



NCDC Newsletter

Quarterly Newsletter from the National Centre for Disease Control (NCDC)



From The Desk of the Director

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Director, NCDC

The second quarter of the year is associated with summers in India. The summer months are also associated with disease outbreaks. Outbreak investigation teams in NCDC investigate many acute diarrhoeal disease (ADD) outbreaks throughout the country. Many of these ADD outbreaks are linked to food. In this issue of the newsletter, the lead story focuses on burden and challenges of foodborne diseases in India and the opportunity of food safety policies and enforcement in prevention of many such outbreaks.

India has spearheaded a fight against antimicrobial resistance. The National Action Plan to combat AMR was rolled out on 19 April, 2017. On the occasion, Hon'ble Health & Family Welfare Minister, Sh. JP Nadda along with his cabinet colleagues unveiled the Delhi Declaration on AMR containment. This is covered in the NCDC news section.

The outbreak section focuses on an epidemiological investigation of chemical spill in Delhi and an epidemiological investigation of measles outbreak in Aligarh, UP.

The monitoring disease trends section highlights the trend of Influenza A H1N1 activity from 2013 till date. I hope you find this issue of the newsletter interesting to read.

Issue Highlights

Highlights in this issue

Food-borne Diseases and Food Safety in India

Food-borne diseases, including food-borne intoxications and food-borne infections, are terms applied to illnesses acquired through consumption of contaminated food, and are also frequently referred to as food poisoning.

Worldwide, food-borne diseases are a major health burden leading to high morbidity and mortality. The global burden of infectious diarrhoea involves 3-5 billion cases and nearly 1.5 million deaths annually, mainly in young children, due to diarrhoeal disease caused by contaminated food and water.

The WHO South East Asia Region has a quarter of the world's population, diarrhoeal diseases continue to be one of the top three leading causes of DALY losses. It has the second highest burden of food-borne diseases per population among WHO regions. While many food-borne diseases may be self-limiting, some can be very serious and can lead to death particularly in children, pregnant women and older persons. The WHO South East Asia Region contributes to one third of the global deaths due to diarrhoea in children under five years of age.

Issue Highlights

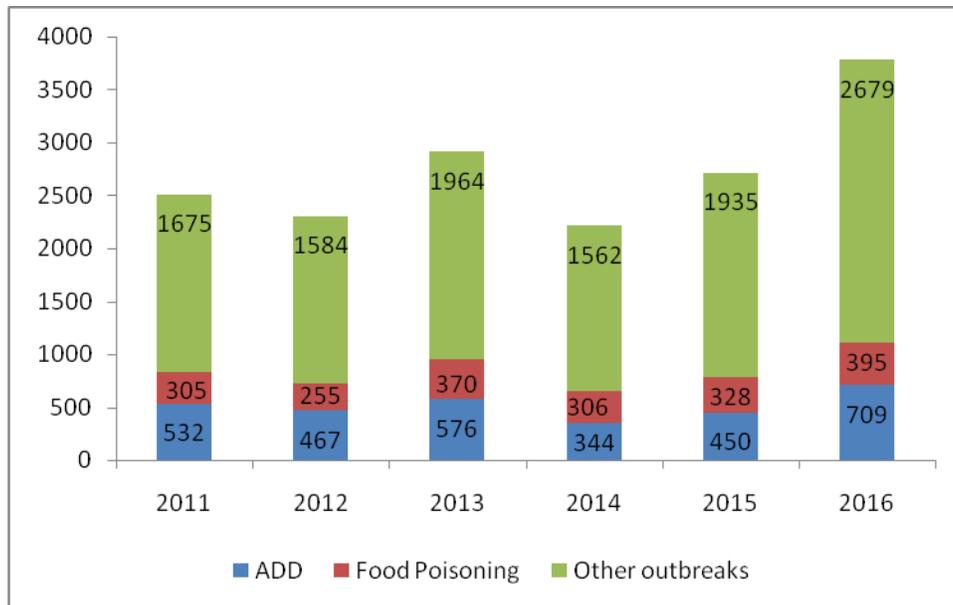
Lead Story.....1
Food-borne disease and Food Safety in India.

Outbreak Section.....8
Chemical Spill at Tughlakabad.
Measles outbreak in Aligarh, UP

NCDC News.....12
Action plan to Combat Antimicrobial Resistance
Paramedical FETP concludes in NCDC

Training course on Epidemiology of Malaria

Disease Trends.....17
Trends of Influenza A (H1N1) cases and deaths



Burden Of Food Borne Diseases In India

Number Of Disease Outbreaks Detected, IDSP 2011-16.

