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Issue - 12 Vol. 4

Disease Alert
प्रकोप चेतावनी

A monthly Surveillance Report from Integrated Disease Surveillance Programme
National Health Mission

December 2019

Inside

SHIGELLOSIS OUTBREAK, DISTRICT GURDASPUR, PUNJAB

BACKGROUND:

Regarding Shigellosis: Bacillary dysentery, or blood in stool, is caused by many etiologies. Among bacterial causes, the most important is infection by bacteria of family *Enterobacteriaceae*. Shigellosis is one of the key causes of Enterobacteriaceae-associated dysentery.

Cluster of dysentery were reported from Ward Mangian by ANMs of this area to PHC Dhianpur on 7th December. Population of ward was reported to be 1153.

MO of PHC communicated the information DSU, Gurdaspur. Investigation was started on same day. An RRT was consisted consisting of District Epidemiologist, Medical Officer of PHC, MPS(M), MPHW(M), and Lab Assistant.

INVESTIGATIONS UNDERTAKEN BY RRT:

Clinical Case Definition: RRT first formalized a case definition so that all cases can be properly identified. For this outbreak, the Clinical Case Definition made by RRT was-

"A probable case of bacillary dysentery was defined as a patient with the following clinical features: fever, chills, abdominal pain, tenesmus, bloody or mucus stool or stool containing >15/high power field (HPF) leukocytes or purulent cells, and microscopically discernible red blood cells and phagocytic cells".

House to house search: A house to house survey for identifying all suspects was started on 7th December. It was found that 19 people were suffering from dysentery.

Stool samples of 3 suspects were collected along with samples of water from locations where it was used for consumption. They were sent for appropriate testing.

LABORATORY DIAGNOSIS:

Stool samples testing: Stool samples of 03 patients were collected on 7th December and tested at IDSP Microbiology Lab of District Hospital Babri, Gurdaspur for culture. All 3 were found positive for *Shigella*.

Antibiotic sensitivity test of all 3 samples was done and the samples were found to be sensitive for Nalidixic Acid, Norfloxacin, Ciprofloxacin, and Ofloxacin.

Water samples test: 05 Water samples were also collected on 9th December and sent to State Public Health Lab, Kharar for testing.

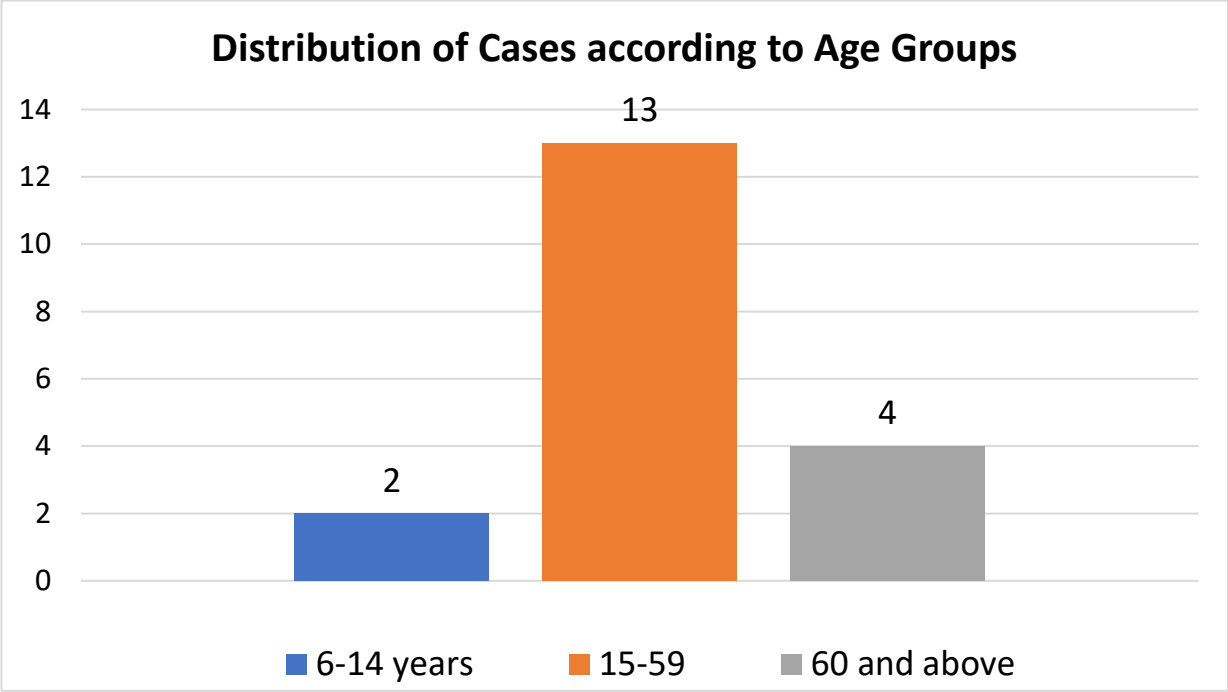
3 samples are of submersible pump were found potable while 2 samples are from Water Supply line, which was found non-potable.

DESCRIPTIVE EPIDEMIOLGY:

Age & Gender-wise distribution of Cases:-

Distribution of cases was as follows:-

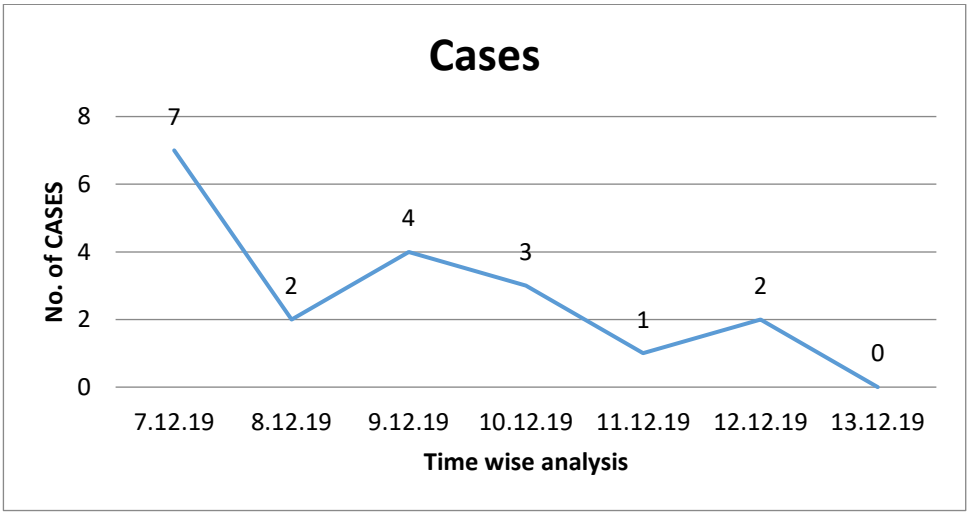
Age	M	F	Total
6-14 years	**0**	**2**	**2**
15-59	**9**	**4**	**13**
60 and above	**2**	**2**	**4**
TOTAL	**11**	**8**	**19**



- 11 out of 19 cases were in males (~58%).
- 13 cases were in 15-59 age group (~68%).
- Attack rate for the affected area = 19/1153*100= 1.6%

B. Time Distribution of Cases:

During investigation it was found that cases occurred between 7th and 12th August. Maximum cases were reported on first day (7th August).



Map showing the case distribution in Village Mangian:- (Dots denote individual cases)

CONCLUSIONS: RRT concluded that this was a dysantry outbreak due to *Shigella* spp. Based on investigation, possible set of factors leading to this outbreak included:-

- Contamination of drinking water sources.
- Interruption of regular water supply.
- Pipes were placed low and at many places found submerged in the open drains.
- There was possibility of leaking joints and fixtures in pipe supply water.
- Illegal connections along water supply lines.

Fig. 1

CONTROL MEASURES: The following control measures were undertaken -

- Liaison was established with the District Administration and Water Supply & Sanitation dept., Batala on same day. Alternative safe drinking water was arranged by them.
- Water Supply & Sanitation dept. was instructed to stop the supply of water in supply lines till resolution of outbreak situation.
- House to house survey was started under supervision of District Epidemiologist.
- Chlorine tablets and ORS were distributed and IEC given for prevention of water borne diseases. Special emphasis was imparted on boiling of drinking water, hand washing and immediate reporting of diarrhea cases.
- Active surveillance was started for diarrhea & dysentery cases in the area.
- Medical camp was organized at the site to treat any new case.
- Daily survey carried out by local RRT team.
- Emergency medical camp and ambulance services strengthened. .
- Instructions were issued to concerned departments to find out faults as soon as possible and fix the same.
- Resampling of drinking water was done on 23.12.2019 and 5 samples were collected with the coordination of WSS department. All water samples found potable of that area. Water supply to that area was restored on 30.12.2019 by the concerned department.

Fig 2: Active surveillance being carried out by RRT team

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue Leptospirosis, Dengue, Chikungunya, Leptospirosis and Seasonal Influenza A (H1N1) During December 2017 - 2019*

Data extracted from IDSP Portal (www.idsp.nic.in) as on February 3rd, 2020.

