Issue - 5 Vol. 1

Disease Alert
प्रकोप चेतावनी

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

May 2016

Inside

ESTABLISHMENT OF DISEASE SURVEILLANCE SYSTEM DURING MASS GATHERING: SIMHASTHA, 2016

Kumbh Mela (Kumbh – 'Pot', Mela – 'Fair') is a mass Hindu pilgrimage of faith occurring once in four years in which Hindus gather to bathe in a sacred river. Around 50 Million pilgrims from all walks of life join and take holy dip during this fair. These four fairs are held periodically at one of the following places by rotation: Haridwar (Uttarkhand), Allahabad (Uttar Pradesh), Nashik (Maharashtra) and Ujjain (Madhya Pradesh). At any given place, the Kumbh Mela is held once in 12 years. In year 2016, the fair was held in Ujjain, Madhya Pradesh from 22nd April to 21st May.

To support the State in surveillance of acute infectious diseases and prevent the occurrence of outbreaks, under the guidance of DGHS, NCDC established surveillance system for Simhastha 2016, Ujjain.

The following actions were taken for the initiation and smooth continuation of the surveillance activities:

A. Setting up surveillance system.

1. The HOD Epidemiology & NPO IDSP visited the Ujjain between 11 April to 13 April, 2016 for preparation of epidemiological intelligence activity and to establish the surveillance system at Simhastha. The officers conducted meeting at DSU (Ujjain) with Principle Secretary Health, DHS, SSO, DSO and concerned officers to set up the surveillance system during mass gathering, finalized designed P (Probable diagnosis) & L (laboratory based diagnosis) formats under IDSP, reporting mechanism in mela areas of Simhastha.
2. The Kumbh mela area was divided into 6 zones, each zone had 1 epidemiologist to monitor the reporting system along with EIS Officers. Assistant Directors/epidemiologist from NCDC supervised the activity in each zone, IDSP plan was prepared and shared among the officers.

Fig. 1: Zones and Sectors in Simhastha 2016

Name of Zone	Sector	Type of Hospital
1.Kaal Bhairav	1.Siddhavat	20 Bed
	2.Kaal Bhairav	06 Bed
	3.Garhtalika	06 Bed
2.Mangalnath	4.Mangalnath	20 Bed
	5.Khilachipur	06 Bed
	6.Khakchauk	06 Bed
3.Dutta Akhara	7.Ranjeet Hanuman	06 Bed
	8.Dutta Akhara	20 Bed
	9.Mullapura	06 Bed
	10.Ujarkheda-1	06 Bed
	11.Ujarkheda-2	06 Bed
	12.Bhukhimata	06 Bed
4.Mahakaal	13.Ramghat	06 Bed
	14.Harsiddhi	20 Bed
	15.Mahakaal Mandir	06 Bed
	16.Narsigh Ghat	06 Bed
	17.Lalpul	06 Bed
	18.Gopal Mandir	Chhatri Chauk Dispensary(Permanant)
	19.Chintaman Ganesh	06 Bed
5.Chamunda Mata	20.Free Ganj	District & Madhavnagar Hospital(Permanant)
6.Triveni	21.Yantra Mahal	06 Bed
	22.Triveni(Shani Mandir)	06 Bed

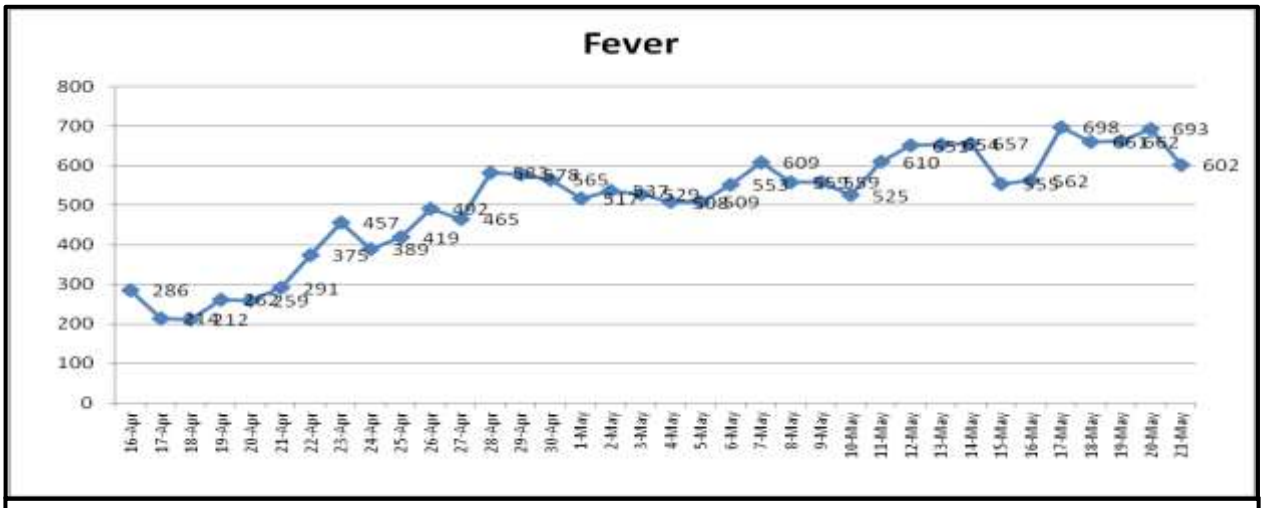
Table. 1: Zones & Sectors in Simhastha 2016

3. The onsite training on data collection, compilation and analysis was provided to the Data Manager, M& E officers.
4. The Assistant Directors and EIS officers from NCDC provided the onsite training to the medical officers and paramedical staff about the case definition for diseases under surveillance, reporting formats and reporting mechanism.
5. All the health institutions including private hospitals, medical colleges and NGO run clinics included as a reporting units to IDSP control room. Maximum reporting units were covered under surveillance over a period of time.
6. The reporting from the reporting units were initiated from 16 April, 2016. Analysis and interpretation of the daily reports was shared with State stake holders (JS, DHS, SSO, CMHO, etc.) as well as center surveillance unit of IDSP.

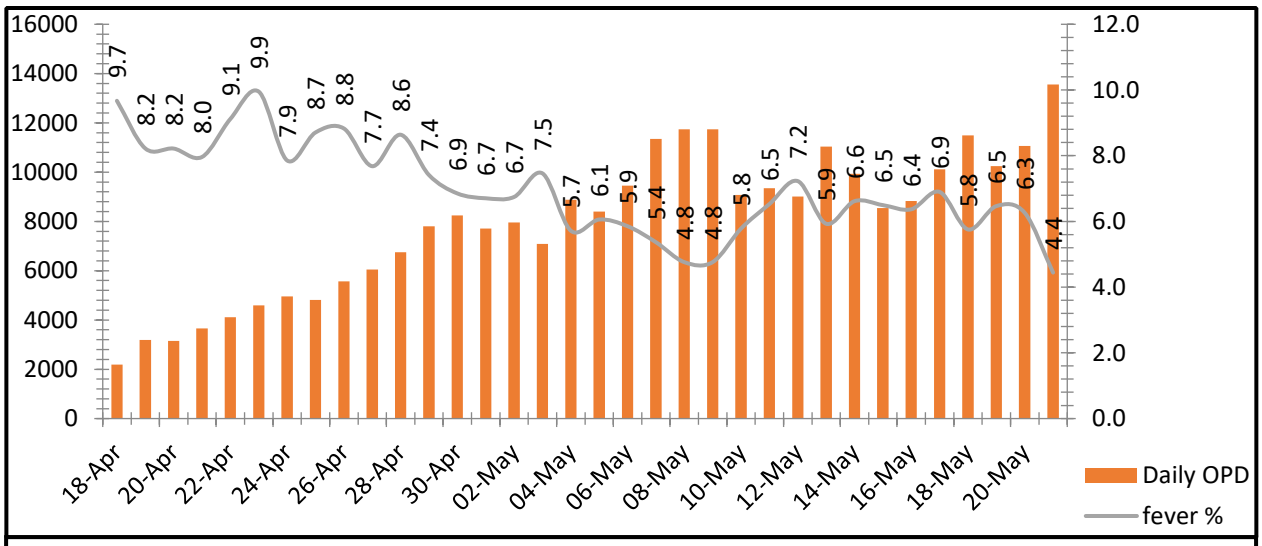
7. On daily basis, after reviewing the report CSU shared the report with Director EMR, and with office of DGHS, JS (PH), Spl. DG (PH).
8. The IDSP control room in Ujjain was made functional 24 X 7 with telephone number during Simhastha, 2016.
9. Water sampling testing was coordinated with the Public Health Engineering (PHE) Department. The daily water sample testing for Chlorine level and culture was conducted through Krishna Material Digital Testing Laboratory, Bhopal.
10. The field observations of the officers and surveillance data were daily shared and discussed with DHS during meeting.

B. Reports and observation from the Ujjain Simhastha 2016:

1. The daily reporting started from 16.04.2016 and continued till 21st May 2016 as was the last day of Simhastha 2016, Ujjain.
2. Cumulative report of the cases and deaths during Simhastha shows maximum cases reported of Fever [18282 (6.7%)], Acute Respiratory Infection (ARI) [(15408, (5.7%)], Acute Diarrhoeal Diseases [(14186,(5.2%)], Skin Diseases [(2968,(1.1)], Heat stroke [(1224,(0.45)] and Injury/Trauma [1109,(0.4)]. 12(80%) deaths reported due to Injury/Trauma during the stampede on 6th May 2016.
3. A stampede occurred as a result of storm and lightening during Simhastha on 06.05.2016 in which 14 deaths recorded. Major cause of death were from lighting 3(21), injury 8(58%) & Drowning 3(21%)
4. During the Simhastha period no major outbreak was observed from the surveillance.

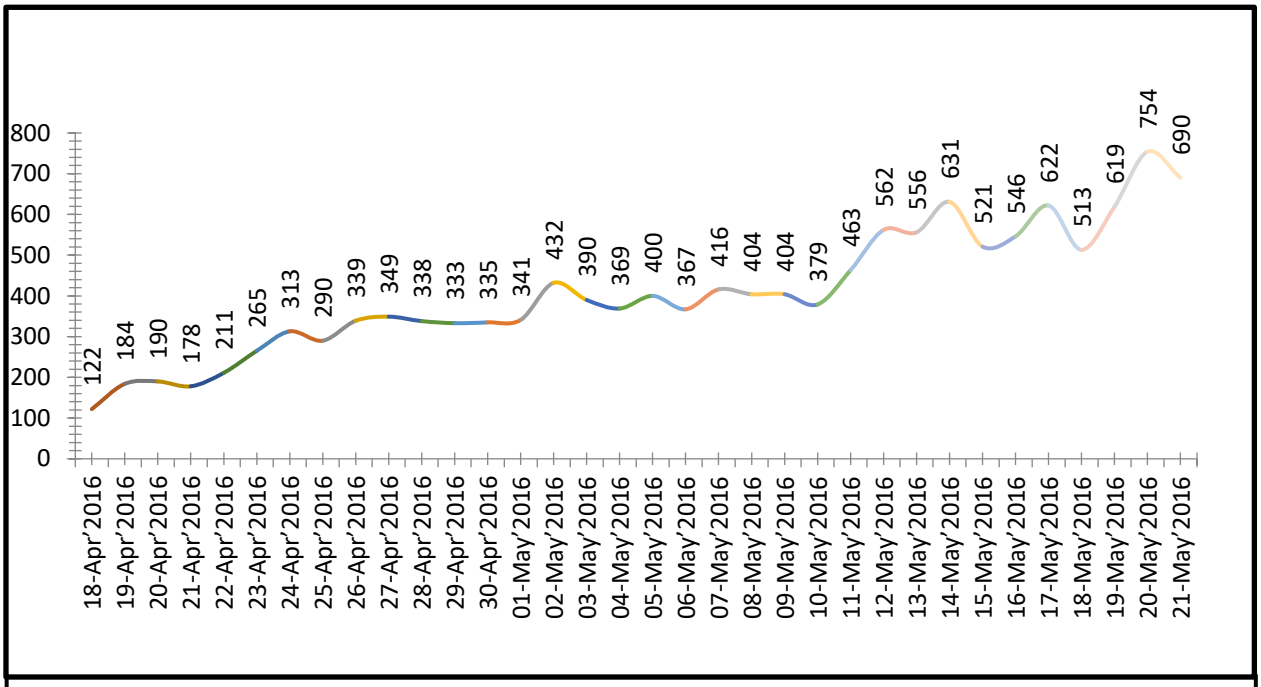


Graph 1 A: Day wise trend of the fever cases (Total number of fever cases attended the OPD)

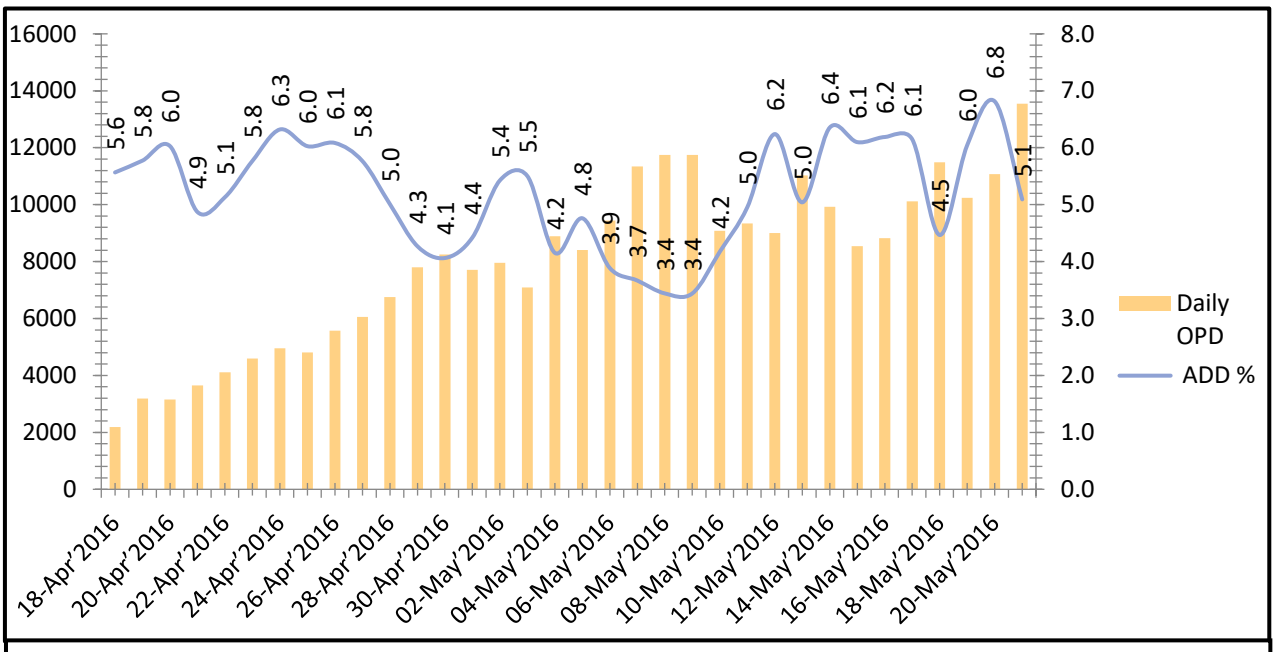


Graph1B: Day wise trend of fever cases (proportion of the fever cases out of daily OPD)

Graph 1 A shows increasing trend of the total number of fever cases attended initially for 15 days may be because of increased coverage of the reporting units under surveillance, and then plateaus with the range of 500-700 fever cases per day.While the proportion of the fever cases from the daily attendence of the OPD shows trend with range of 4.4% to 9.9% of daily OPD(Graph 1B).