In India, the burden of food-borne disease is not known. Most food-borne diseases go unreported while only a few are reported by the media, usually those with high morbidity and/or occurring in urban areas.

The Integrated Disease Surveillance Programme (IDSP) network was launched in India in 2004. Aggregate analysis of IDSP data from 2011-15 shows food-borne outbreaks together with acute diarrhoeal diseases constitute nearly half of all reported outbreaks under IDSP for the period 2011-15. However for food-borne illnesses, passive surveillance systems only represent the

tip of the iceberg because: (1) most patients have mild symptoms of short duration and do not seek medical care; (2) many of those that do access clinical care will not have the laboratory test performed to determine a specific etiology; and (3) of those who seek medical care in whom an etiologic diagnosis is confirmed, not all will be reported to the surveillance system(s). It is estimated by the WHO that food-borne diseases are notified in only 10 percent of cases in developed countries and 1 percent in developing countries.¹

	Infections	Intoxications
Cause	Bacteria/ Viruses/ Parasites	Toxins
Mechanism	Invade and or multiply within the lining of intestines	No Invasion or multiplication
Incubation Period	Hours to days	Minutes to hours
Symptoms	diarrhoea, nausea/ vomiting, abdominal cramps, fever	Vomiting, nausea, diarrhoea, double vision, weakness, respiratory failure, numbness, sensory and motor dysfunction
Transmission	Can spread from person to person via the feco-oral route	Not communicable

Some factors related to food contamination

Production

Contamination of fruits and vegetables due to untreated fecal waste used as manures, animal faeces contaminating crops directly when animal defecate in fields – or indirectly when rainwater becomes contaminated with dangerous microorganisms and runs downhill into the growing fields;

Manufacturing

Cross contamination due to use of same utensils and instruments for raw and processed foods, use of raw untreated water in the factory, unsanitary conditions in and around manufacturing units, poor pest control;

Distribution and delivery

Use of cold shipments at incorrect temperatures, unsanitary conditions of the trucks;

Preparation and consumption

Inadequate cooking, cross contamination, poor personal hygiene, bare hand contact, inadequate cooking, improper holding temperature.

Epidemiology of common food-borne diseases

Need for food safety:

The world today has become a global village with interdependency across countries and continents in food production, distribution and consumption This globalization of food trade has also increased the potential to spread food-borne hazards around the world.

India is a signatory to World Trade Organization (WTO) on food trade and therefore has to abide by guidelines of Codex Alimentarius, a collection of international food standards, guidelines and codes of practice covering all the main foods tailored to the Indian context and known as codex India.

Food safety in India:

Prior to 2006 in India, food-related issues were managed by various departments and ministries through a number of central acts. These included the Prevention of Food Adulteration Act 1954,

Fruit Products Order 1955, Meat Food Products Order 1973, Vegetable Oil Products (Control) Order 1947, and the Edible Oils Packaging (Regulation) Order 1988, among others. In 2006, these orders were consolidated and brought under one overarching act, the Food Safety and Standards Act, 2006. The Food Safety and Standards Authority of India (FSSAI) is an autonomous statutory body created for defining science-based standards for articles of food, and regulating the manufacture, storage, distribution, sale and import of food items to ensure the availability of safe and wholesome food for human consumption.

The Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSS Act. Enforcement and execution of the act is done at the central level by the Food authority and at the state level by Food Safety Commissioners. At

the local level Food Safety Officers are the licensing authority and municipal corporations and gram panchayats are the registering authority.

Conclusions:

Various evolving influences have broadened the scope of food-borne illness and food safety in 21st century. Apart from contamination of food by known pathogens (bacterial, viral and parasitic), new food-borne diseases due to emerging and reemerging pathogens have been identified. Increasingly, food-borne illnesses have also been identified with social and behavioral factors, environmental hazards, scientific and technological progress and demographic changes. Lack of epidemiological data on food borne illnesses serves as a major deterrent to framing appropriate policies related to food safety in India. Efforts to enhance food-borne disease and ADD surveillance complementing existing communicable disease surveillance, should be rolled out. Robust food-borne disease surveillance combined with rapid quality outbreak investigations are essential to strengthening food safety as they provide

essential data to understand the etiologies of food-borne illness (microbial/ toxic chemical etc.), the types of food vehicles that are responsible for such illness, as well as the sources and routes of food contamination, including gaps in food production, distribution, preparation, and storage practices. A better understanding of each of these issues is key to the development of evidence-based technical standards for food, and is equally essential to effectively promote general awareness about food safety and food standards.