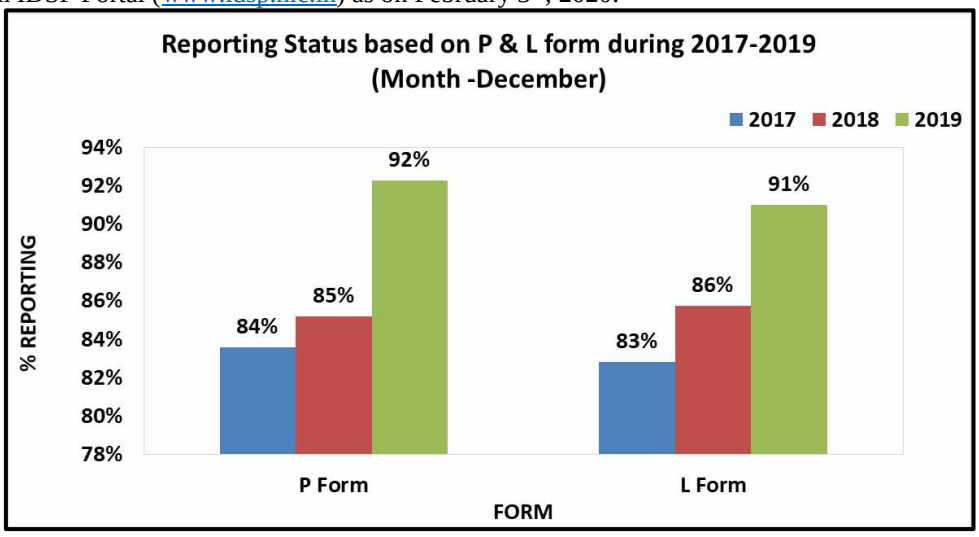


Fig 3: RU wise reporting based on P & L form during December 2017 - 2019

As shown in Fig 3, in December 2017, 2018 and 2019, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 84%, 85% and 92% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 83%, 86% and 91% 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 over the years in both P and L form, thereby improving the quality of surveillance data.

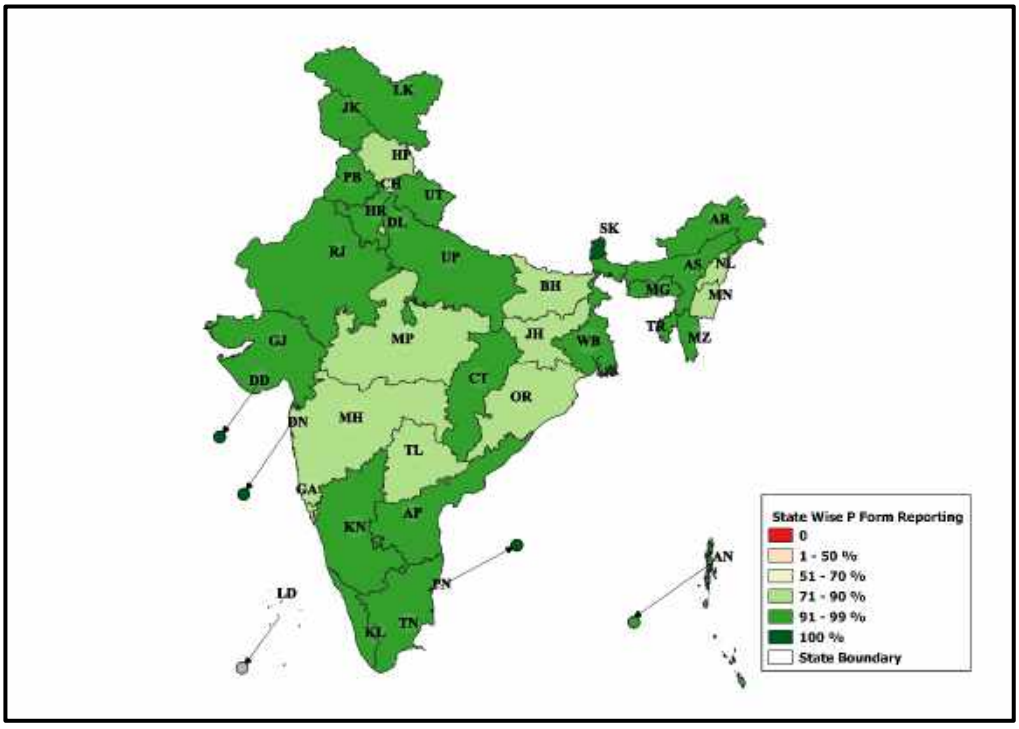


Fig 4: State/UT wise P form completeness % for December 2019

Fig 5: State/UT wise L form completeness % for December 2019

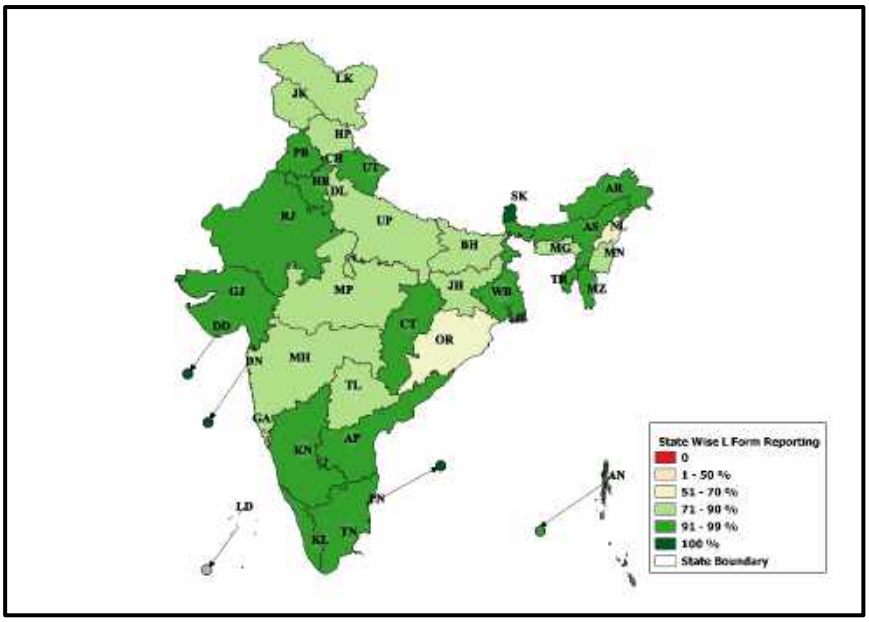
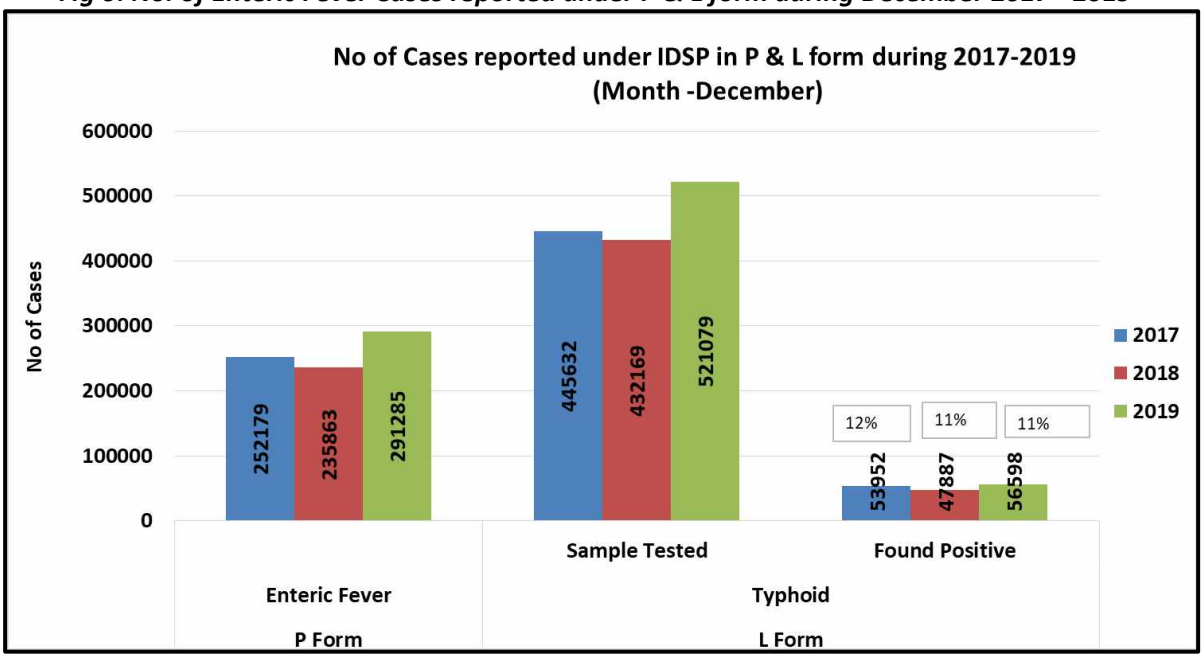


Fig 6: No. of Enteric Fever Cases reported under P & L form during December 2017 - 2019



As shown in Fig 6, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 252179 in December 2017; 235863 in December 2018 and 291285 in December 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in December 2017; 445632 samples were tested for Typhoid, out of which 53952 were found positive. In December 2018; out of 432169 samples, 47887 were found to be positive and in December 2019, out of 521079 samples, 56598 were found to be positive.