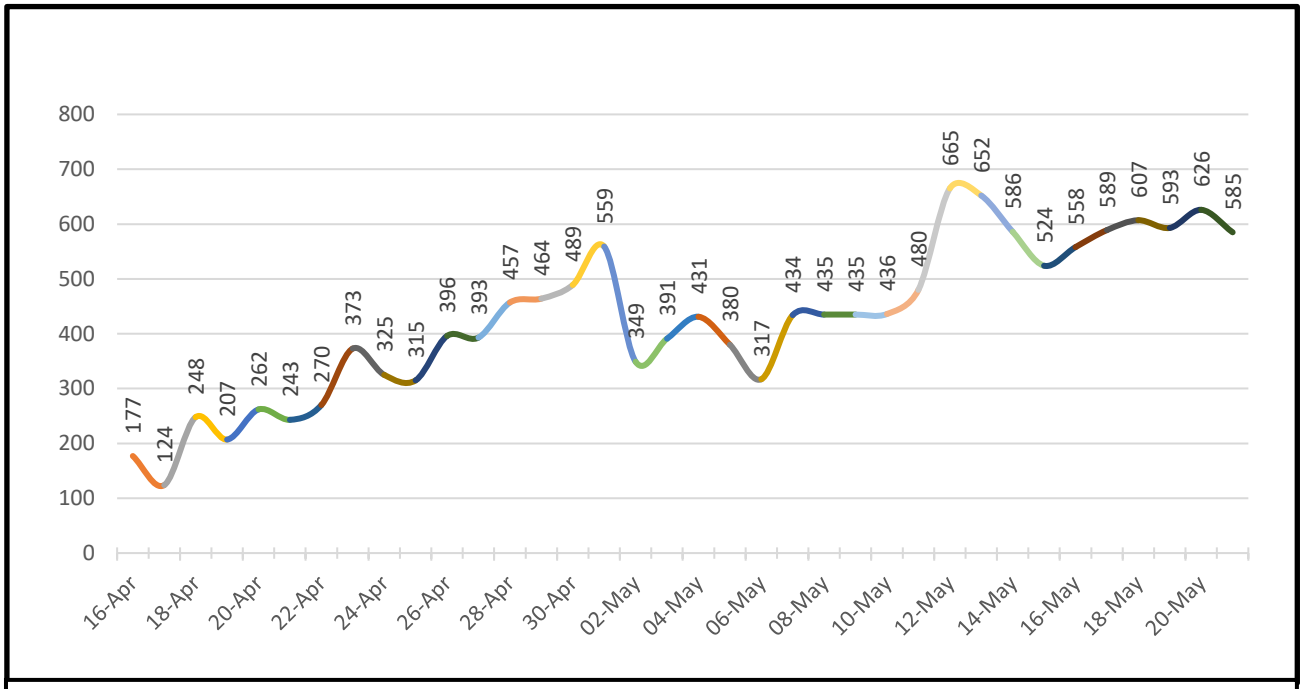


Graph 2A: Day wise trend of the ADD cases (Total number of ADD cases who attended the OPD)

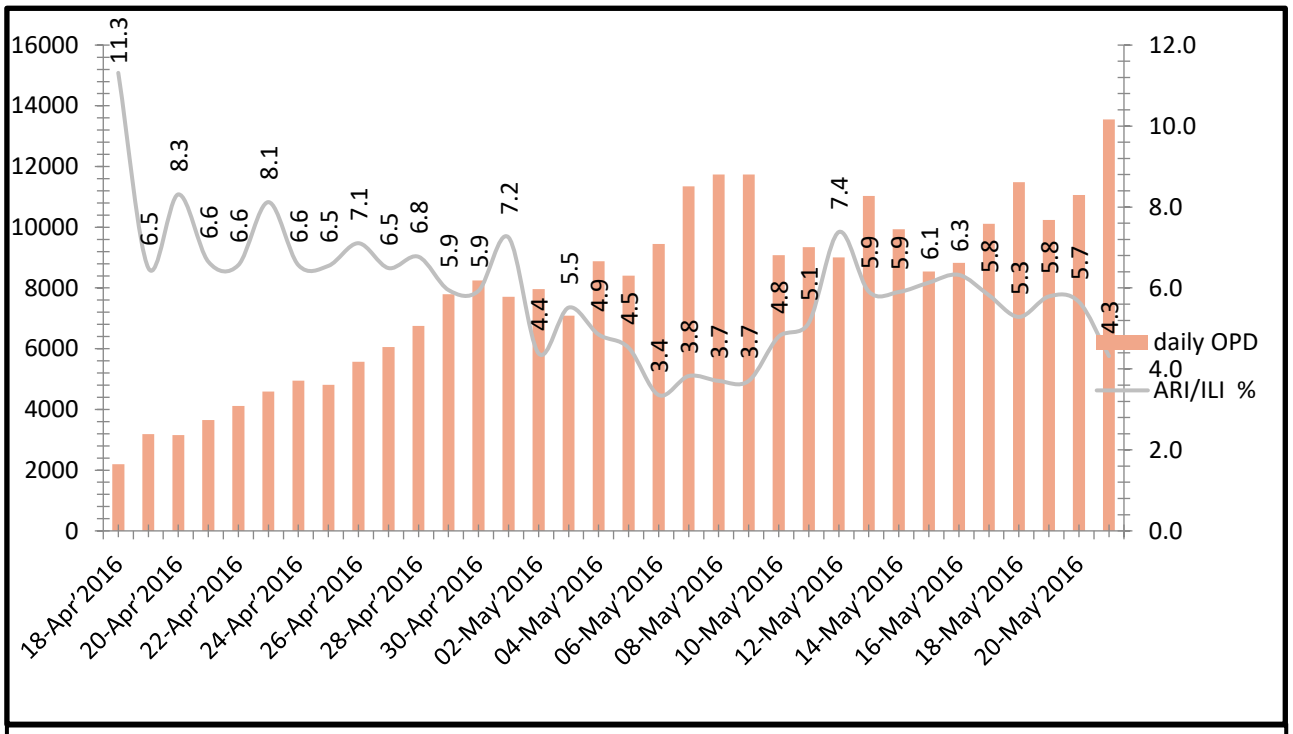


Graph2B: Day wise trend of ADD cases (proportion of the ADD cases out of daily OPD)

Graph 2 A shows increasing trend in the number of daily ADD cases with the range of 122–754 cases.While the proportion of the ADD cases from the daily attendence of the OPD shows the range of 3.4% to 6.8% of daily OPD(Graph 2B).

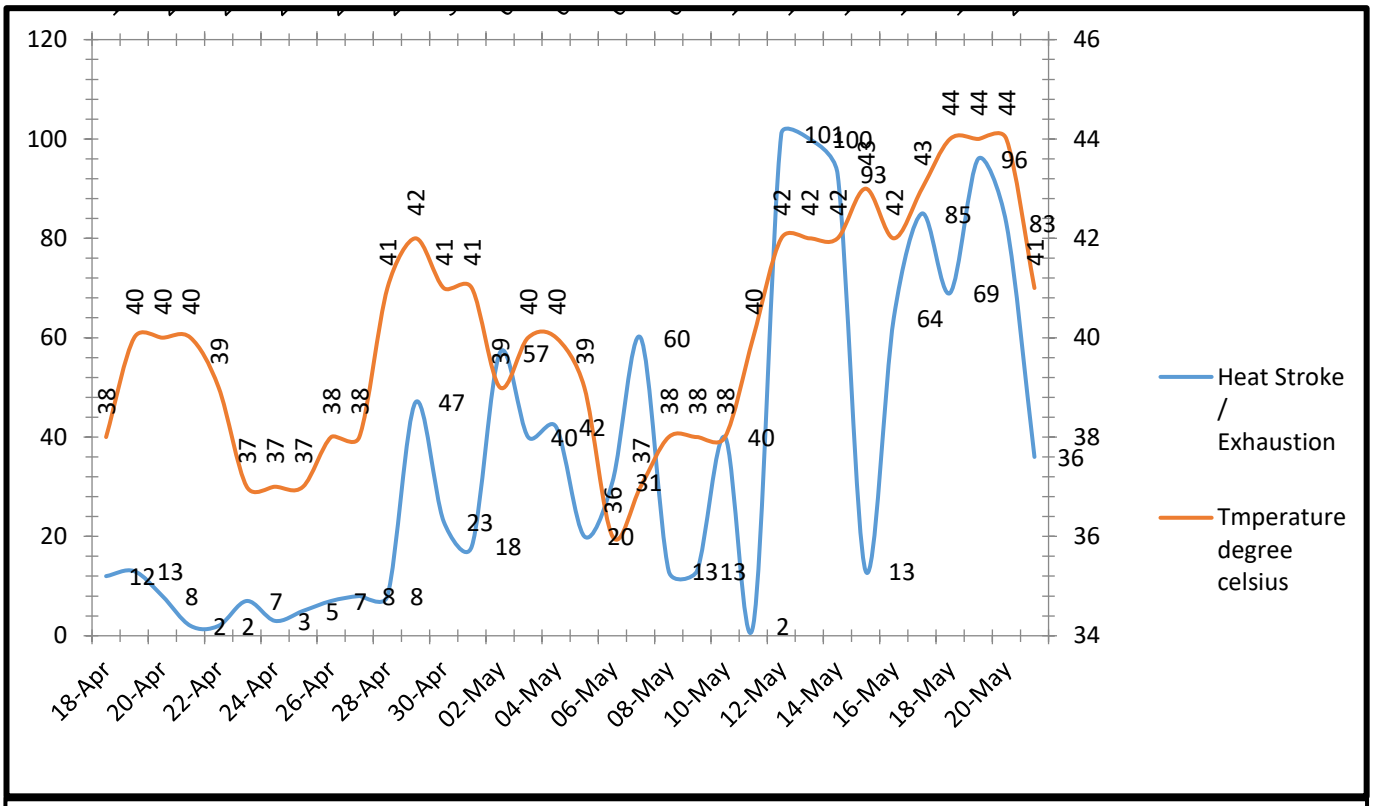


Graph 3A: Day wise trend of the ARI/ILI cases (Number of ARI/ILI cases attended the OPD)

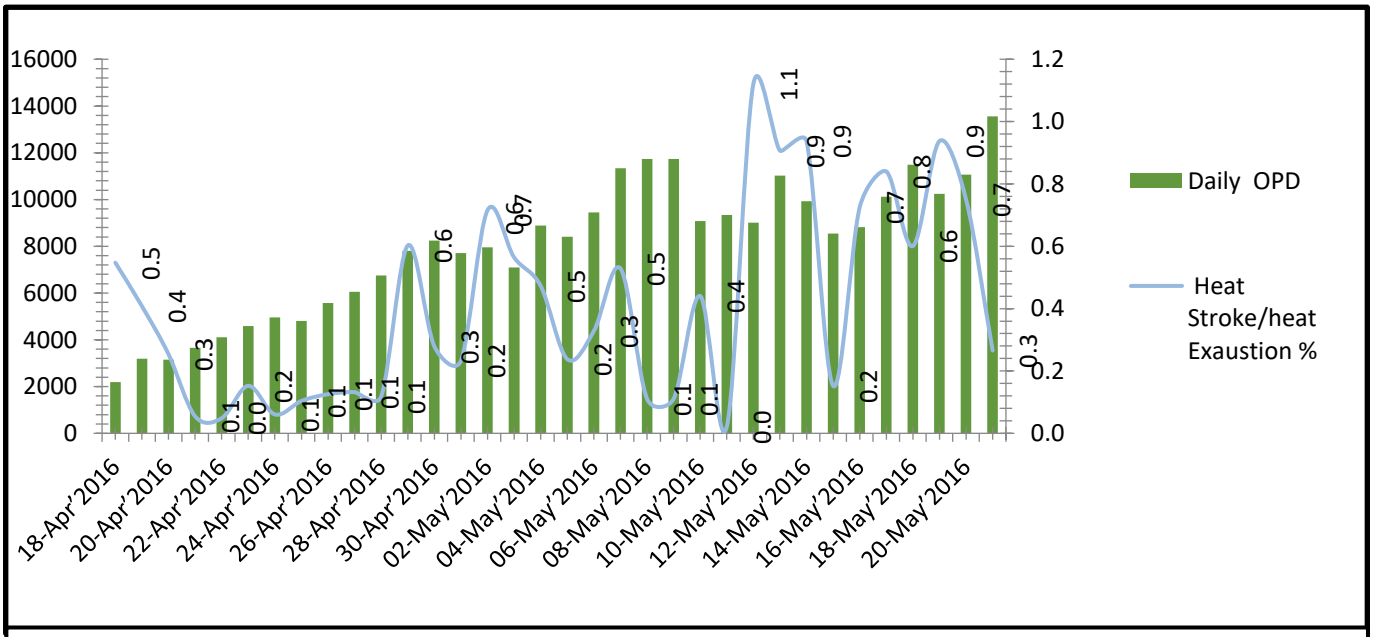


Graph 3 B: Day wise trend of the ARI/ILI cases (proportion of the ARI/ILI cases out of daily OPD)

Graph 3 A shows increasing trend of the number of ARI/ILI cases and touches its first peak on 559 cases on 2nd May. The cases start falling, but again a second peak is observed at 13th May. While the proportion of the ARI/ILI cases range from 3.4% to 11.3% of daily OPD(Graph 3B).