Food safety is a cross cutting issue with prominent stakeholders in non-health areas such as the food industry, agriculture, standardization/regulation authorities, food distributors and the general public. The establishment of the overarching FSS Act 2006 has paved the way for easier access to and utility of food safety regulations by the food and agricultural industry as well as health officials. Further strengthening of food safety policies and its effective enforcement is needed. Additional efforts to enhance inter-sectoral public health approaches will be essential to further strengthen food safety in India.

FIVE KEYS TO SAFER FOOD

1. **Keep Clean**
2. **Separate raw and cooked food**
3. **Cook thoroughly**
4. **Keep food at safe temperatures**
5. **Use safe water and raw materials**



Outbreak Investigation

Report of the team, constituted for Epidemiological Investigation of the chemical spill at Tughlakabad, Southeast Delhi, May 2017

On 6 May 2017, sudden onset of eye irritation and lacrimation were reported from students of Rani Jhansi Sarvodaya Kanya Vidhyalaya and Government Girls' Sr.Sec.School ,Tughlakabad, Southeast district of Delhi at around 07:00 A.M. About 500 school students were admitted in four area hospitals of Southeast Delhi . All leading newspapers of Delhi covered the chemical spill news and mentioned that the chemical was 2-chloro, 5-chloro methyl pyridine.

Tughlakabad inland container depot(ICD) caters to the need of importers and exporters based in Northern India. It is situated near Okhla Industrial Area, southeast Delhi and is spread over 44 hectares of land. This location has two Commissionerate.

- 1.ICD, Tughlakabad (Import)
- 2.ICD, Tughlakabad (Export)

The custodian for these two Commissionerates is Container Corporation of India (CONCOR). All activities related to clearance of goods for home consumption, warehousing, re-export for onward transit and outright export transshipment, takes place here.

Methodology:

The team visited two affected schools of Tughlakabad and interviewed their principals,

medical superintendents and CMO causality of all four area hospitals where children admitted were interviewed and first responders of Centralized Accidents Trauma Service and Police Control Room were interviewed. Public Relation Officer CONCOR Bhawan was interviewed for SOPs for chemical neutralization and risk communication to “at risk” community.

Results:

A line-list of 619 cases prepared including cases reported to four area hospitals and cases searched by active house-to-house survey. Of all cases 92% (572) were females. Median age of cases was 13 yrs (range 3-63 yrs), 94% (579) cases were given medical treatment, no death was reported. Among 110 interviewed 99% (109) have eye irritation, 79% (87) watery eyes, 34% (37) headache, 26% (29) vertigo followed by throat irritation, breathlessness and abdominal pain. Key informant interviews revealed that Schools had proper evacuation plan for emergency and the list of all emergency contact numbers. PCR and CATS responded immediately. The police informed all area hospitals about chemical leak. Staff of hospitals was trained in disaster management. Risk communication regarding health hazards of chemical spill was not done and no chemical neutralization was carried out at the spill site.

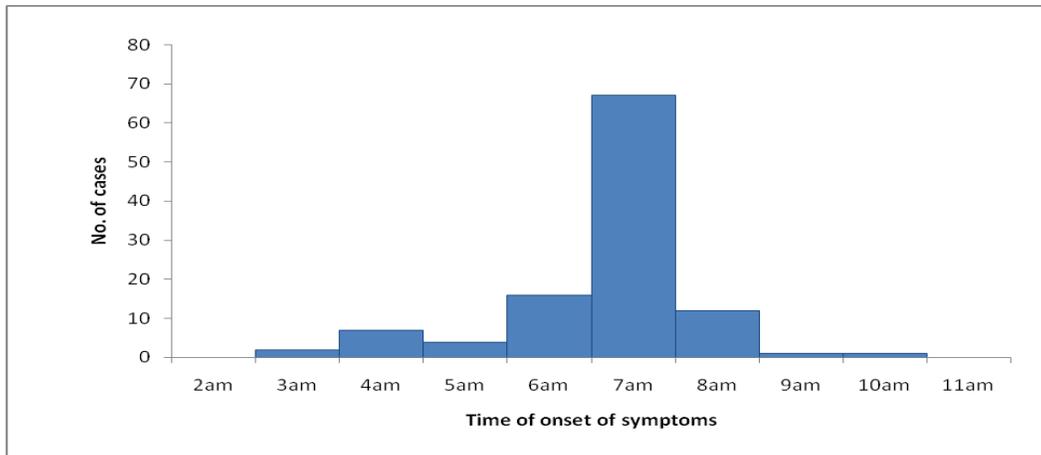


Figure-1: Distribution of Chemical leak affected cases by time of onset of symptoms on 6 May 2017, Tughlakabad, Delhi (N=110)