Sample positivity has been 12.11%, 11.08% and 10.86% in December month of 2017, 2018 & 2019 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.

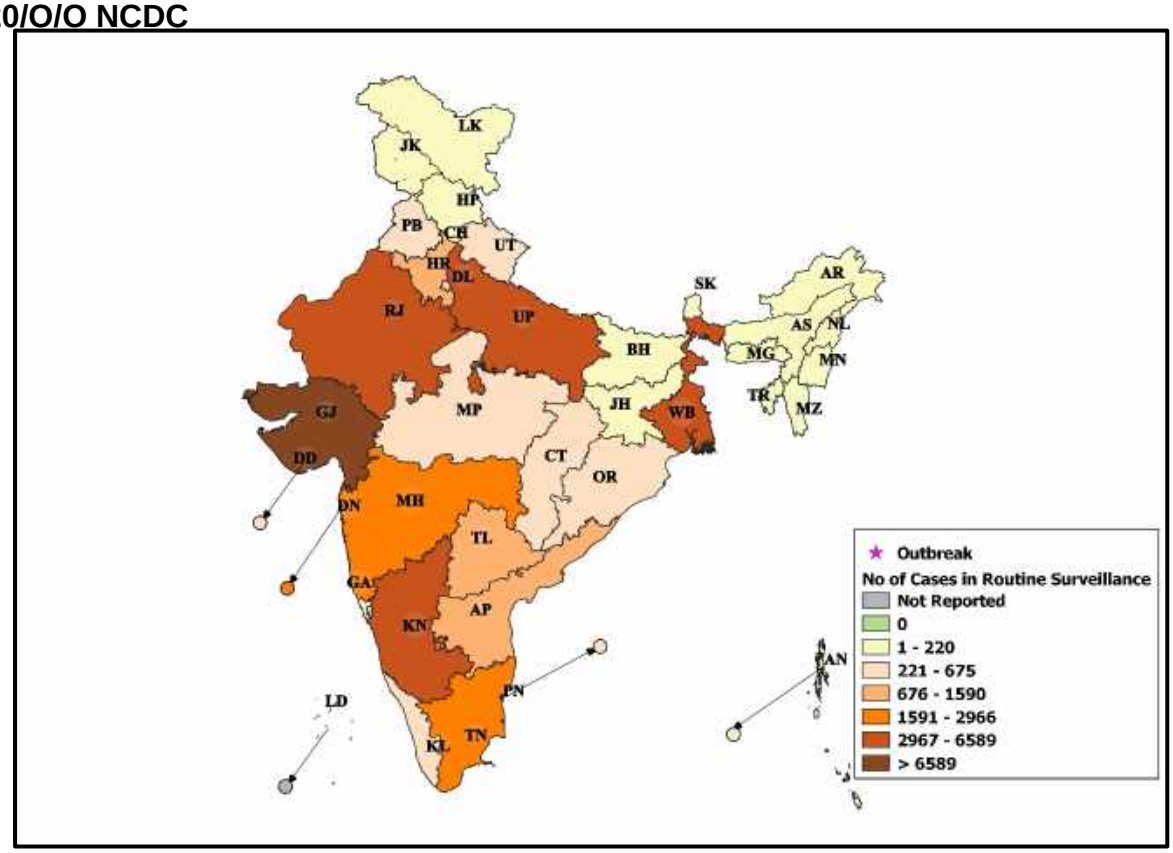
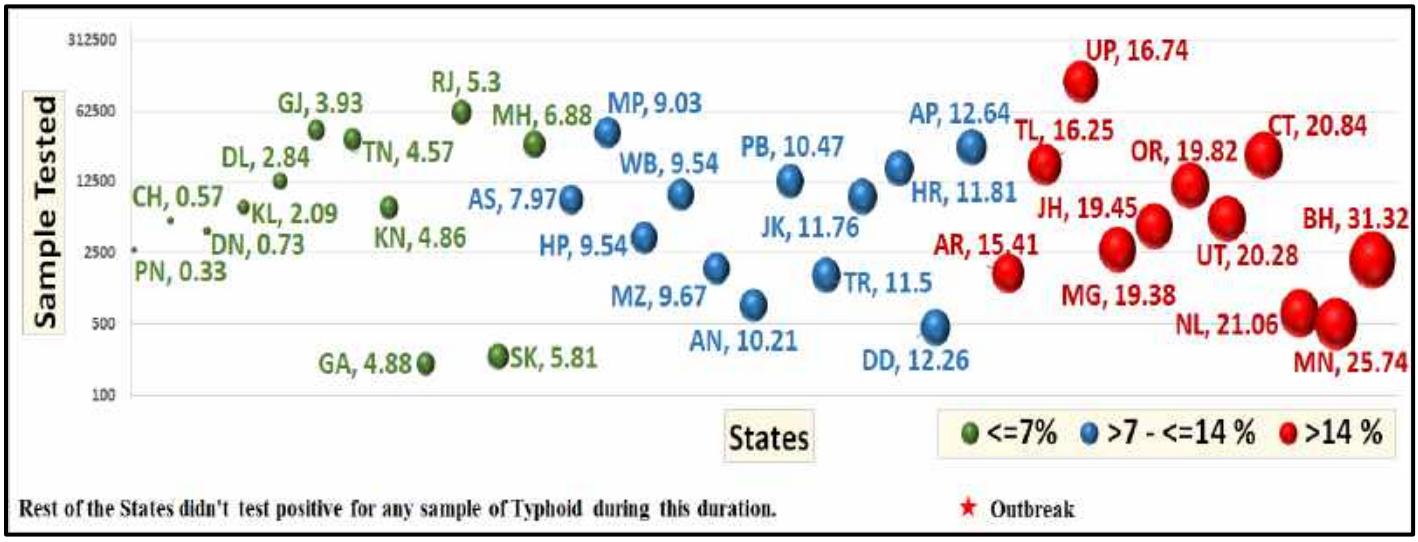


Fig 7: State/UT wise Presumptive Enteric fever cases and outbreaks for December 2019