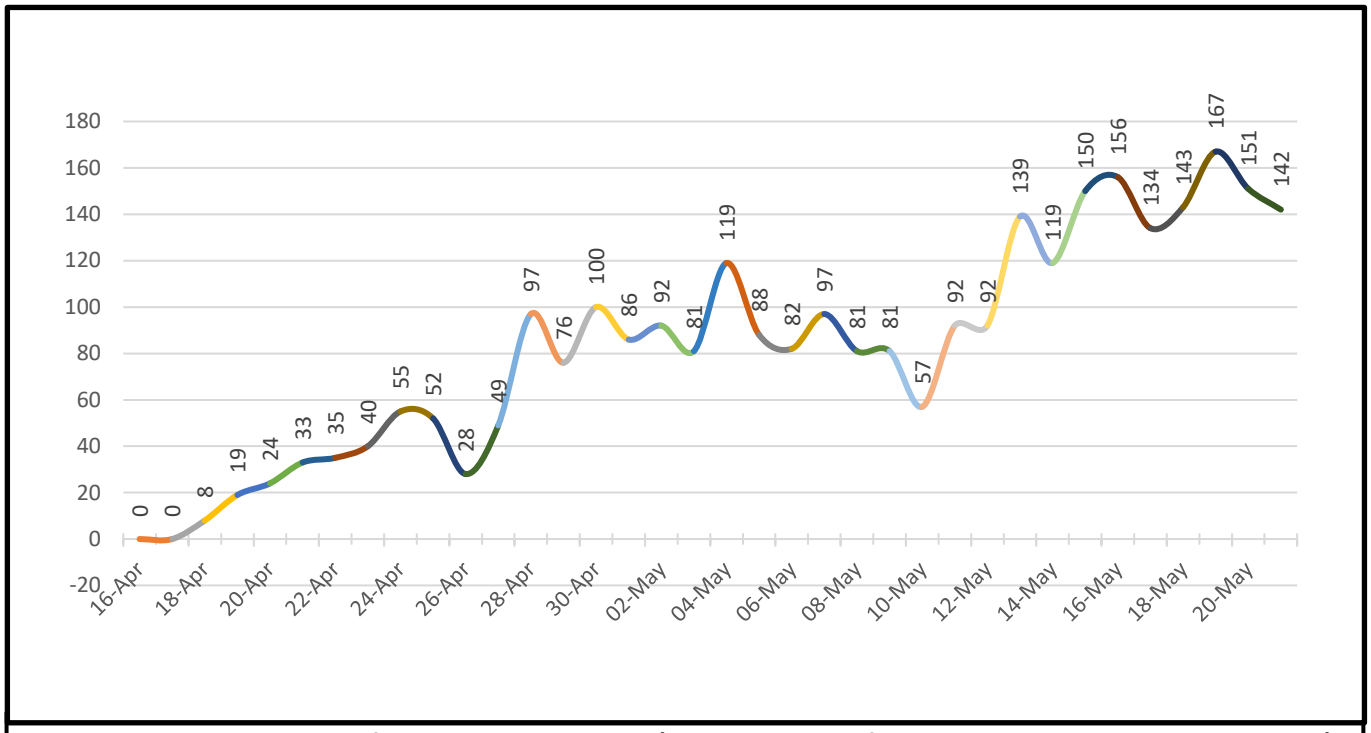
Graph 4A: Day wise trend of the Heat Stroke cases and its association with day wise temperature at Ujjain



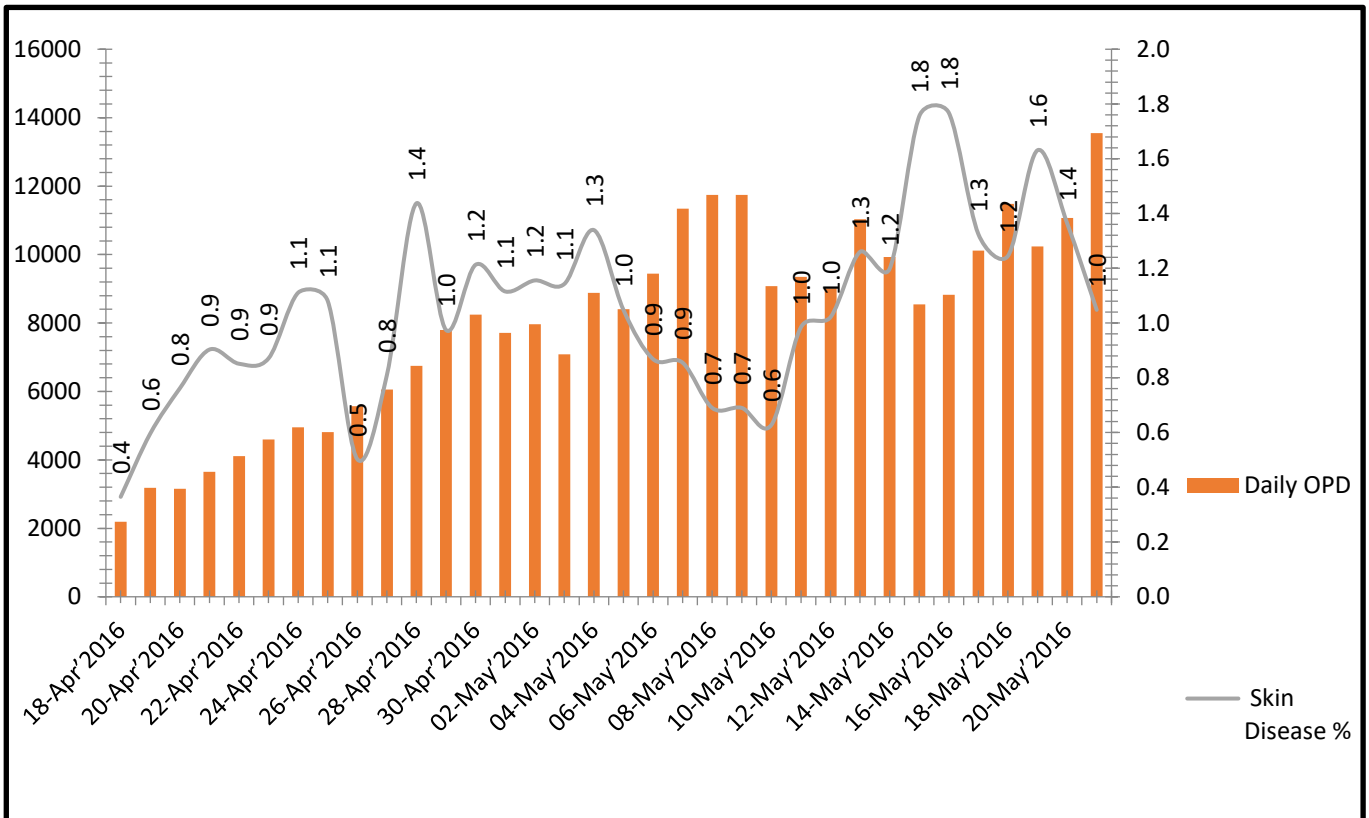
Graph4B: Day wise trend of the Heat Stroke/Exhaustion cases (proportion of the Heat Stroke/ Exhaustion

*(*Source: http://www.accuweather.com/en/in/ujjain/189111/month/189111?monyr=5/01/2016)*

Graph 4A Shows increase in the reporting of heat stroke cases from 29th of April and continous reporting of the cases till 21st may. The percentage of Heat Stroke/Exhaustion cases was from the range of 0.1 to 1.1% cases of the total OPD per day(Graph 4B). The spikes of heats stroke/Exhaustion observed to be associated with rise in temperature during the period.

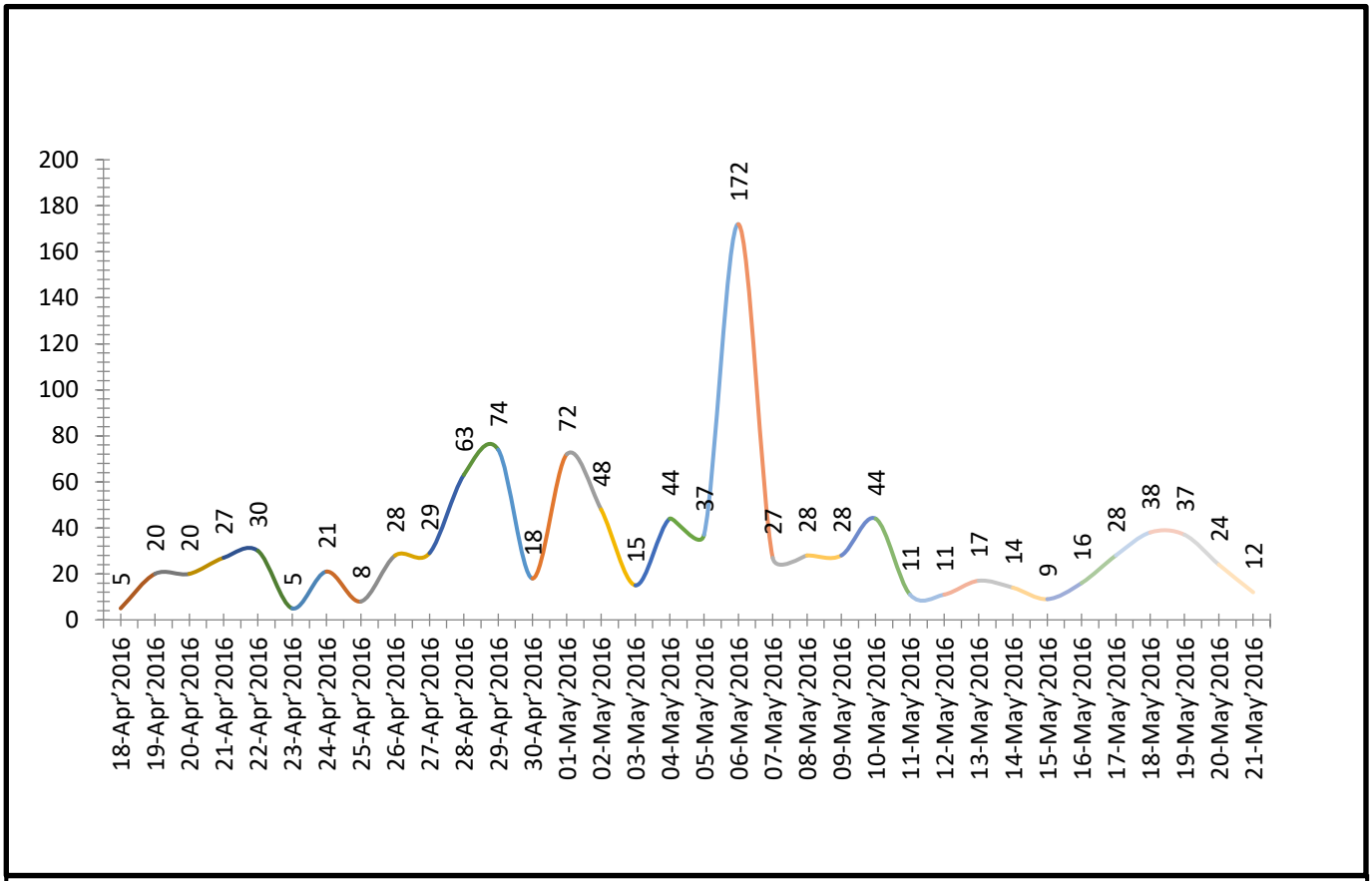


Graph 5A: Day wise trend of the skin disease cases (actual number of skin disease cases attended the OPD)

