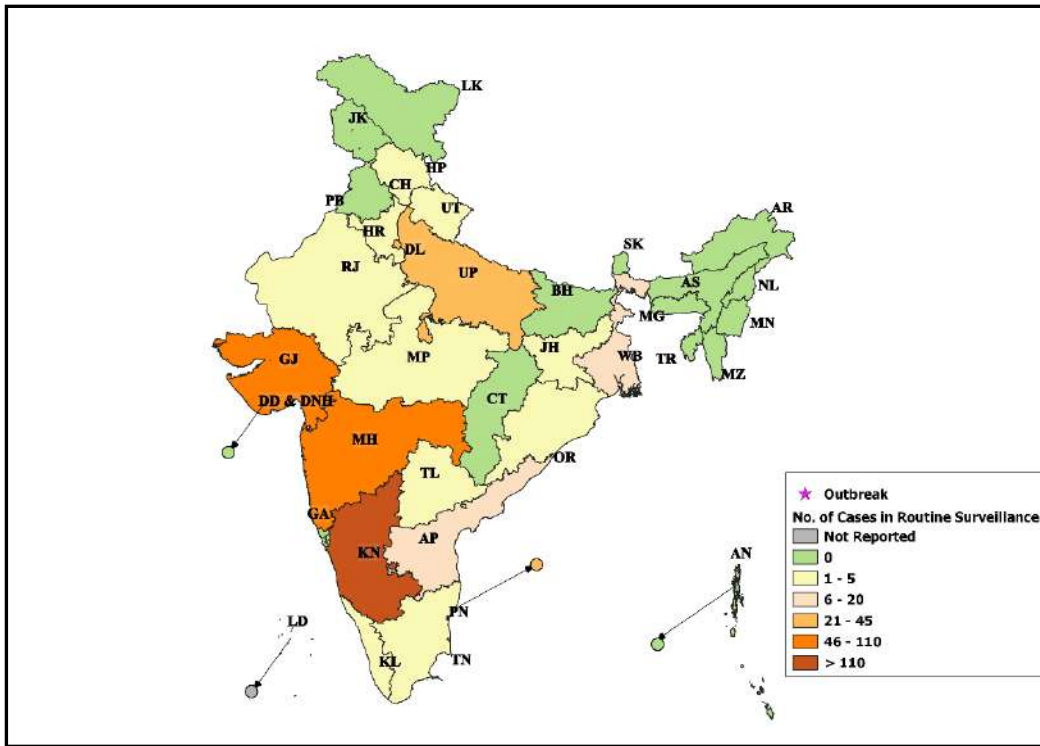


Fig. 29: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for March 2022

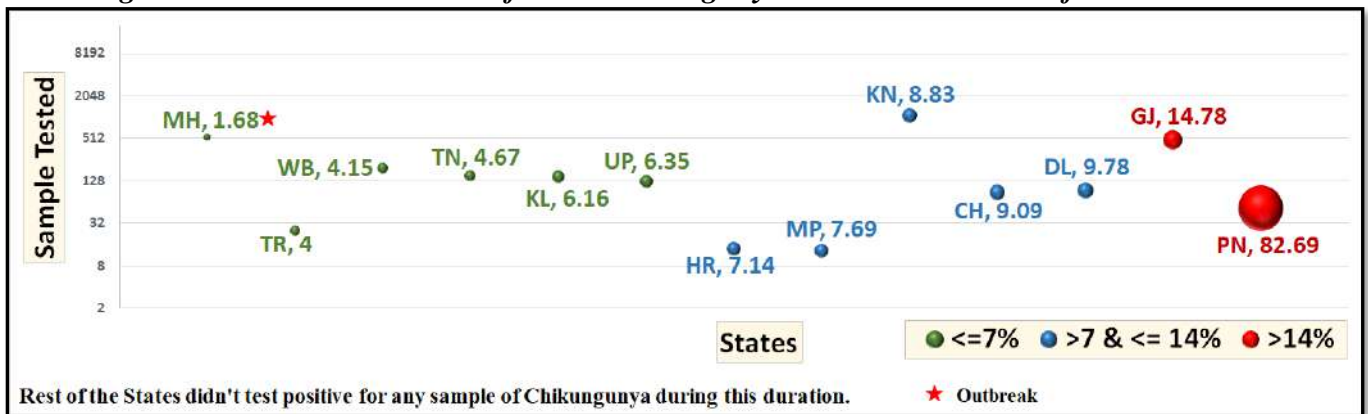
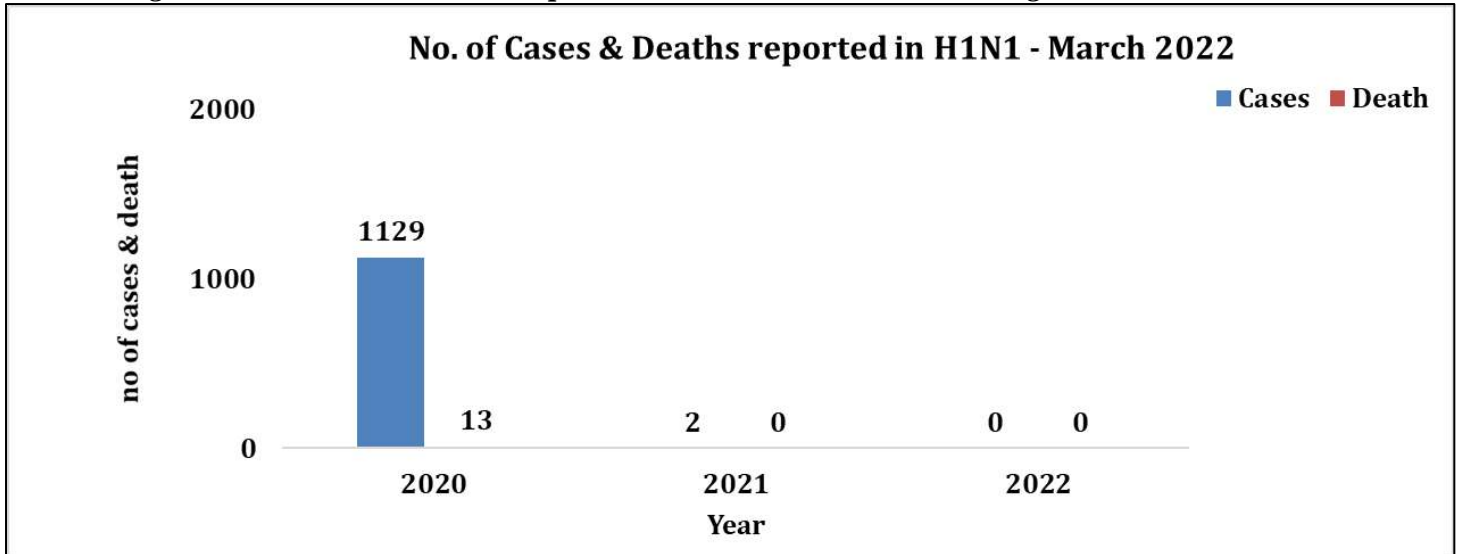


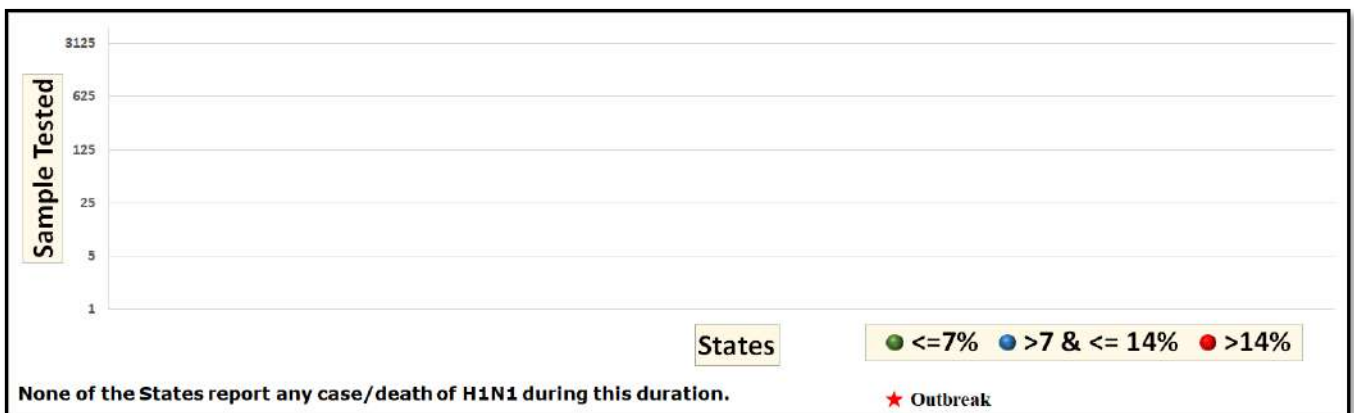
Fig. 30: H1N1 cases & deaths reported under IDSP in L Form during 2020-2022 in March



As shown in Fig. 30, as reported in L form, in March 2020, there were 1129 cases and 13 deaths. In March 2021, there were 2 cases and 0 deaths; and in March 2022, there were 0 cases and 0 deaths.

Case fatality rate for H1N1 were 1.2 %, 0.00% and 0.00 % in March month of 2020, 2021 & 2022 respectively.

Fig. 31: State/UT wise H1N1 cases and outbreaks for March 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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