Fig 8: State/UT wise Lab Confirmed Typhoid cases and outbreaks for December 2019



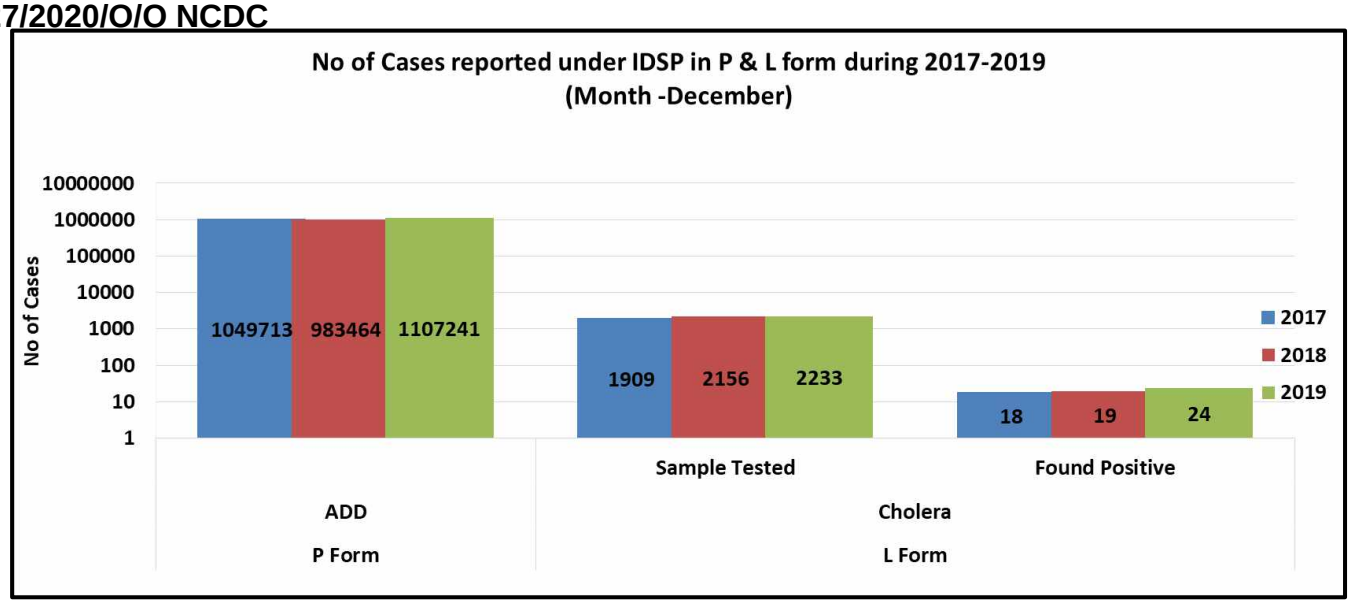


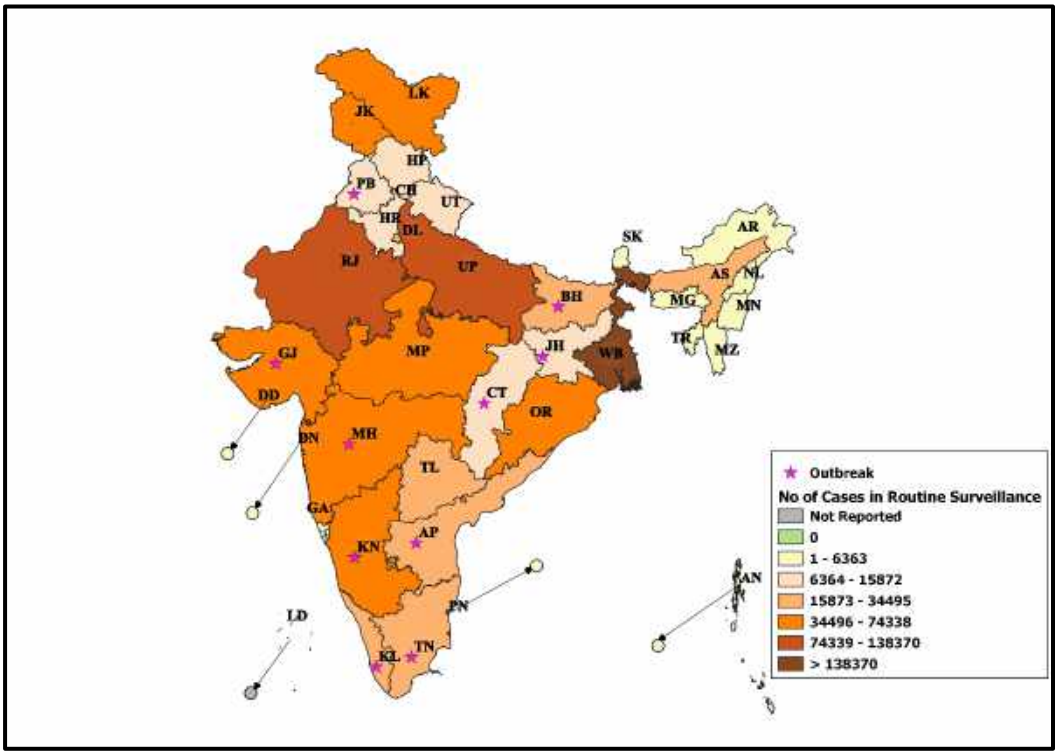
Fig. 9: No. of ADD Cases reported under IDSP in P Form & Cholera Cases in L form during December 2017 - 2019

As shown in Fig 9, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1049713 in December 2017; 983464 in December 2018 and 1107241 in December 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in December 2017, 1909 samples were tested for Cholera out of which 18 tested positive; in December 2018, out of 2156 samples, 19 tested positive for Cholera and in December 2019, out of 2233 samples, 24 tested positive.

Sample positivity of samples tested for Cholera has been 0.94%, 0.88% and 1.07% in December month of 2017, 2018 & 2019 respectively.

Fig 10: State/UT wise Presumptive ADD cases and outbreaks for December 2019



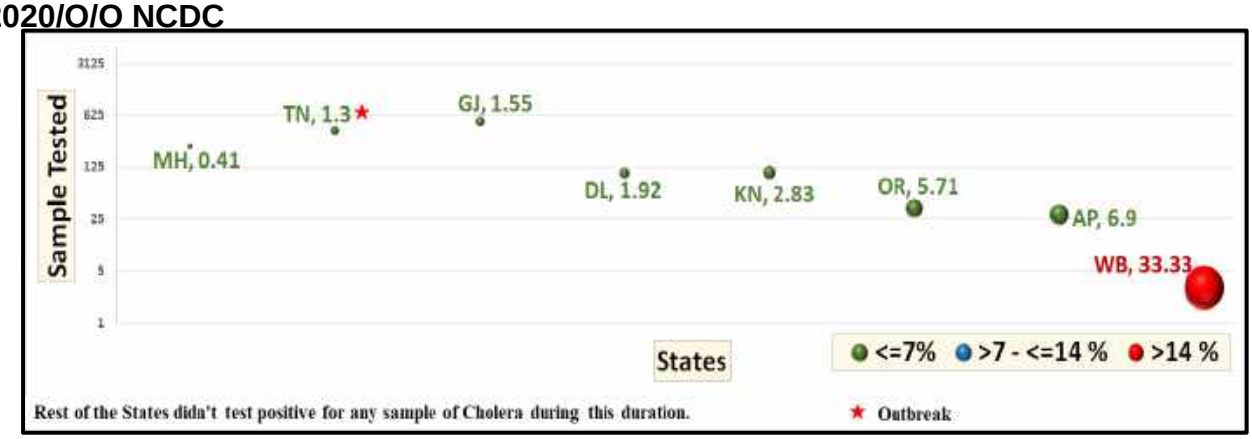


Fig 11: State/UT wise Lab Confirmed Cholera cases and outbreaks for December 2019

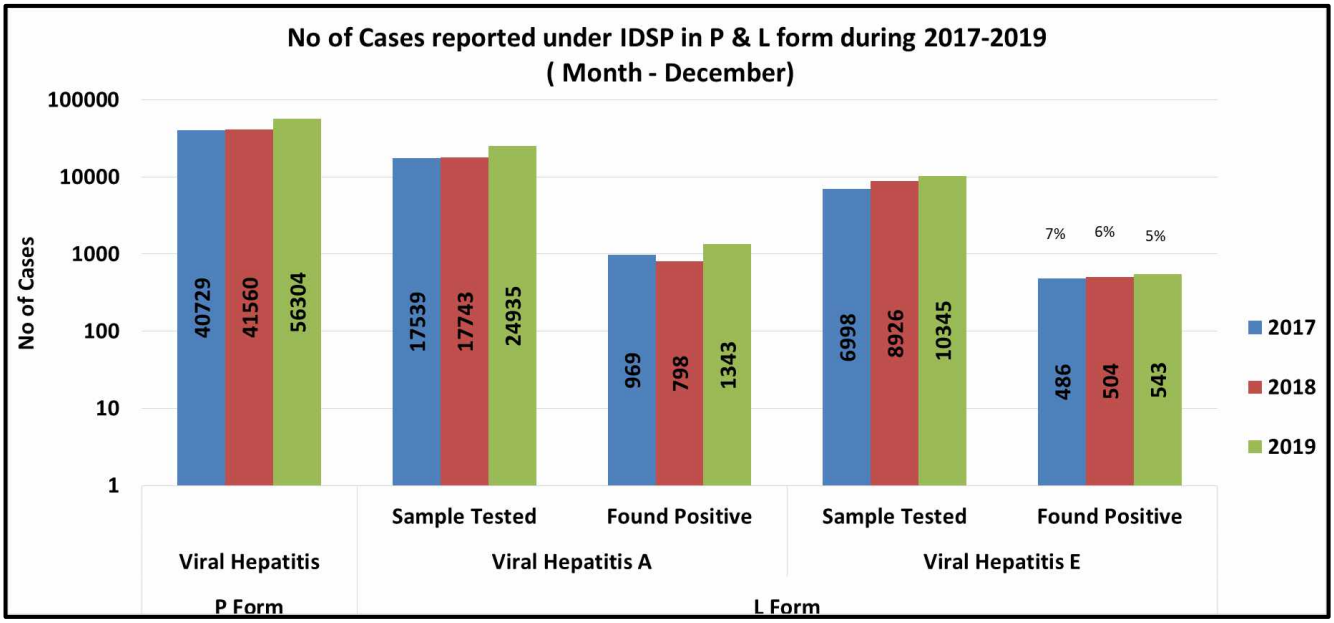


Fig 12: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during December 2017 - 2019

As shown in Fig 12, the number of presumptive Viral Hepatitis cases was 40729 in December 2017, 41560 in December 2018 and 56304 in December 2019. These presumptive cases were diagnosed on the basis of case definitions provided under IDSP.

As reported in L form for Viral Hepatitis A, in December 2017; 17539 samples were tested out of which 969 were found positive. In December 2018 out of 17743 samples, 798 were found to be positive and in December 2019, out of 24935 samples, 1343 were found to be positive.

Sample positivity of samples tested for Hepatitis A has been 5.52%, 4.50% and 5.39% in December month of 2017, 2018 & 2019 respectively.

As reported in L form for Viral Hepatitis E, in December 2017; 6998 samples were tested out of which 486 were found positive. In December 2018; out of 8926 samples, 504 were found to be positive and in December 2019, out of 10345 samples, 543 were found to be positive.