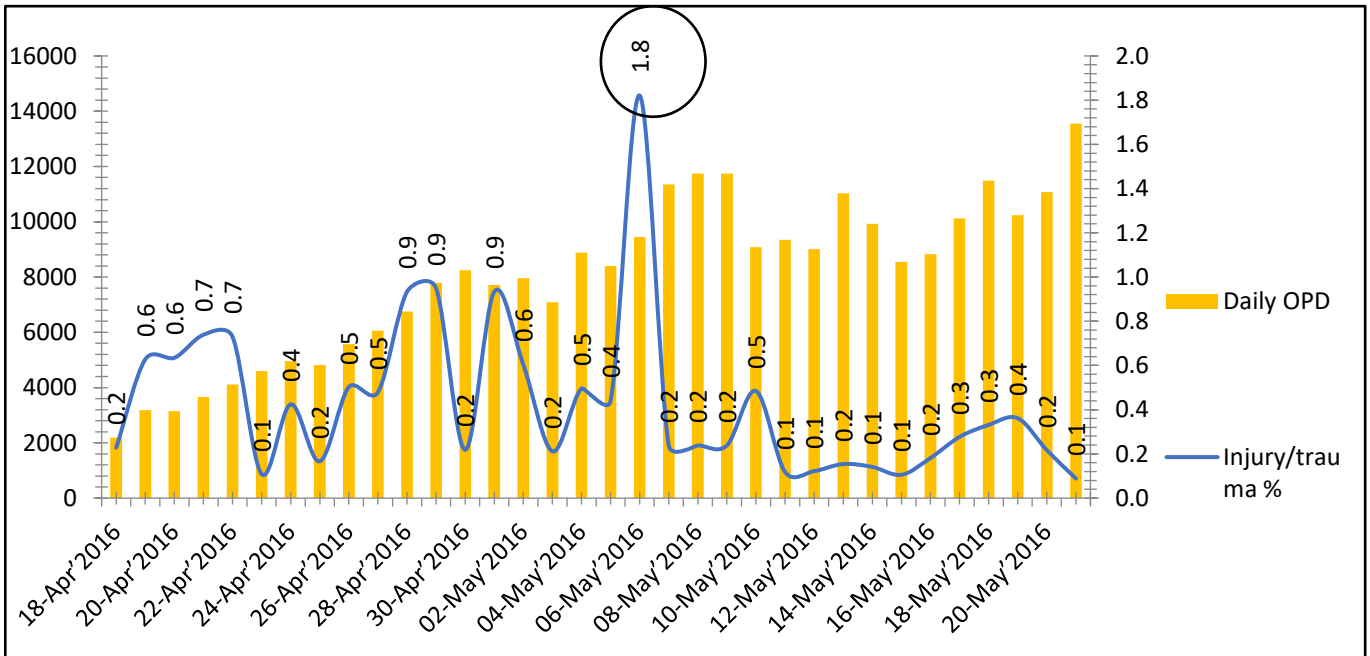


Graph 5B: Day wise trend of the skin disease cases (proportion of the Skin diseases cases out of daily OPD)

Skin diseases were also seen as a commonly reporting with 0.2% to 1.8% of the total OPD. Skin diseases were reported may be becaue of overcrowding, close contacts dring the mass gathering. No Major Spikes Observed.



Graph 6A: Day wise trend of the Injury/Trauma cases (actual number of Injury/Trauma cases attended the OPD)



Graph 6B: Day wise trend of the Injury/ Trauma cases (proportion of the Injury/ Trauma cases out of daily OPD)

One incidence of stampede has been reported on 6th May because of storm and lightening seen as a spike in the number of injury/trauma cases during the perioid (Graph 6A& 6B).

Surveillance data of Enteric Fever, Acute Diarrhoeal Disease, Viral Hepatitis A & E, Dengue and Leptospirosis During May 2014-2016*

* Data extracted from IDSP Portal (www.idsp.nic.in) as on August 19; 2016.

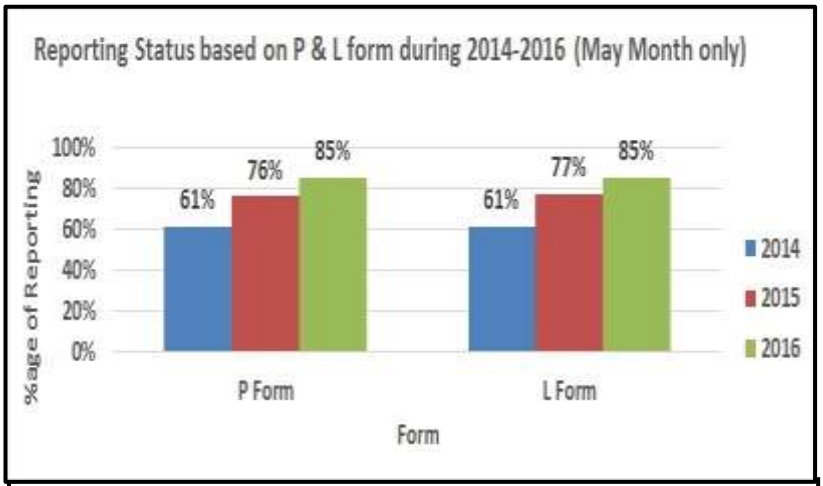


Fig. 2: Reporting Status based on P & L form during May 2014-2016

As shown in fig 2, in May 2014, 2015 and 2016, the 'P' form reporting percentage (i.e. % RU reporting out of total in P form) was 61 %, 76% and 85% respectively across India, for all disease conditions reported under IDSP in P form. Similarly, L form reporting percentage was 61%, 77% and 85% 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 significantly increased over the years in both P and L form, thereby improving the quality of surveillance data.

As shown in fig 3, number of presumptive enteric fever cases, as reported by States/UTs in 'P' form was 187047 in May 2014; 221695 in May 2015 and 269113 in May 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2014; 319108 samples were tested for Enteric fever, out of which 54335 were found positive. In May 2015; out of 416877 samples, 65778 were found to be positive and in May 2016, out of 502880 samples, 73244 were found to be positive.

Limitation: The test by which above mentioned samples were tested could not be ascertained, as currently there is no such provision in L form.

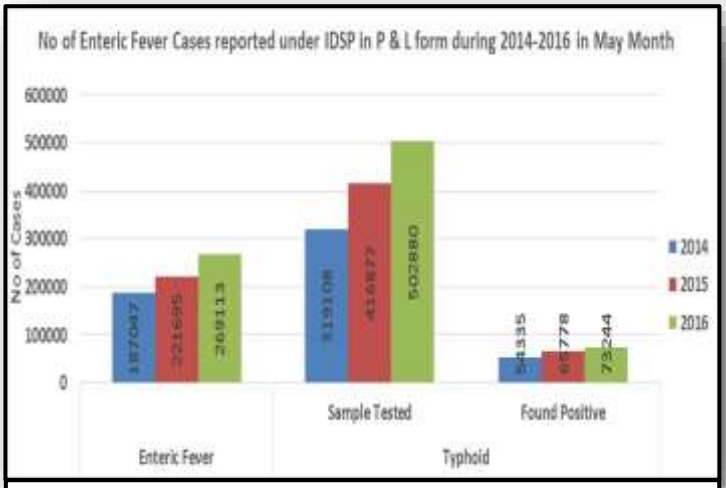


Fig. 3: No. of Enteric Fever Cases reported under P & L form during May 2014-2016

As shown in fig 4, number of Acute Diarrhoeal Disease cases, as reported by States/UTs in 'P' form was 1272607 in May 2014; 1514442 in May 2015 and 1686573 in May 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2014, 2431 samples were tested for Cholera out of which 41 tested positive; in May 2015, out of 3645 samples, 40 tested positive for Cholera and in May 2016, out of 4401 samples, 222 tested positive.

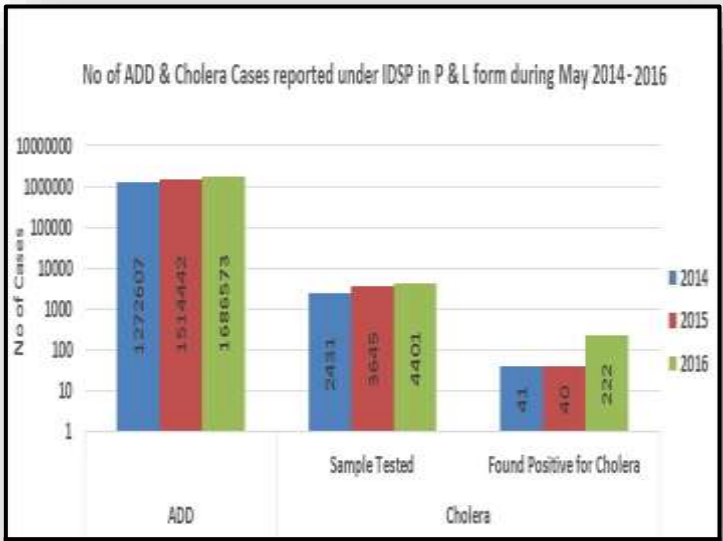


Fig. 4: No. of ADD Cases reported under IDSP in P form & Lab confirmed Cholera cases in L form during May 2014-2016

As shown in fig 5, the number of presumptive Viral Hepatitis cases was 28863 in May 2014, 26440 in May 2015 and 42546 in May 2016. 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 2014; 16085 samples were tested out of which 1004 were found positive. In May 2015; out of 19663 samples, 1292 were found to be positive and in May 2016, out of 19185 samples, 1318 were found to be positive.

As reported in L form for Viral Hepatitis E, in May 2014; 4966 samples were tested out of which 830 were found positive. In May 2015; out of 6041 samples, 564 were found to be positive and in May 2016, out of 10933 samples, 1141 were found to be positive.

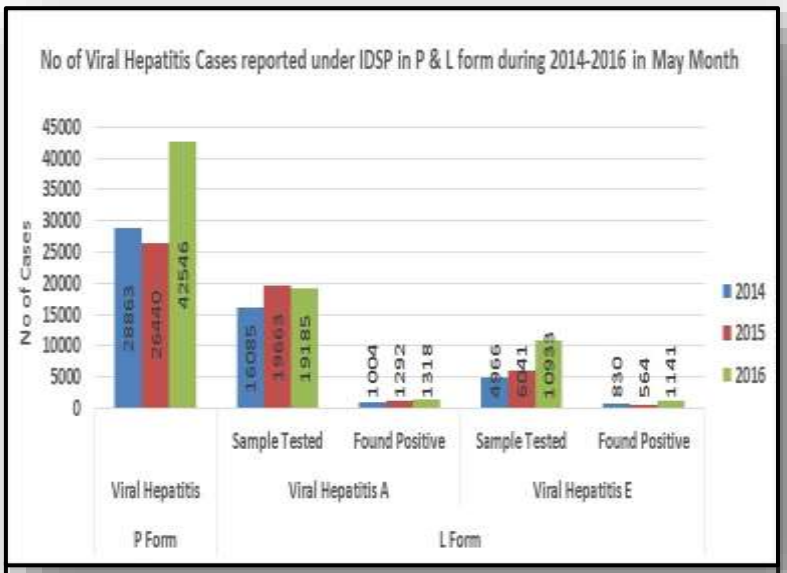


Fig. 5: No of Viral Hepatitis Cases reported under IDSP in P form & Viral Hepatitis A & E cases reported under L form during May 2014-2016

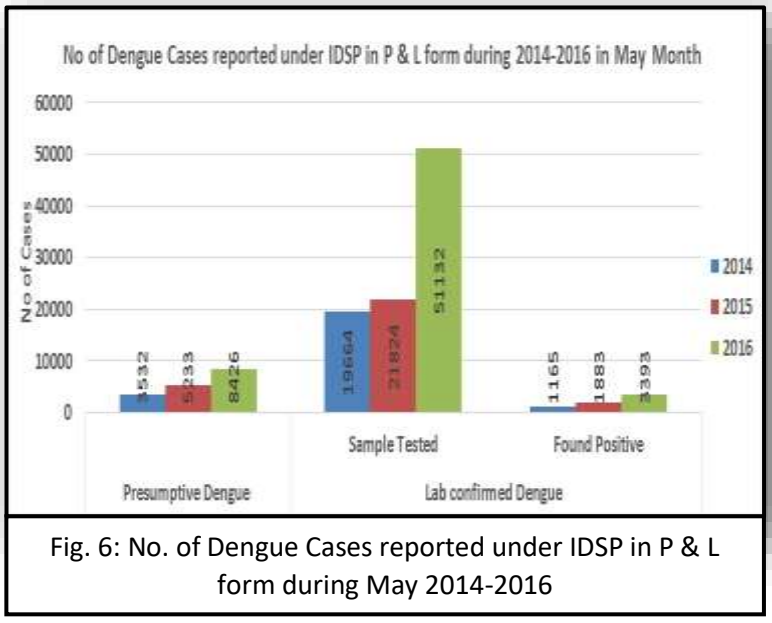


Fig. 6: No. of Dengue Cases reported under IDSP in P & L form during May 2014-2016

As shown in fig 6, number of presumptive Dengue cases, as reported by States/UTs in 'P' form was 3532 in May 2014; 5233 in May 2015 and 8426 in May 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2014; 19664 samples were tested for Dengue, out of which 1165 were found positive. In May 2015; out of 21824 samples, 1883 were found to be positive and in May 2016, out of 51132 samples, 3393 were found to be positive

Limitation: The test by which above mentioned samples were tested could not be ascertained, as currently there is no such provision in L form.

As shown in fig 7, number of presumptive Leptospirosis cases, as reported by States/UTs in 'P' form was 516 in May 2014; 1378 in May 2015 and 1839 in May 2016. These presumptive cases are diagnosed on the basis of standard case definitions provided under IDSP.

As reported in L form, in May 2014; 7299 samples were tested for Leptospirosis, out of which 124 were found positive. In May 2015; out of 6129 samples, 114 were found to be positive and in May 2016, out of 11252 samples, 361 were found to be positive.