Age group (Yrs.)	Female (%)	Total (%)
1-10	91(77)	118(19)
11-20	464(98)	472(76)
21-30	6(67)	9(0.01)
31-40	3(60)	5(0.008)
41-50	3(43)	7(0.001)
51-60	4(67)	6(0.009)
61-70	2(100)	2(0.003)
Total	573(93)	619

After reviewing the descriptive epidemiology we generated a hypothesis “thecases of chemical leak related illness occurred among those who were in the vicinity of Tughlakabad Inland container depot exit track (within a radius of 100 m around the site of spill) on 6 May 2017”

Case-control study was conducted to test hypothesis with 30 cases and 60 controls. The test results showed that walking through ICD exit track was associated with illness (OR 5.4, 95% CI 2.08-14.08) and not being empty stomach (OR- 0.2, p value= 0.02) had protective effect on occurrence of chemical leak related illness, depicted in Table-2. All other risk factors were not found to be significant

Analysis of Risk Factors				
Risk Factor	Odd's Ratio	Lower Limit of 95% CI	Upper Limit of 95% CI	P Value
Walked through ICD exit track	5.4231	2.0882	14.0837	0.0003
Put on glasses	0.3667	0.0409	3.285	0.35
Covered face	2.069	0.1249	34.2651	0.6
Full stomach (Not empty stomach)	0.2656	0.082	0.8617	0.021

*Significance level fixed at 0.05

No human or environmental sample was collected. On environmental survey of ICD exit track, spill site was found covered with sand but was not removed from the site. Spill was in proximity to the school boundary wall and also close to the breach in the boundary wall of ICD used by students to reach school.

Conclusion:

Epidemiological and environmental investigation suggest that chemical spill occurred at ICD exit track in early morning of 6 May 2017 and affected only those who were in the proximity (approximately within 100 m of radius) of ICD exit that day. The sudden occurrence of illness among school children could be due to the presence of school in proximity to spill site and use of that depot track by about half of the affected school students to reach school. Chemical neutralization was not carried out and the health hazards due to the spill of the chemical were not communicated to the community living around that area. We recommend that appropriate action should be taken by the concerned authorities as per regulations for proper land use so the community is not affected. As short term measure, use of ICD exit track by residents and school students should be discouraged, the health risks of living around an area where hazardous chemicals are stored during transit should be communicated to the residents.

(Contributed by Drs Sushma Chaudhary EISO, Meera Dhuria, CS Aggarwal NCDC)





Breach in the wall of ICD closed after chemical leak incident (was earlier used by students as a short cut to reach school)

Measles Outbreak Investigation, Rajmargpur Village, Aligarh District, Uttar Pradesh, 2017

Measles is a highly contagious viral disease and remains one of the leading causes of death in young children. India is moving towards achieving measles elimination goal along with the WHO South-East-Asian countries by 2020. In 2015, 2410 suspected measles outbreak of which 901 were confirmed by laboratory and epidemiological linkage was identified through laboratory supported, AFP based surveillance for measles and rubella initiated across India.

On 24 April 2017, district surveillance unit, IDSP reported an outbreak of measles to central surveillance unit from village Rajmargpur. Rajmargpur is a village in block Atrauli (population- 2, 61,698) with a population of about 3500 in which 96 children are in age group 0 to 1 years, 311 in 1 year to 5 years age group and 902 in 1 year to 15 years age group. On 12 May 2017, two EISO from NCDC joined the district for investigation.

Method:

We defined case as fever and maculopapular rash with cough or coryza or conjunctivitis in a

person residing in Rajmargpur village from between 1 February- 19 May, 2017.. Cases were identified by conducting house-to-house survey. We conducted retrospective cohort study of children ≤ 5 years of age at Rajmargpur village. Data was collected using semi-structured questionnaire containing information on socio-demographic, clinical presentation, vaccination status, and exposure history. Blood sample for serum IgM ELISA for measles for 5 cases with one throat swab sample was collected during house to house survey and sent for testing on 22 April 2017 by the WHO measles surveillance team.

Result:

We identified 42 measles cases in 210 houses; 41 months (5 months to 72 months). 40% (17/42) cases were female. Attack rate for age group 0 to 10 years was 6%.