Sample positivity of samples tested for Hepatitis E has been 6.94%, 5.65% and 5.25% in December month of 2017, 2018 & 2019 respectively.

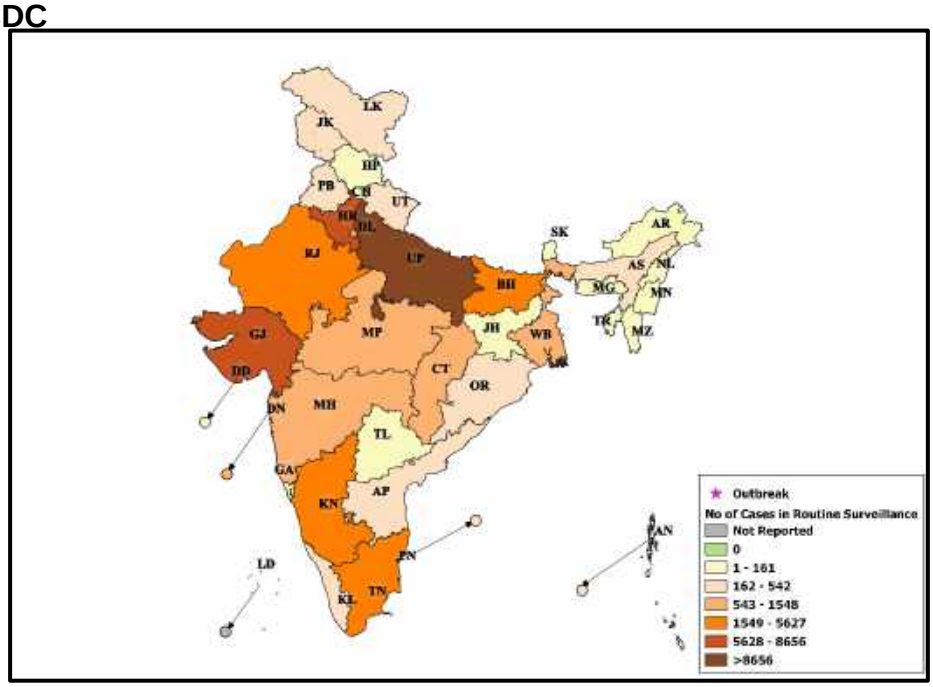


Fig 13: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for December 2019

Fig 14: State/UT wise Lab Confirmed Viral Hepatitis A cases and outbreaks for December 2019

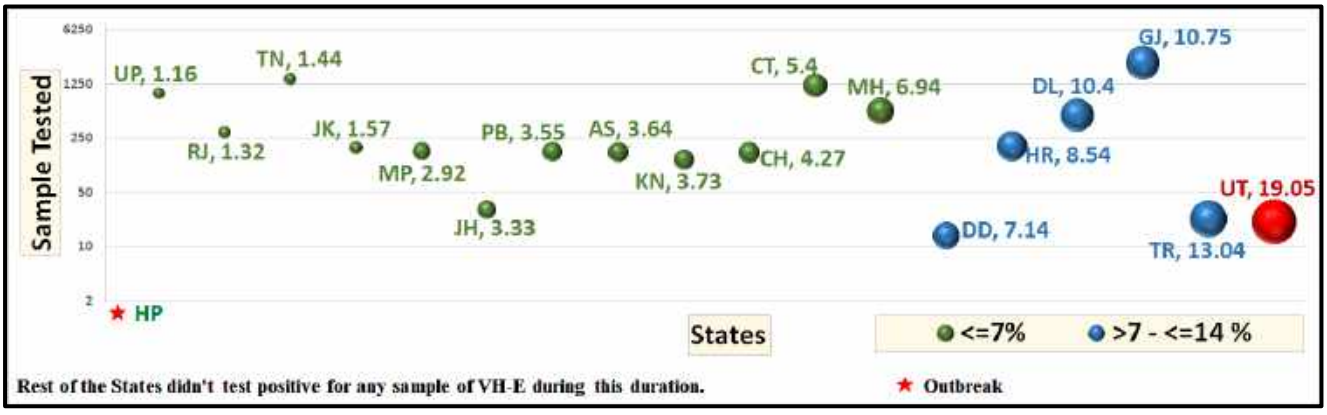
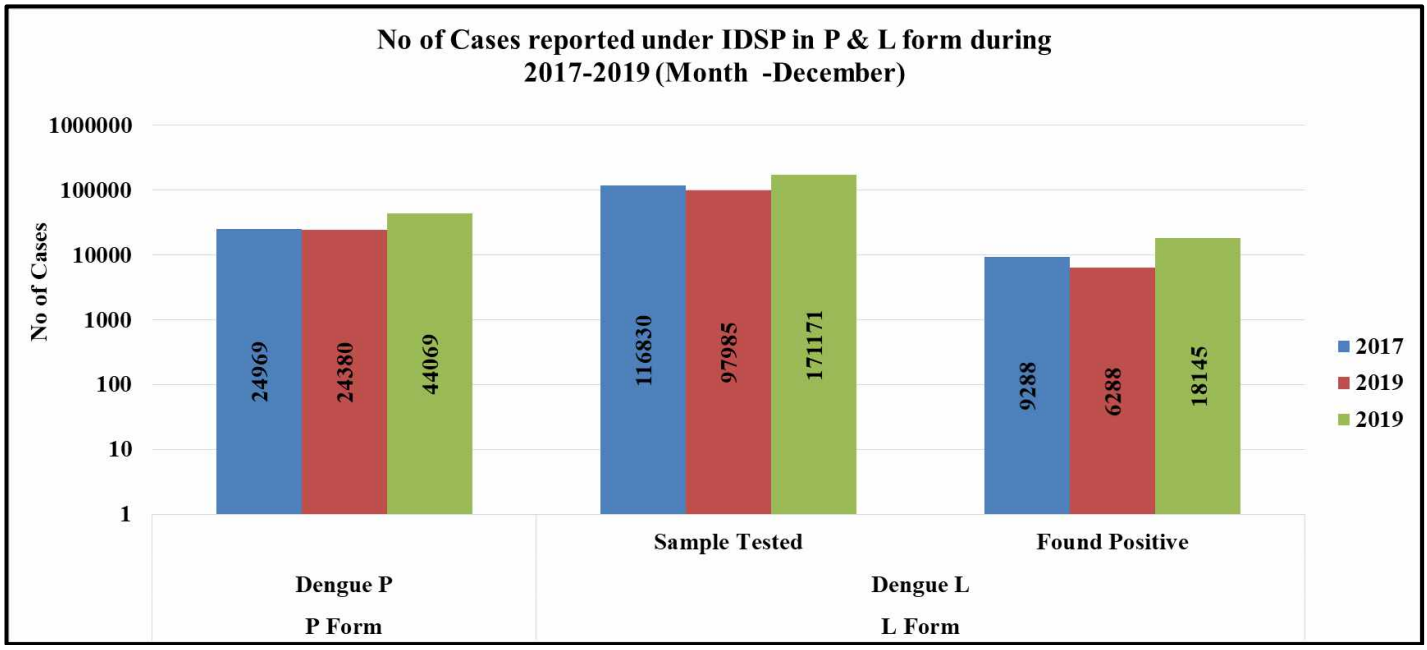


Fig 15: State/UT wise Lab Confirmed Viral Hepatitis E cases and outbreaks for December 2019

Fig 16: No. of Dengue Cases reported under IDSP in P & L form during December 2017 - 2019



As shown in Fig 16, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 24969 in December 2017; 24380 in December 2018 and 44069 in December 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in December 2017; 116830 samples were tested for Dengue, out of which 9288 were found positive. In December 2018; out of 97985 samples, 6288 were found to be positive and in December 2019, out of 171171 samples, 18145 were found to be positive.

Sample positivity of samples tested for Dengue has been 7.95%, 6.42% and 10.60% in December month of 2017, 2018 & 2019 respectively.