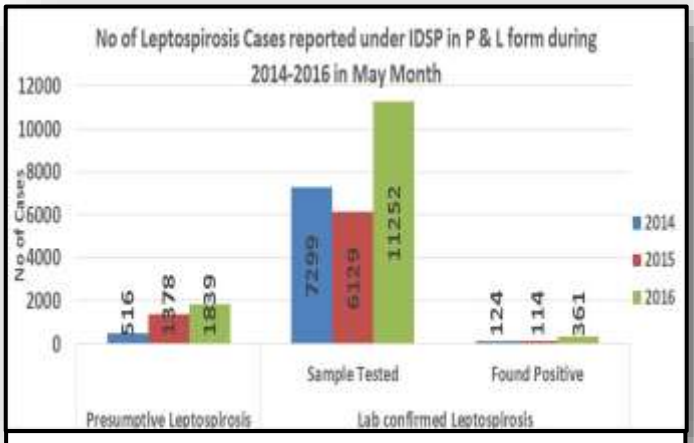


Fig. 7: No. of Leptospirosis Cases reported under IDSP in P & L form during May 2014-2016

Fig 8: State/UT wise P form completeness % for May 2016

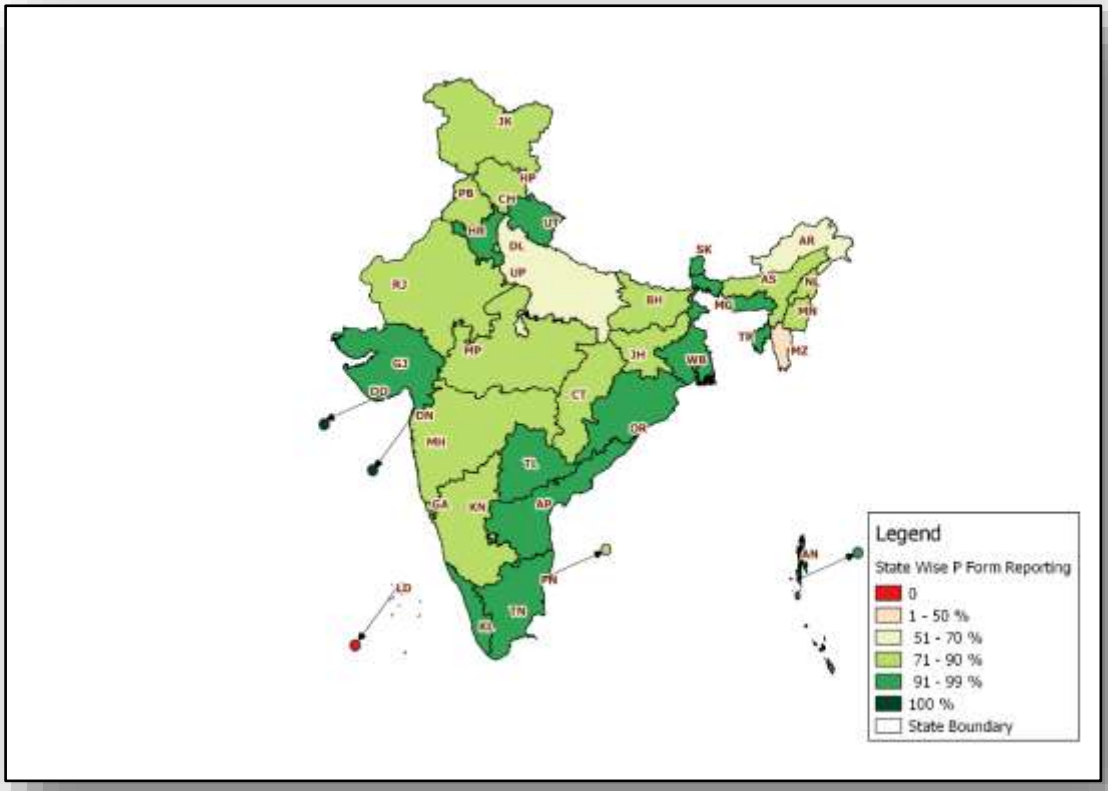


Fig 9: State/UT wise L form completeness % for May 2016

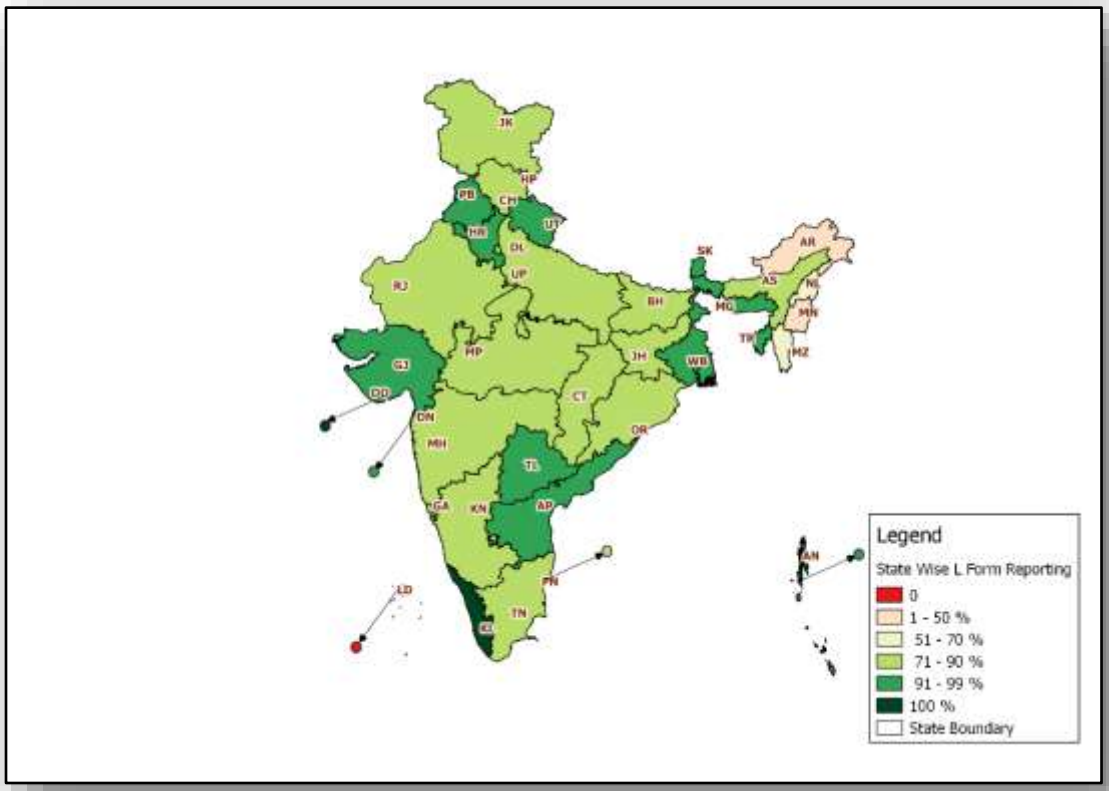


Fig 10: State/UT wise Presumptive Enteric fever cases and outbreaks for May 2016

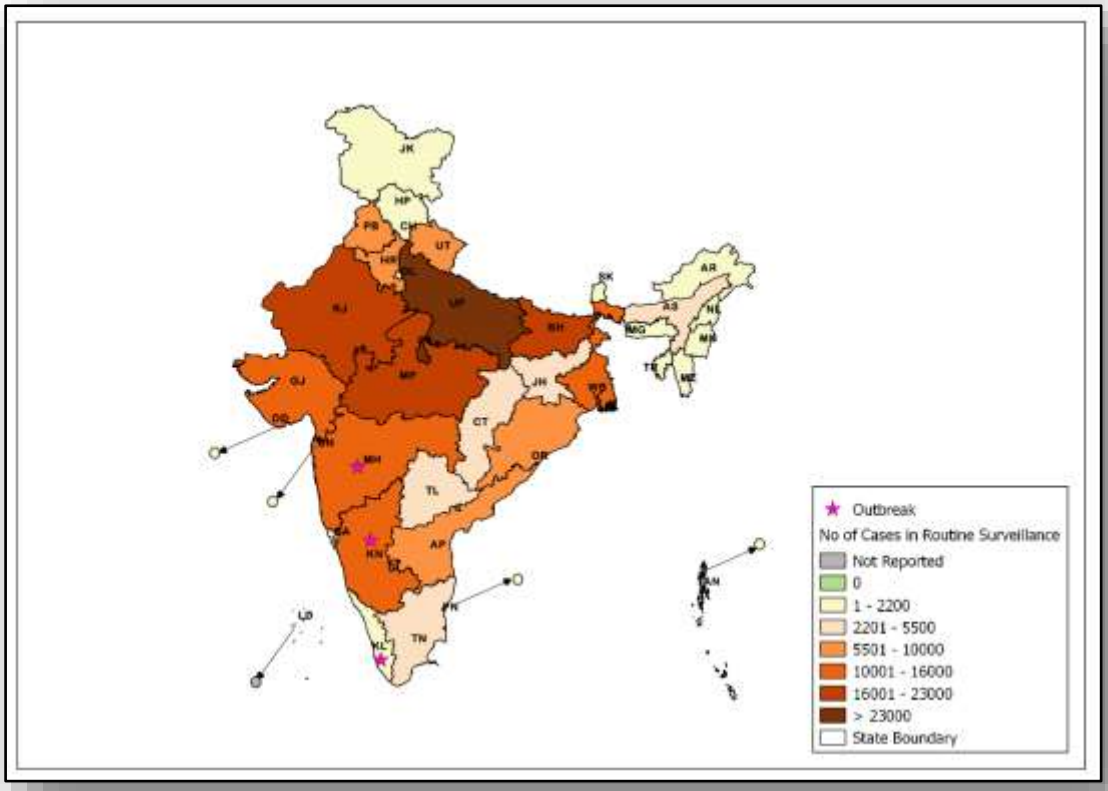


Fig 11: State/UT wise Lab Confirmed Enteric Fever cases and outbreaks for May 2016