One death of a child age 2.5 years female was reported on 30 March 2017 in J.N. Medical College and Hospital, Aligarh due to acute viral encephalitis. Cough was present in 95% (40/42),

coryza in 90% (38/42) and conjunctivitis present in 83% (35/42). 23% (10/42) probable cases have received measles vaccine (MCV-1) and 5% (2/42) probable cases have received measles vaccine (MCV-2) in past. 12% (5/42) of cases gave travelling history.

A retrospective cohort study was conducted amongst children in the age group of 12-72 months. Information was collected on 247 eligible children. 45% (137/303) were females. 31 % (78/247) children are either partially immunized or not immunized. Vaccination coverage for MCV 1 is 67%, MCV2 is 9%, DPT-3/Pentavalent-3 is 61% and Vitamin A is 69%. Vaccine cold chain and logistics maintenance was satisfactory.

Total five blood samples and one throat sample was collected on 22 April 2017. 80% (4/5) were found positive for measles IgM ELISA.

Conclusion:

The epidemiological investigation supported by clinical features and confirmed by laboratory findings concludes that this outbreak in Rajmargpur village, Aligarh district Uttar

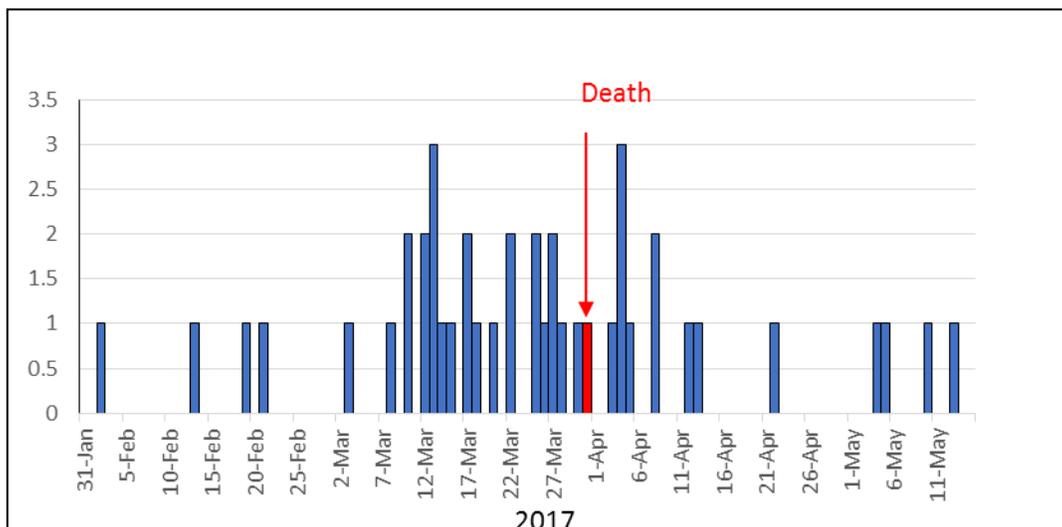
Pradesh was of measles with one measles related death in a child less than 5 year of age.

Low vaccination coverage for measles likely contributed to the outbreak. Recall method was used for gathering information which was prone to recall bias.

We recommended strengthening routine immunization with intensive tracking of eligible dropouts for MCV1/ MCV2 and DPT/Pentavalent 3 vaccines and Vitamin A administration. The current IEC model needs to be reviewed in the light of results and the Panchayat, women’s self-help groups, community leaders in the village needs to mobilize to generate community awareness on the importance of immunization. We also recommended strengthening public health care delivery for treatment of childhood ailment such as measles and early referral in case of complications.

(Contributed by Dr Pramod Goel and Dr Prasoon Sheoran EIS Officers)

Time distribution of measles cases, Rajmargpur village, January-May, 2017 (n- 42)





The Union Minister of Health and Family Welfare unveiling the Delhi Declaration at the Inter-Ministerial consultation on Antimicrobial Resistance Containment in New Delhi

India develops National Action Plan to combat Antimicrobial Resistance

“Antimicrobial resistance is a serious threat to global public health that requires action across all government sectors and society and is driven by many interconnected factors. Single, isolated interventions have limited impact and coordinated action is required to minimize the emergence and spread of antimicrobial resistance.”