Fig 17: State/UT wise Presumptive Dengue cases and outbreaks for December 2019

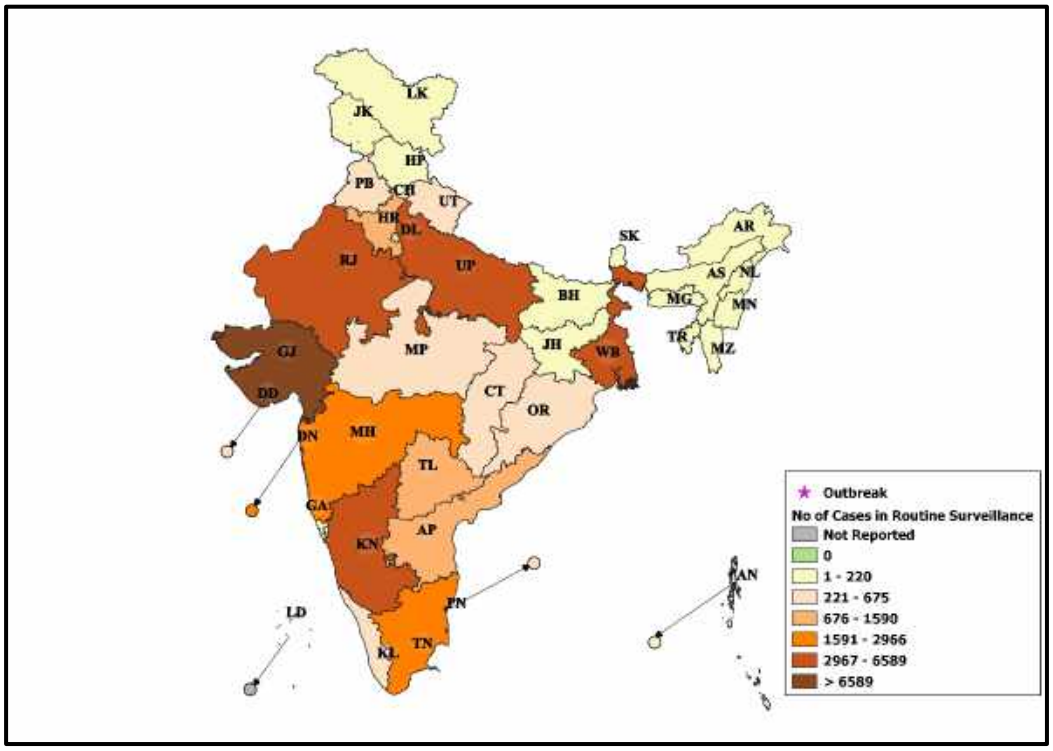


Fig 18: State/UT wise Lab Confirmed Dengue cases and outbreaks for December 2019

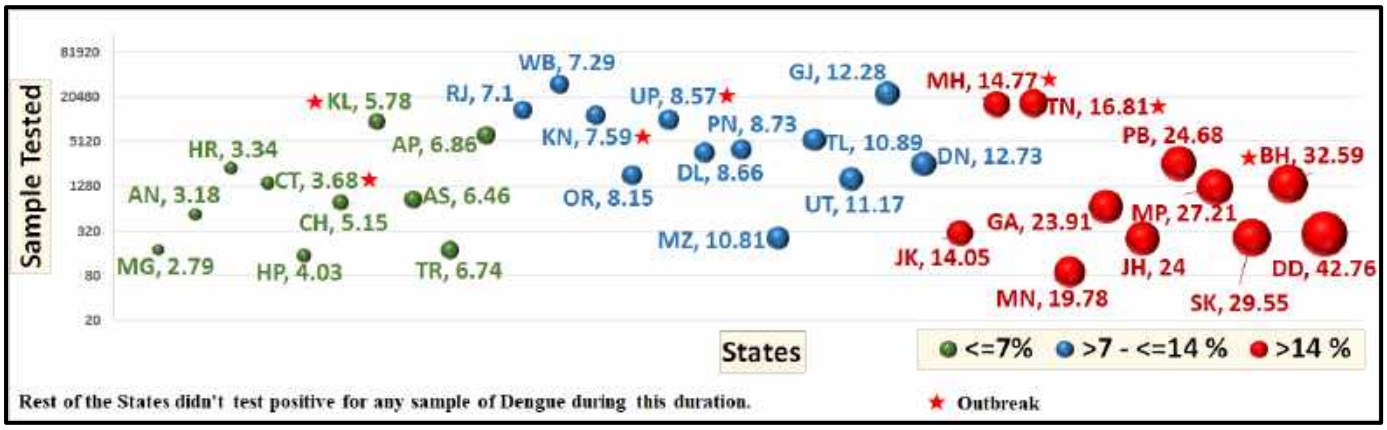
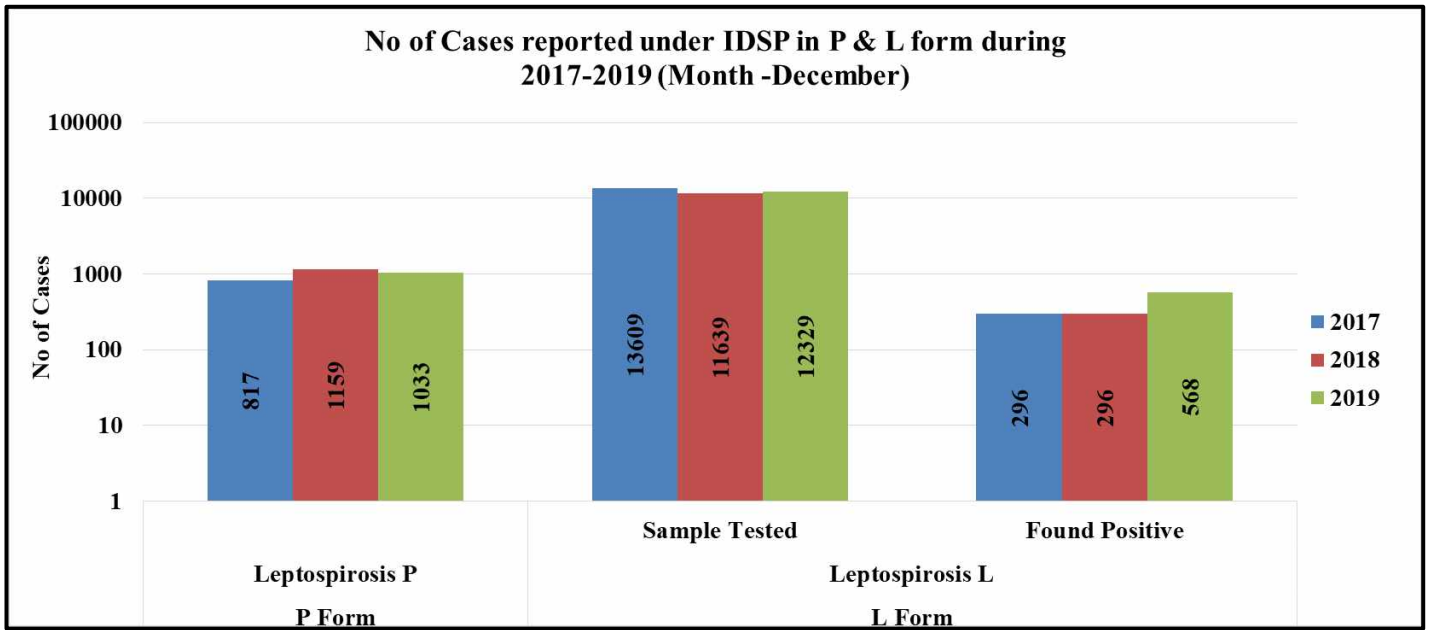


Fig 19: No. of Leptospirosis Cases reported under IDSP in P & L form during December 2017 – 2019



As shown in Fig 19, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 817 in December 2017; 1159 in December 2018 and 1033 in December 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in December 2017; 13609 samples were tested for Leptospirosis, out of which 296 were found positive. In December 2018; out of 11639 samples, 296 were found to be positive and in December 2019, out of 12329 samples, 568were found to be positive.

Sample positivity of samples tested for Leptospirosis has been 2.18%, 2.54% and 4.61% in December month of 2017, 2018 & 2019 respectively.