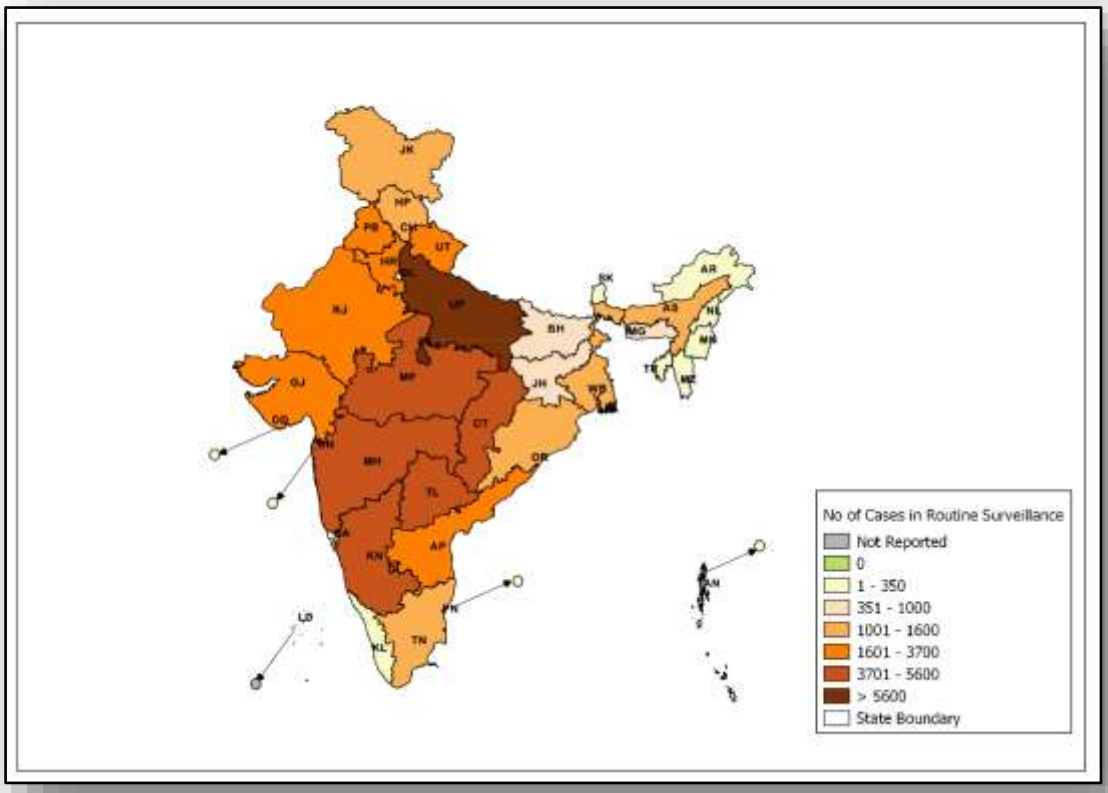


Fig 12: State/UT wise Presumptive ADD cases and outbreaks for May 2016

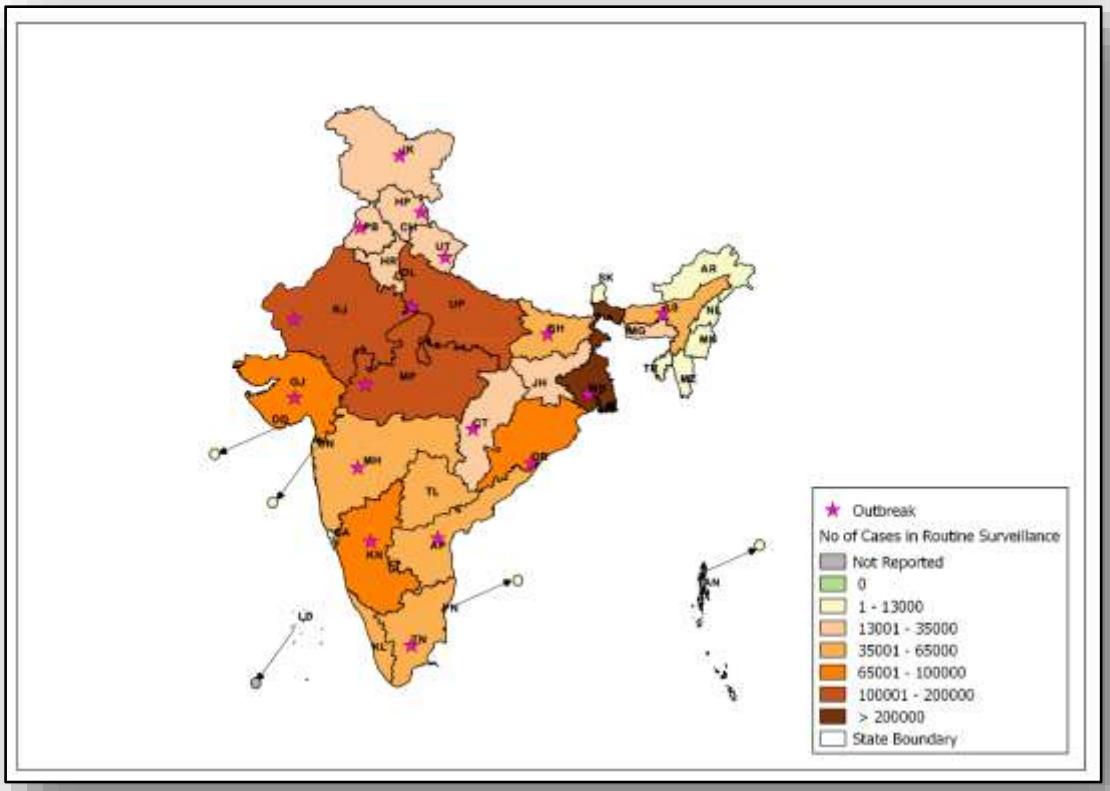


Fig 13: State/UT wise Lab Confirmed Cholera cases and outbreaks for May 2016

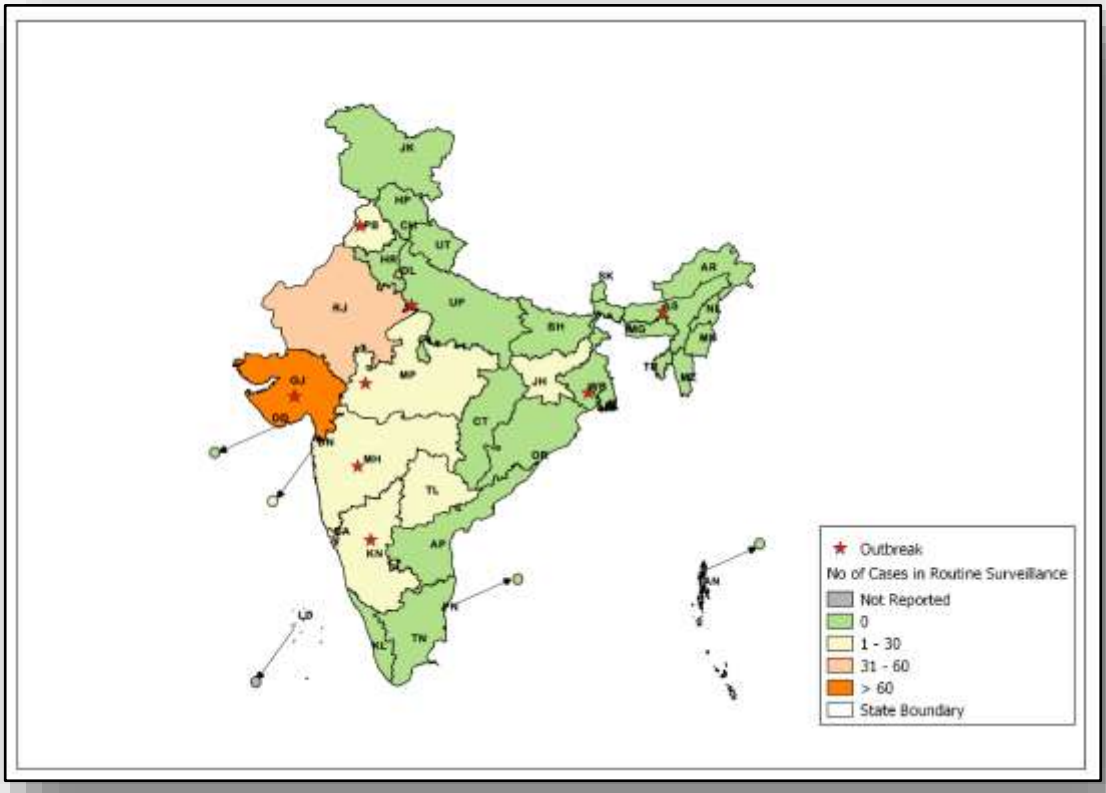


Fig 14: State/UT wise Presumptive Viral Hepatitis cases and outbreaks for May 2016