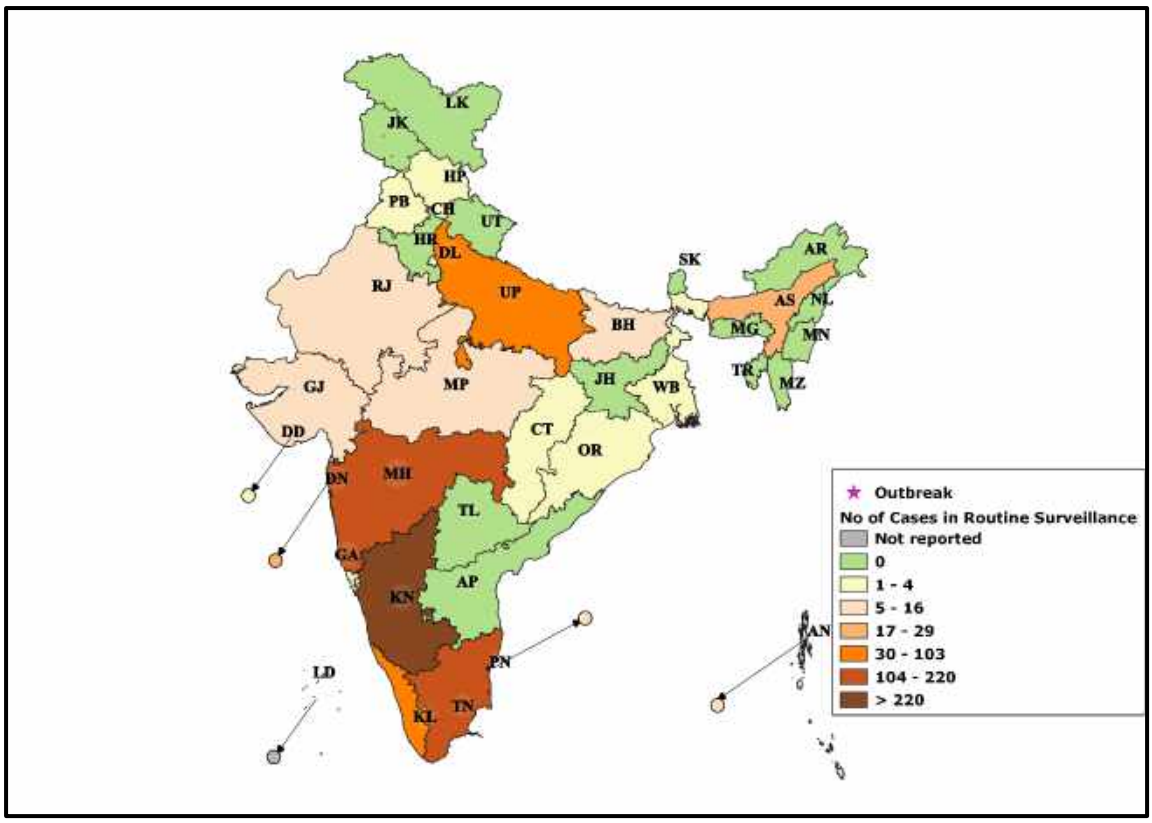
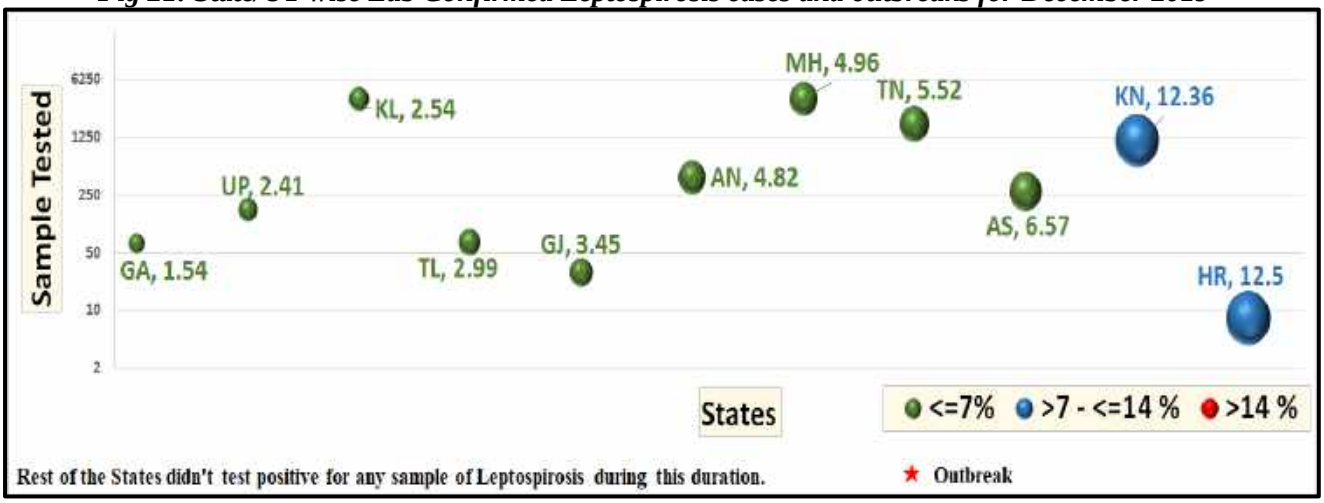


Fig 20: State/UT wise Presumptive Leptospirosis cases and outbreaks for December 2019

Fig 21: State/UT wise Lab Confirmed Leptospirosis cases and outbreaks for December 2019



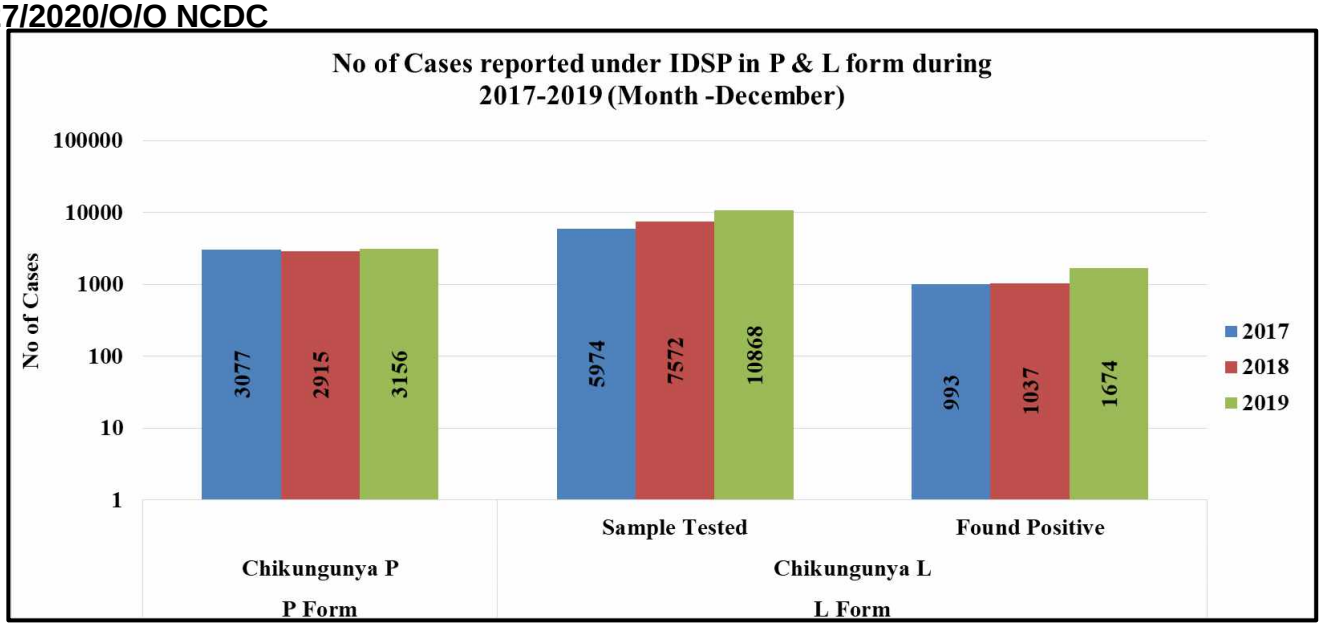


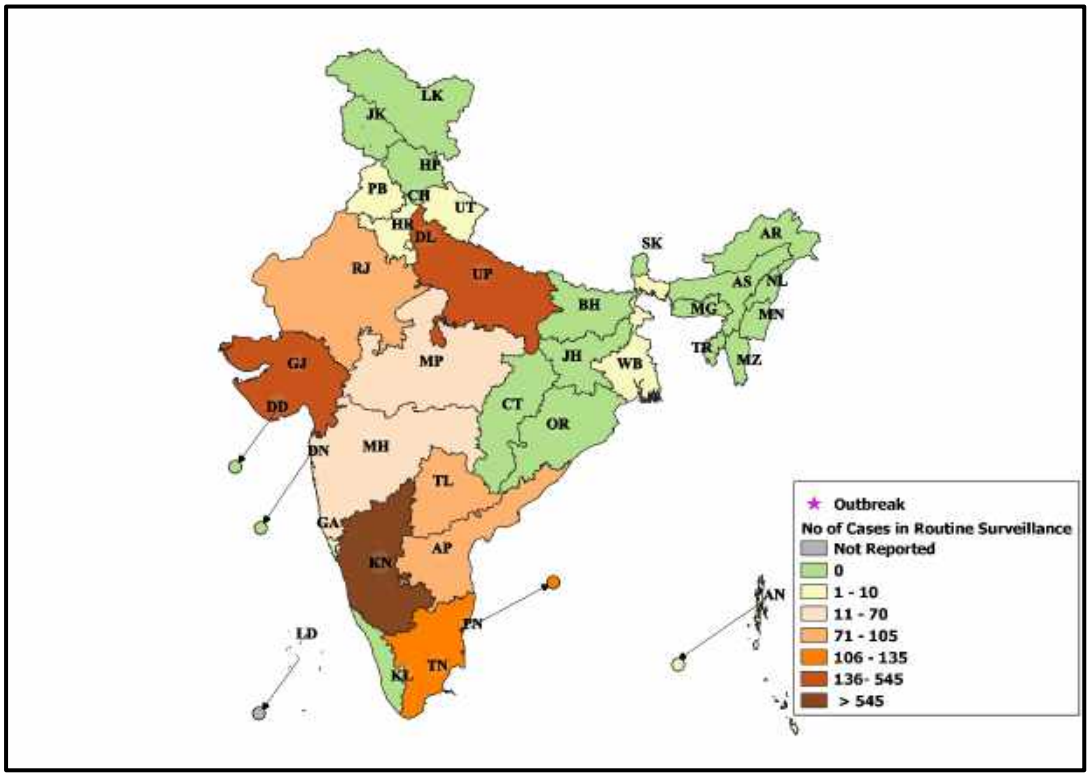
Fig 22: State/UT wise Presumptive Chikungunya cases and outbreaks for December 2019

As shown in Fig 22, number of presumptive Chikungunya cases, as reported by States/UTs in 'P' form was 3077 in December 2017; 2915 in December 2018 and 3156 in December 2019. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in December 2017; 5974 samples were tested for Chikungunya, out of which 993 were found positive. In December 2018; out of 7572 samples, 1037 were found to be positive and in December 2019, out of 10868 samples, 1674 were found to be positive.

Sample positivity of samples tested for Chikungunya has been 16.62%, 13.70% and 15.40% in December month of 2017, 2018 & 2019 respectively.

Fig. 23: No. of Chikungunya Cases reported under IDSP in P & L form during December 2017 - 2019



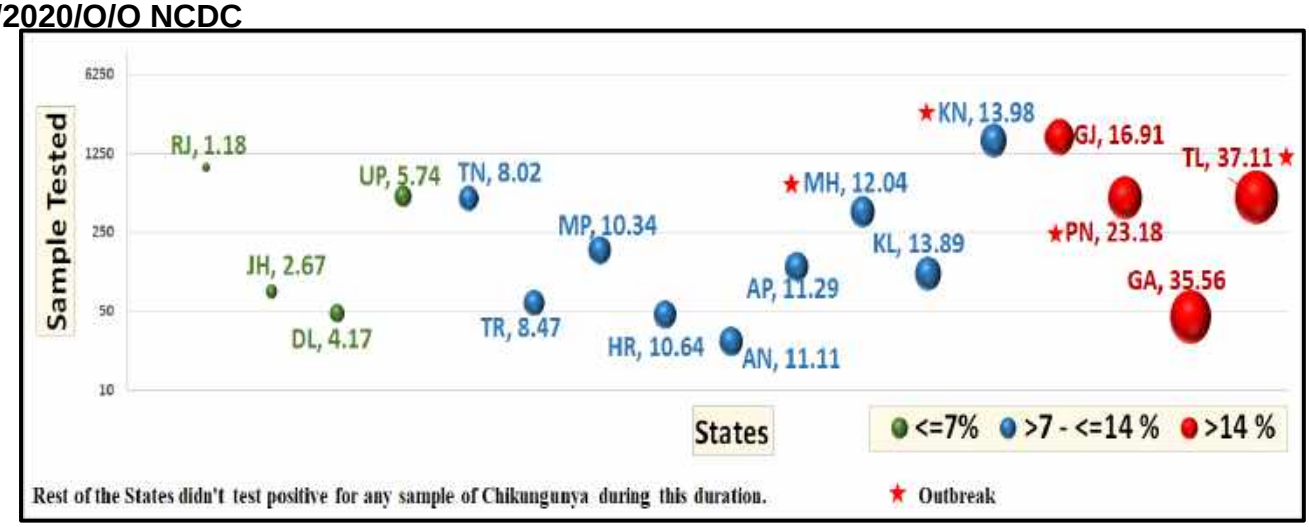
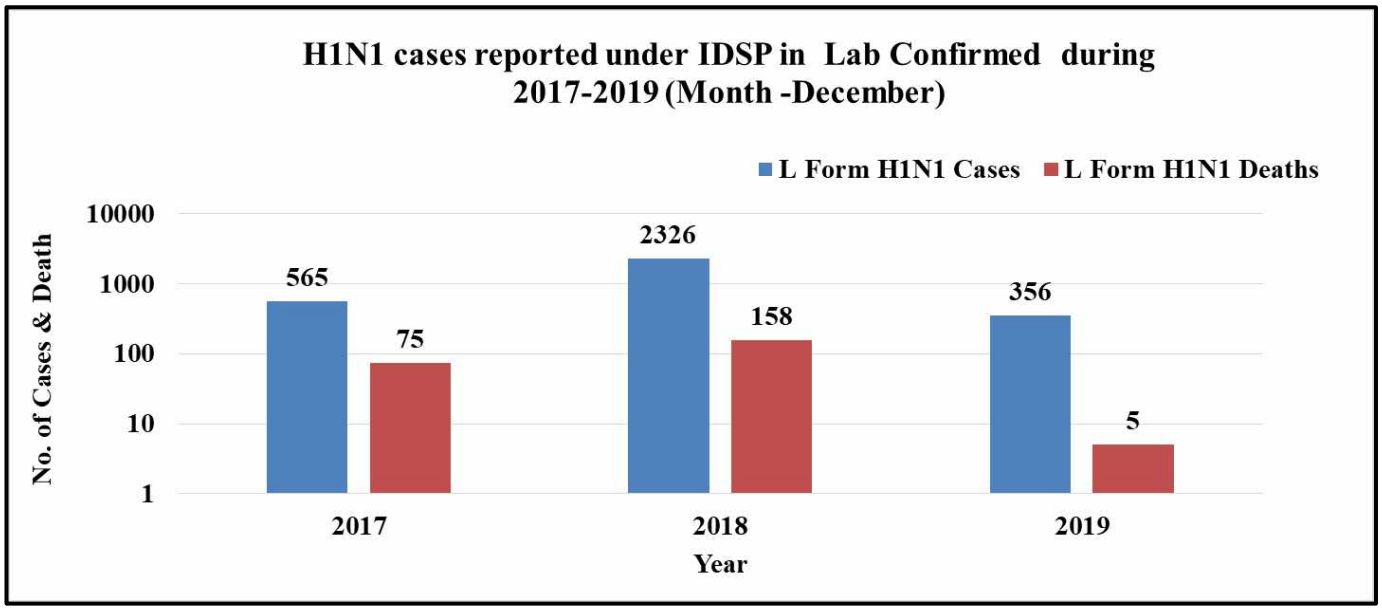


Fig 24: State/UT wise Lab Confirmed Chikungunya cases and outbreaks for December 2019

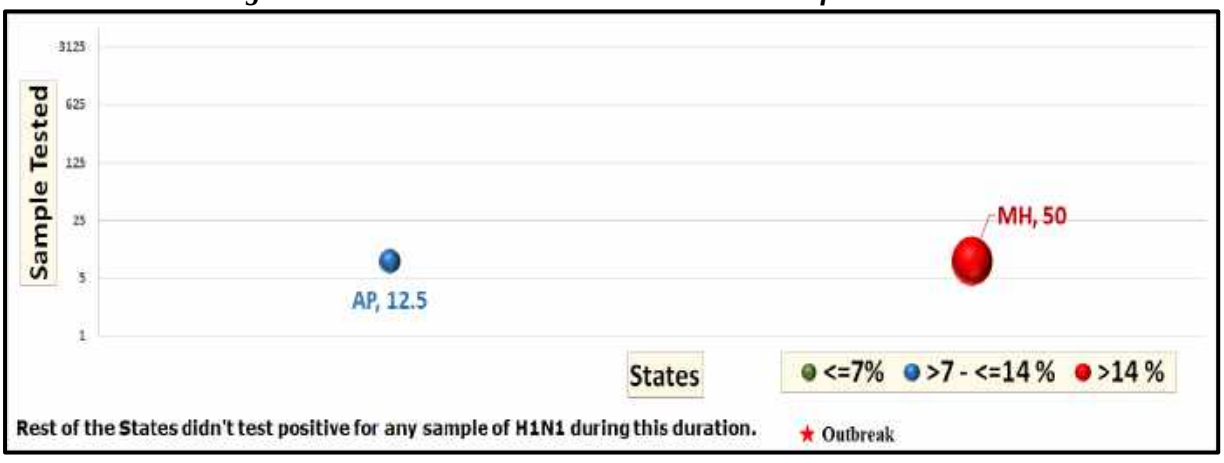
Fig 25: H1N1 cases reported under IDSP in L Form during 2017-2019 in December 2019



As reported in L form, in December 2017; there were 565 cases and 75 deaths. In December 2018; there were 2326 cases and 158 deaths and in December 2019, there were 356 cases and 5 deaths.

Case fatality rate for H1N1 were 13.27%, 6.79% and 1.40% in December month of 2017, 2018 & 2019 respectively.

Fig 26: State/UT wise H1N1 cases and outbreaks for December 2019



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.

Acknowledgement:

This Disease Alert from IDSP acknowledges the contribution of Dr. Sujeet K Singh, NPO Project Director - IDSP & Director NCDC; Dr. Himanshu Chauhan, Joint Director & Officer In-Charge, IDSP; Dr. Pranay Verma, Deputy Director, IDSP; Dr. Sahil Goyal, Consultant(Epidemiologist), IDSP, Ms. Ritu Malik, Consultant (GIS), IDSP & Ms. Sujata Malhotra, Data Manager, IDSP.

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

Prepared by: Central Surveillance Unit, IDSP under guidance of Director, NCDC