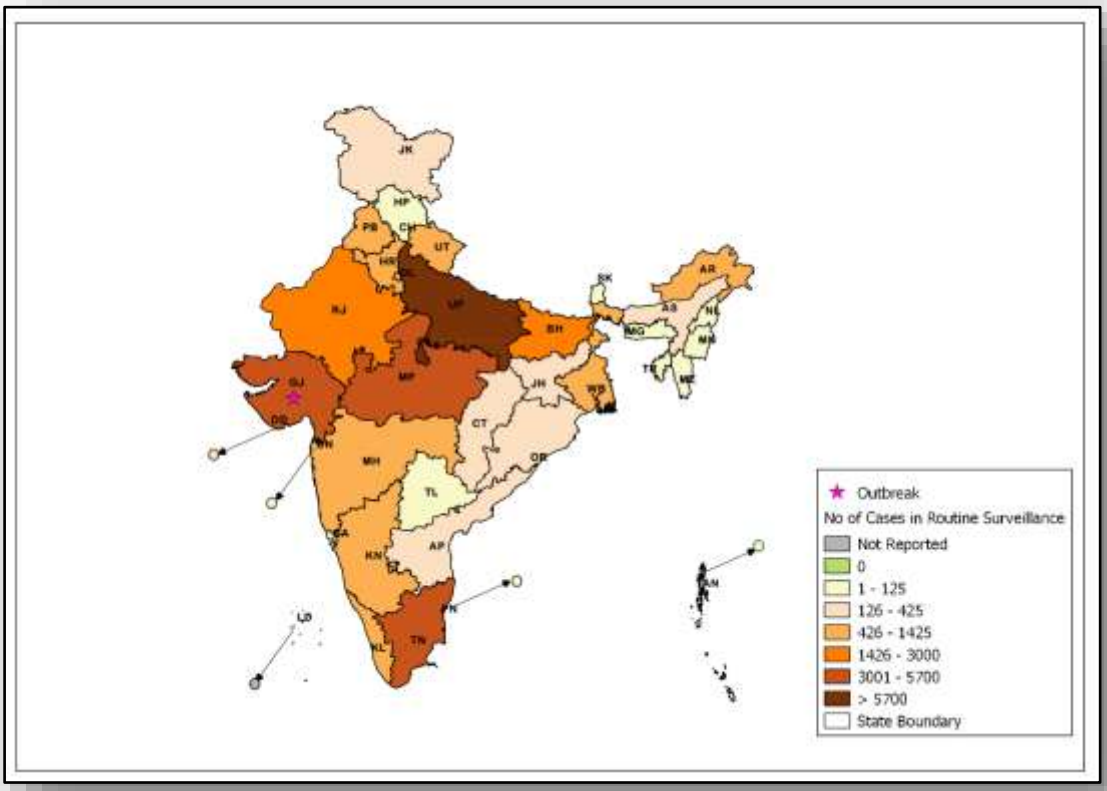


Fig 15: State/UT wise Lab confirmed Viral Hepatitis A cases for May 2016

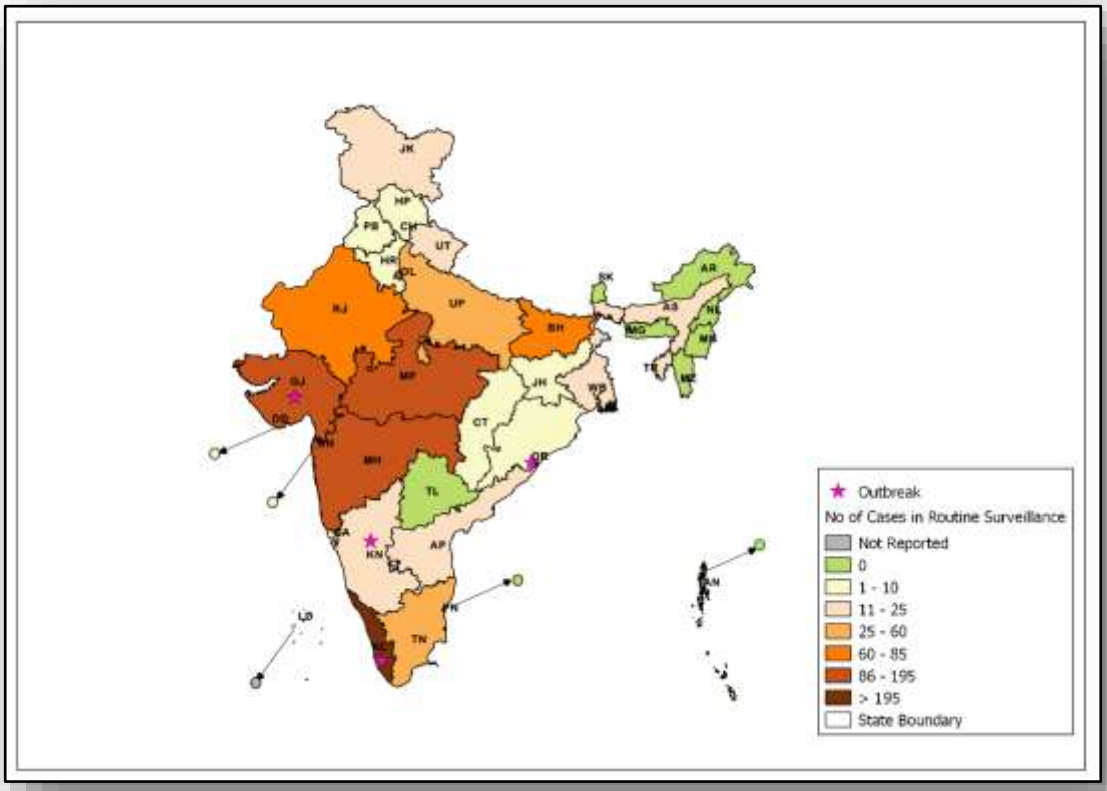


Fig 16: State/UT wise Lab confirmed Viral Hepatitis E cases for May 2016

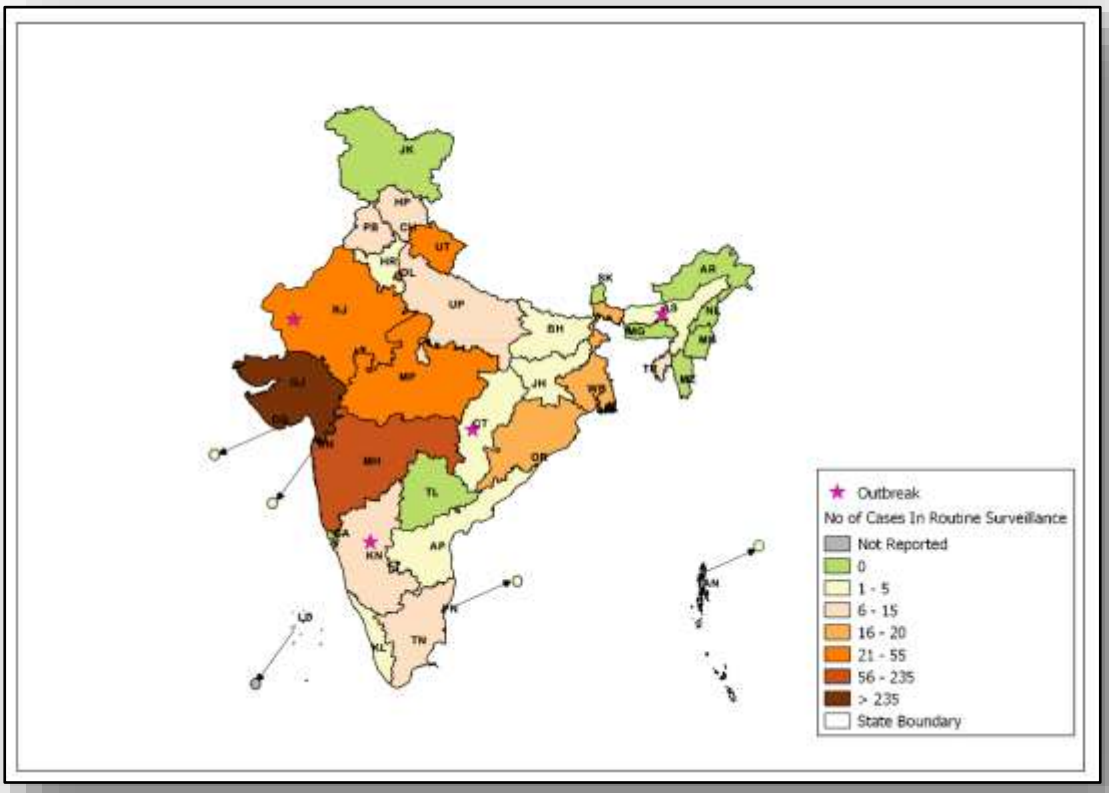


Fig 17: State/UT wise Presumptive Dengue cases & outbreaks for May 2016

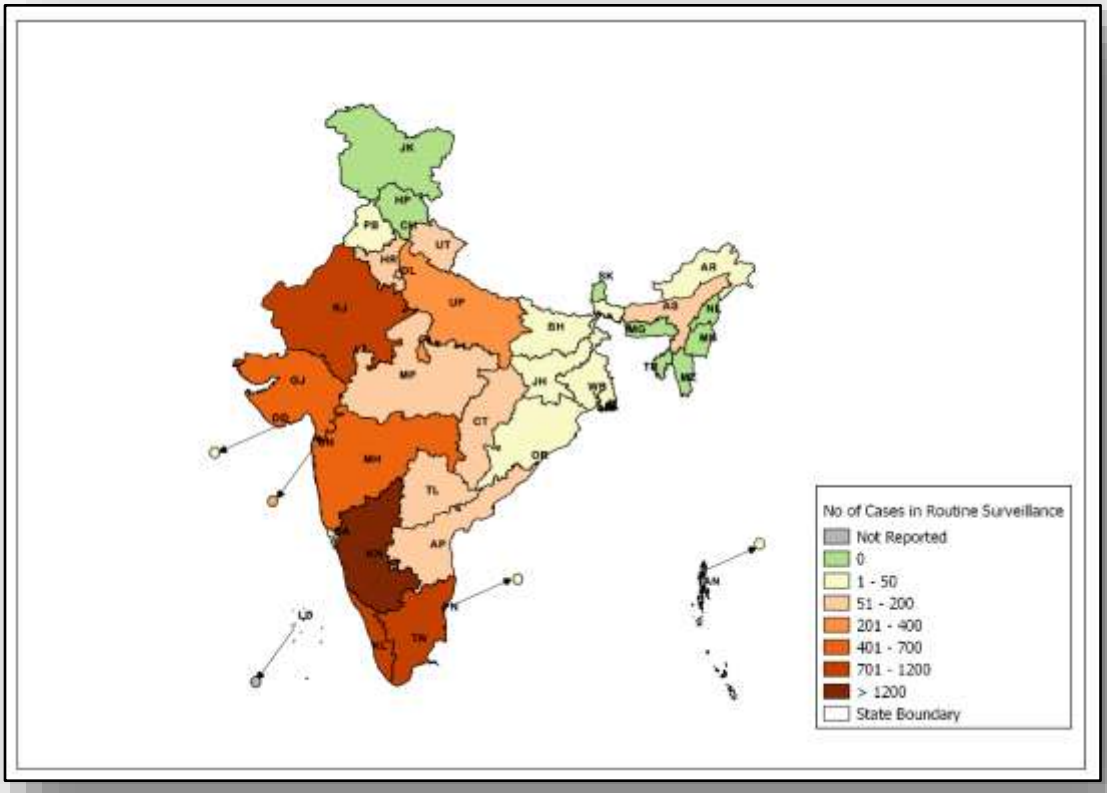


Fig 18: State/UT wise Lab confirmed Dengue cases for May 2016

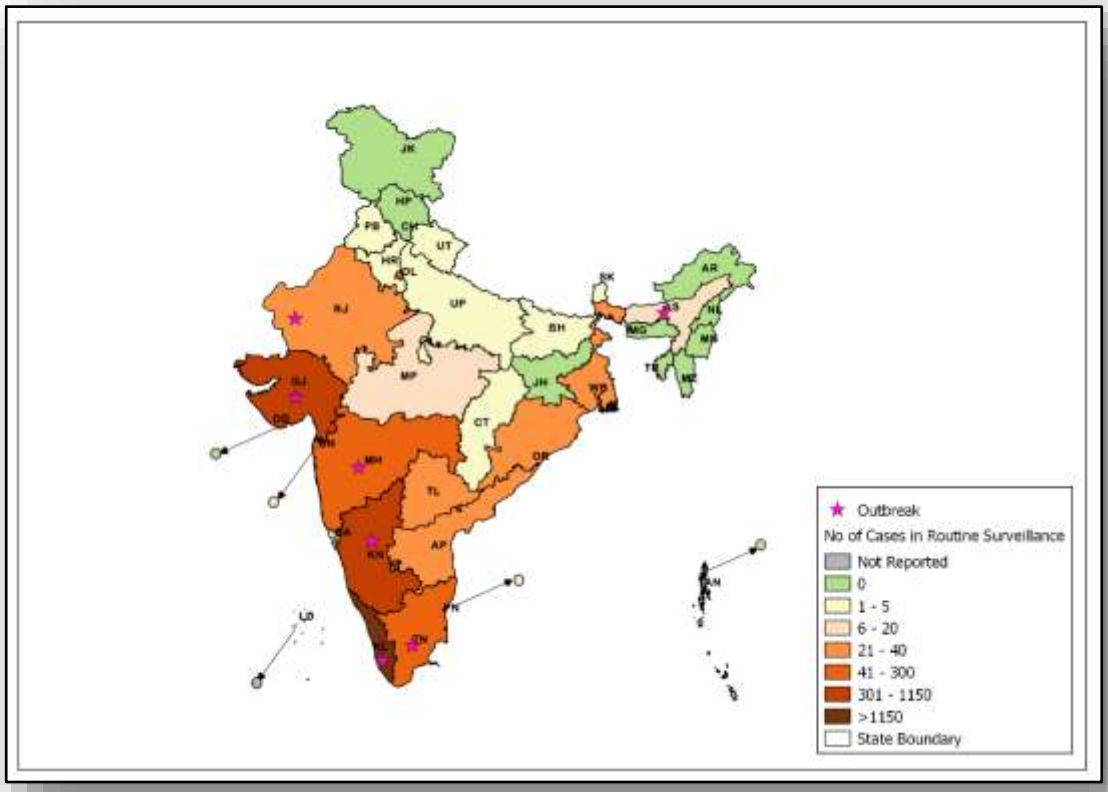


Fig 19: State/UT wise Presumptive Leptospirosis cases for May 2016

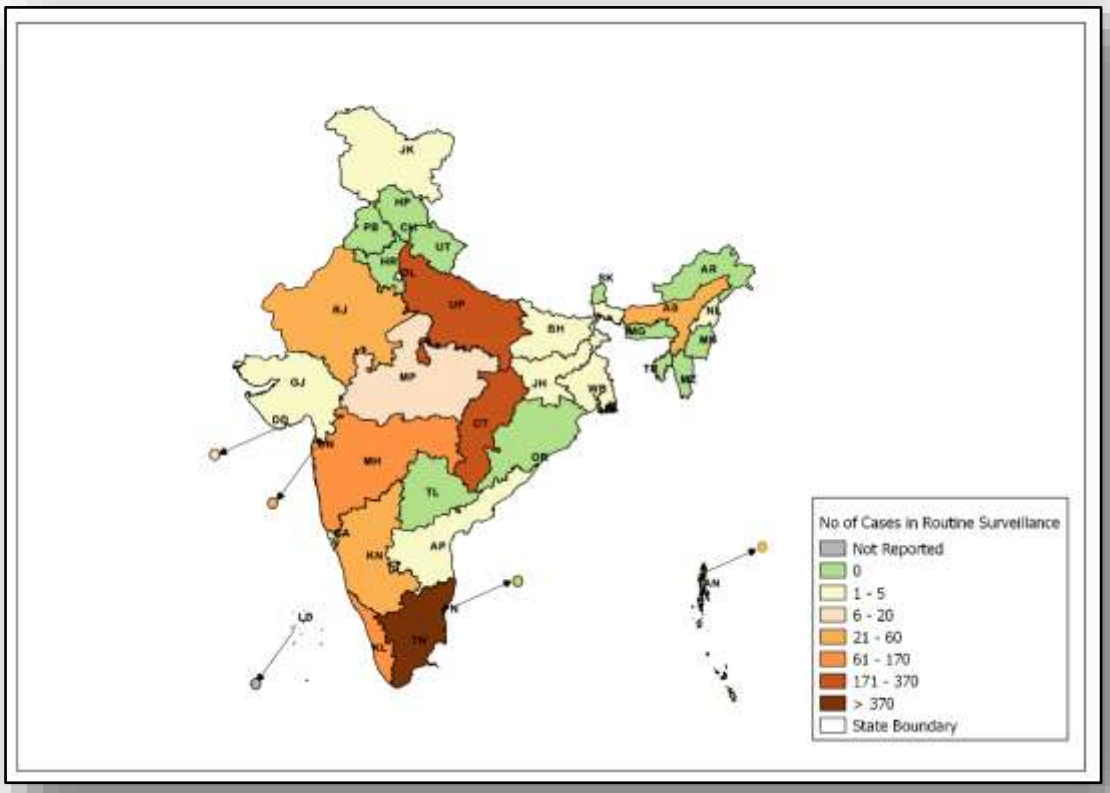
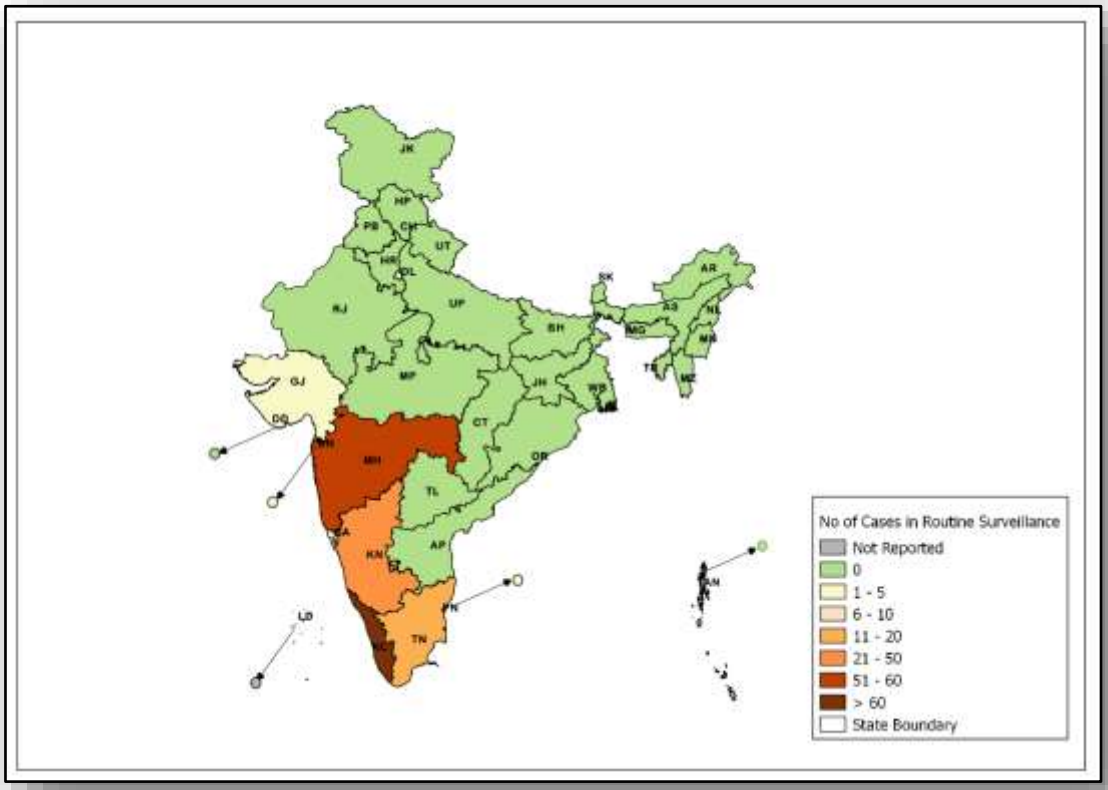


Fig 20: State/UT wise Lab Confirmed Leptospirosis cases & outbreak for May 2016



Report of the Central Team on Avian Influenza outbreak in Humnabad, Bidar Karnataka (9th May – 17th May, 2016)

As per Director (EMR), Dte. GHS, order dated 8th May 2016, a Central Team comprising of following officers visited the avian influenza outbreak affected area of Humnabad, Bidar during the period 9th May to 17th May 2016:

1. Dr. Naveen Gupta, Joint Director, NCDC, Delhi (09818771770)
2. Dr. Sanket Kulkarni, Assistant Director, NCDC, Delhi (07836026688)
3. Dr. Ashok Kumar Singh, Associate Professor, Dept. of Resp. Medicine, LHMC, New Delhi (09013083150)

EXCECUTIVE SUMMARY:

- Avian influenza outbreak (H5N1) was reported among poultry in Arunodaya Poultry Farm, Molakere, Humnabad on 07.05.2016.
- Central team was deputed to the site for facilitate developing micro plan for active and passive surveillance to detect and manage human case of Avian Influenza from 09.05.2016 to 17.05.2016.
- Culling operation was carried out from 10.05.2016 to 14.05.2016 of all poultry in Arunodaya Poultry farm and backyard poultry present in Molakere Village, by the Department of Animal Husbandry.
- Cullers involved in the culling operation were home quarantined and were put on chemoprophylaxis.
- Surveillance for suspected cases of avian influenza was carried out in the infected zone (3kms from the epicenter, Arunodaya poultry farm) for a period of 10 days.
- IEC activities such as posters, pamphlets, advisories in print media were adequately used.

INTRODUCTION:

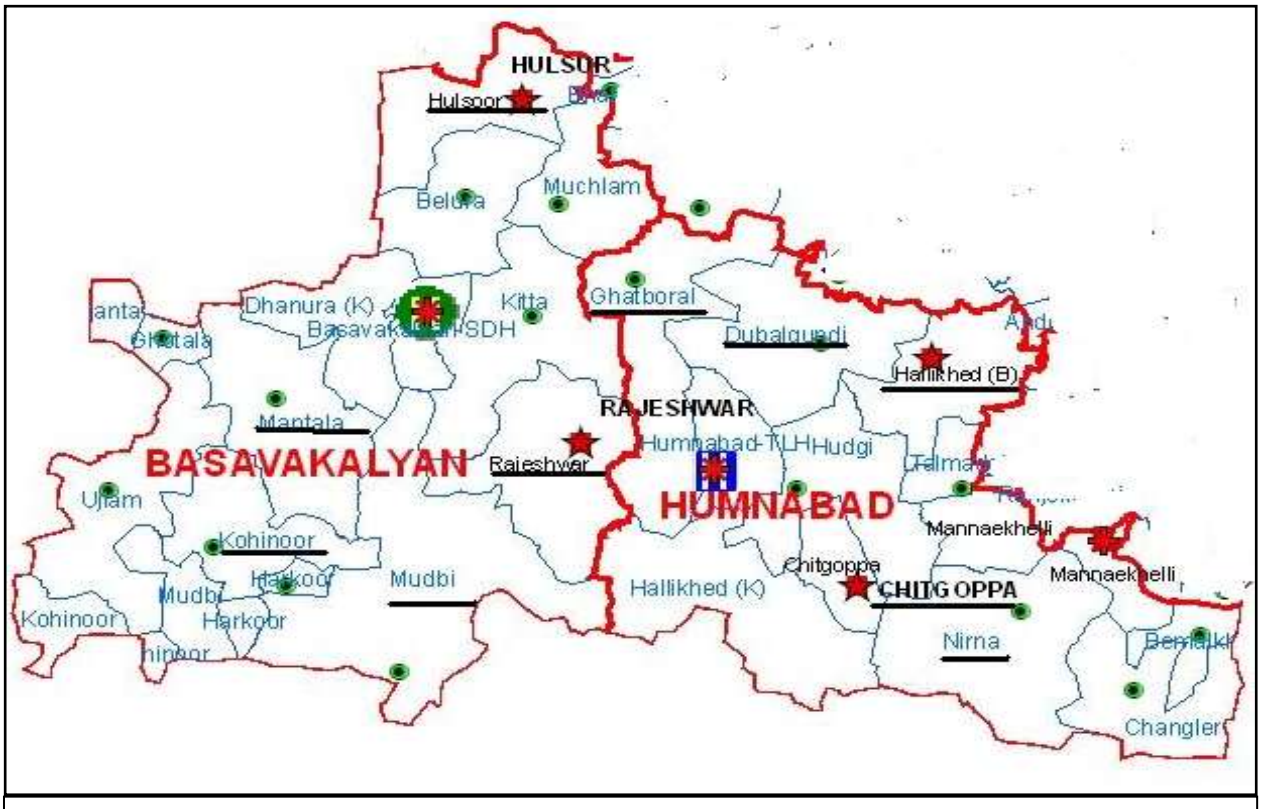
Influenza A viruses undergo major antigenic shift at unpredictable intervals causing worldwide epidemics ("pandemics") with high morbidity and mortality. The present outbreak of H5N1 Avian Influenza in Molakere village was confirmed by Animal Husbandry department in Arunodaya poultry farm, Molakere village. Therefore it was of paramount importance to contain the infection at this stage lest it provides an opportunity to the pathogen for re-assorting in humans/any other host and mutating into a new strain with potential of human-to-human transmission.

OBJECTIVES:

1. Rapid assessment of the situation at Molakere village, Taluka Humnabad with respect to avian influenza.
2. Assisting the health officials at Humnabad and District Bidar in preparing a micro plan for surveillance and response.

DEMOGRAPHIC PROFILE:

Humnabad is a taluka in Bidar district of the Karnataka state. As of 2011, the India census showed that Humnabad has witnessed a population increase of a sum of less than double with the absolute population increasing from 25,581 in 1991 to 44,561 in 2011. The city is home to about 44 thousand people, among them about 51% are male and 49% are female. As of census 2011 the sex ratio is 951 females per 1000 male in the city. The population density during the last decades (2001-2011) has increased from 1421 to around 2500 persons per sq. km Humnabad has an average literacy rate of 64%, higher than the national average of 59.5%: male literacy is 71%, and female literacy is 55%.



Map 1: Map of affected area Humnabad & Basavakalyan Talukas of Bidar, Karnataka.

KEY OBSERVATIONS:

1. The team supported prepared the map of infected area around the Arunodaya Poultry farm in Humnabad and also supported in preparation of the micro plan accordingly with respect to population and the number of teams required for surveillance.

2. Formation of a central reporting unit:

   A central team was deputed at the place of outbreak in which Dr. Naveen Gupta, Joint Director, NCDC & Dr. Sanket Kulkarni, Asstt. Director, IDSP went to Humnabad, Bidar, Karnataka.

   A meeting was called with all the district health officials in which following officials participated from the district

   a. Dr Veernath – Taluka Health Officer, Humnabad
   b. Dr Vijay – MO in charge PHC Kanaketta
   c. Mr. Mojesh – HS Taluka Health office Humnabad

   The district unit had already shifted its surveillance team to Taluka Humnabad in THO office.

3. The state health officials were asked to provide list of PHCs, CHCs, Taluka hospital list and also ANM, ASHA, Health supervisors within 0-3 kms range for establishment of active surveillance and 3-10 kms for passive surveillance.
4. An isolation ward was established in CHC Rajeshwar, Taluka hospital and Bidar Medical College for admitting the suspected case of human avian influenza if any.
5. **Supply chain management:** The team met the DHO, Bidar and discussed the contingency plan for avian influenza. The team suggested that the following resources would be essential for the implementation of the above plan:

   a. PPE,
   b. Tamiflu, N95/Triple layer mask
   c. Manpower
   d. Drugs (Oseltamavir) for chemoprophylaxis/treatment
   e. Disinfectant and Hand sanitizers
   f. Orientation of the field staff and their supervisors for carrying our surveillance activities
   g. **Training of ASHAs for filling up of the daily active surveillance Performa in 0-3 kms area**
   h. **Training of medical officers of District Bidar**
   i. Establishment of isolation ward in CHC Rajeshwar, Taluka hospital and Bidar Medical College Coordination with Animal Husbandry officials

6. Coordination with other Departments:

a. Coordination meetings between Department of Animal Husbandry and Department of Health and Family Welfare were held under the chairmanship of Dr Harshvardhan, State Surveillance Officer smoothened the surveillance activities.

Central team along with SSO, DHO and THO facilitated the medical examination by deputing 3 medical officers before the veterinary team proceeded for the culling operation**.**

In order to get coordination from veterinary department, health officials held a meeting in which following veterinary officers participated

1. Dr Govind B H Deputy Director Vet. Department
2. Dr Somshekhar Vet officer
3. 3 Veterinary Inspectors

The Animal Husbandry department carried out the culling process and a total of 100704 poutry were culled, 122357 eggs and 18650 Kgs of Feed were destroyed and disposed as per the guidelines (Received the hard copy of the certificate for culling operation).

The health department initiated the chemoprophylaxis for the Cullers and also they were quarantined at their respective homes.

7. Surveillance

a. Active surveillance:

A plan was made for daily active surveillance between 0 to 3 kilometers from the epicenter. Molkera & Godawathi villages of Humnabad taluka and Hanmanthwadi village of Basawakalyan taluka were kept under active surveillance.

At Molkera & Godawathi villages of Humnabad taluka, the population was 2475 & 9710 with 435 & 707 houses respectively.

A total of 12 teams including medical officer, ASHAs, ANM & AWW were at Molkera & Molkera village, Humnabad and Hanmanthwadi village of Basawakalyan taluka for active surveillance.

b. Passive surveillance:

A weekly passive surveillance between 3 to 10 kilometers from the epicenter was also done. Dhumansur, Manik Nagar, Basantpur, Mustapur Pati villages and Humnabad Urban area of Humnabad taluka as well as Rajeshwar, Rampura, Yarbag, Pandargera & Sadulpur village of Basawakalyan taluka were kept under passive surveillance.

The population of area was 66177 with 11423 houses. 39 teams including medical officer, ASHAs, ANM & AWW observing the situation at above mentioned places.

8. RECOMMENDATIONS:

1. Active and Passive Surveillance to be continued as per micro plan with Arunodaya Poultry farm as epicenter for 10 days after culling.

2. Suspected Human cases of avian influenza to be admitted at Taluka Hospital Humnabad or CHC Rajeshwar. In case of pulmonary complications patients may be referred to isolation ward/ICU at Bidar Medical College.
3. Sample for confirmation of avian influenza for human cases to be sent to NIV Pune.
4. In coordination with state health authorities' adequate stock of PPE, Triple layer mask/N-95 mask, Oseltamavir capsule/Syrup and other medicines/materials may be ensured at appropriate levels.
5. IEC activities need to be strengthened.

Action from the field

Epidemic Intelligence Services during Simhastha, 2016 by Various Officers from IDSP at Ujjain, Madhya Pradesh from 22.04.2016 to 21.05.2016.

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.
- **State Code:**
  Andaman & Nicobar Islands AN; Andhra Pradesh AP; Arunachal Pradesh AR; Assam AS; Bihar BH; Chandigarh CH; Chhattisgarh CT; Dadra & Nagar Haveli DN; Daman & Diu DD; Delhi DL; Goa GA; Gujarat GJ; Haryana HR; Himachal Pradesh HP; Jammu & Kashmir JK; Jharkhand JH; Karnataka KN; Kerala KL; Lakshadweep LD; Madhya Pradesh MP; Maharashtra MH; Manipur MN; Meghalaya MG; Mizoram MZ; Nagaland NL; Odisha OR; Puducherry PN; Punjab PB; Rajasthan RJ; Sikkim SK; Tamil Nadu TN; Telangana TL; Tripura TR; Uttar Pradesh UP; Uttarakhand UT; West Bengal WB.

Case definitions:

- **Enteric Fever: Presumptive**: Any patient with fever for more than one week and with any two of the following: Toxic look, Coated tongue, Relative bradycardia, Splenomegaly, Exposure to confirmed case, Clinical presentation with complications e.g. GI bleeding, perforation, etc. AND/OR Positive serodiagnosis (Widal test)
  Confirmed: A case compatible with the clinical description of typhoid fever with confirmed positive culture (blood, bone marrow, stool, urine) of *S. Typhi*/ S Paratyphi.
  ARI/ ILI**:-**An acute respiratory infection with fever of more than or equal to 38 C° **and** cough; with onset within the last 10 days.

- **Acute Diarrheal Disease: Presumptive Acute Diarrheal Disease (Including Acute Gastroenteritis):** Passage of 3 or more loose watery stools in the past 24 hours. (With or without vomiting).
  Confirmed Cholera: A case of acute diarrhoea with isolation and identification of Vibrio cholera serogroup O1 or O139 by culture of a stool specimen.

- **Viral Hepatitis**: **Presumptive**: Acute illness typically including acute jaundice, dark urine, anorexia, malaise, extreme fatigue, and right upper quadrant tenderness.

  Confirmed: Hepatitis A: A case compatible with the clinical description of acute hepatitis with demonstration of anti-HAV IgM in serum sample.
  Confirmed: Hepatitis E: A case compatible with the clinical description of acute hepatitis with demonstration of anti-HEV IgM in serum sample.

- **Dengue**: **Presumptive**: An acute febrile illness of 2-7 days duration with two or more of the mentioned manifestations:

  - Headache, Retro-orbital pain, Myalgia, Arthralgia, Rash, haemorrhagic manifestations, leukopenia, or Non-ELISA based NS1 antigen/IgM positive. (A positive test by RDT will be considered as probable due to poor sensitivity and specificity of currently available RDTs.)

Confirmed: A case compatible with the clinical description of dengue fever with at least one of the following:

- Demonstration of dengue virus NS-1 antigen in serum sample by ELISA.
- Demonstration of IgM antibodies by IgM antibody capture ELISA in single serum sample.
- IgG seroconversion in paired sera after 2 weeks with fourfold increase of IgG titre.
- Detection of viral nucleic acid by polymerase Chain reaction (PCR).
- Isolation of the dengue virus (virus culture +ve) from serum, plasma, leucocytes.
  (Source – Dengue National guidelines, NVBDCP 2014)

- **Leptospirosis case definition**: **Presumptive**: Acute febrile illness with headache, myalgia and prostration associated with a history of exposure to infected animals or an environment contaminated with animal urine
  - With one or more of the following:
    - Calf muscle tenderness
    - Conjunctival suffusion
    - Oliguria or anuria and/or proteinuria
    - Jaundice
    - Haemorrhagic manifestations (intestines, lung)
    - Meningeal irritation
    - GI symptoms (Nausea/ Vomiting/ Abdominal pain/Diarrhoea)
  - And/or one of the following:-
    - A positive result in IgM based immune- assays, slide agglutination test or latex agglutination test or immunochromatographic test.
    - A Microscopic Agglutination Test (MAT) titre of 100/200/400 or above in single sample based on endemicity.
    - Demonstration of leptospires directly or by staining methods

Lab Confirmed Case Definition: A case compatible with the clinical description of leptospirosis with at least one of the following:

- Isolation of leptospires from clinical specimen.
- Four fold or greater rise in the MAT titre between acute and convalescent phase serum specimens run in parallel.
  (Source: -National Guidelines on Diagnosis, Case Management Prevention and Control of Leptospirosis NCDC 2015)

Acknowledgement:

This disease alert from IDSP acknowledges the contribution of Dr. S. Venkatesh Director NCDC, Dr. Pradeep Khasnobis Sr. CMO & Officiating NPO IDSP, Dr. Jyoti Asstt. Director IDSP, Ms. Ritu Malik Consultant GIS IDSP, Mr. Priyank Pandya Communication Officer IDSP, Mr. Prasun Sharma Statistician cum Programmer IDSP & Ms. Sujata Malhotra Data Manager IDSP.

The data shown in the IDSP Surveillance 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

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