This was stated by Shri J P Nadda, Union Minister of Health and Family Welfare at the ‘Inter-Ministerial Consultation on AMR Containment’, on 19 April, 2017. Shri J P Nadda also announced the finalization of India’s comprehensive and multi-sectoral National

Action Plan at the function. Shri Ram Vilas Paswan, Minister of Consumer Affairs, Food & Public Distribution, Shri Anil Madhav Dave, Minister of Environment, Forest & Climate Change, Smt. Anupriya Patel, MoS (Health & Family Welfare) were also present. The Ministers later signed a ‘Delhi Declaration’ for collectively strategizing to contain AMR.

It pledges to adopt a holistic and collaborative approach towards prevention and containment of antimicrobial resistance (AMR) in India. It calls on all stakeholders including UN, WHO, FAO and other UN agencies, civil society organizations etc., to support the development

and implementation of the national and state action plans on AMR.

“Antimicrobial resistance is a serious threat to global public health that requires action across all government sectors”

Sh J P Nadda, Hon’ble Union Minister of Health and Family Welfare

Shri J P Nadda said that under the guidance of the Hon. Prime Minister who has stressed on the need to converge actions across ministries and departments and not work in silos, so as to not have segmented outcome: “We are working in the direction of pulling out malaise of AMR from the root. Health Ministry is at the receiving end as there are various layers and every layer needs to be addressed”. He further added that the action plan has been prepared through extensive national consultations with various stakeholders. “In alignment with global action plan, India’s action plan has objectives of enhancing awareness, strengthening surveillance, improving rational use of antibiotics, reducing infections and promoting research. India aims to support neighboring countries in collective fight against infectious diseases,” Shri Nadda elaborated.

Acknowledging the progress made by the Government in combating AMR, Shri Nadda said that Health Ministry has taken a lead in this effort at international fora and has initiated series of actions including setting up a National Surveillance System for AMR, enacted regulations (Schedule-H-1) to regulate sale of antibiotics, brought out National Guidelines for use of antibiotics etc. He further said that more efforts are required considering the large size of our country, magnitude of the problem and the fact that AMR needs to be addressed

comprehensively under “One Health Approach”.

“This is a landmark occasion”, said the Union Minister for Health. “We are ready with a blueprint that meets global expectations. The challenge now is in its efficient implementation through a coordinated approach at all levels of use of antibiotics,” he added. Shri Nadda urged all State Governments to develop state-specific action plans and assured them of all possible assistance.

Speaking on the occasion, Shri Anil Madhav Dave, Minister of Environment, Forest & Climate Change, stated that the Environment Ministry is conscious of the AMR threat and shall contribute in every possible way. Shri Ram Vilas Paswan, Minister of Consumer Affairs, highlighted the ill effects of irresponsible use of antibiotics, food adulteration, excessive insecticides, and pesticides, fungicides on human and animal health. Shri Paswan stressed on the need for creating more awareness among masses and strict laws against adulteration. Smt. Anupriya Patel, MoS (Health & Family Welfare) stated that collective strike and collaborative effort is needed as singular effort shall have limited impact. Smt Anupriya Patel advised for responsible use of antibiotics.

Shri C K Mishra, Secretary (H&FW), Dr SoumyaSwaminathan, Secretary (DHR) and DG (ICMR), Dr. (Prof) Jagdish Prasad, DGHS, Prof. K. Vijay Raghavan, Secretary (DBT) and Dr. Henk Bekedam, WHO Representative to India and other senior officers of the Health Ministry were present along with representatives from Ministries of Agriculture, Pharmaceuticals, Information and Broadcasting, Chemicals and Fertilizers, Water and Sanitation, AYUSH, Food Processing Industries, ICMR, NCDC.

(Source PIB India)

National Consultative Workshop held to revise reporting formats under Integrated Disease Surveillance Programme (IDSP)



The IDSP was rolled out in India in a phased manner in 2004 to strengthen disease surveillance and response. Surveillance units have been established in all states (SSU/DSU). On 2 May

2017, IDSP carried out a national consultative workshop to revise its reporting formats. This was a first exercise of its kind, since the inception of IDSP.

The proposed new formats (S &P, L and EWS) were presented to select group comprising of experts from WHO, International public health organizations such as CDC, experts from National Health Programmes and representative from State health departments. This was followed by group work on minimum data elements for vaccine preventable diseases, vector borne diseases, zoonotic diseases and other conditions like food borne, water borne conditions under the mandate of IDSP.

Each group was asked to have deliberations on case definitions, minimum data sets, new reporting formats and propose changes with a rationale for addition or omission of any data element. After the exercise, a panel of experts was set consisting of Dr M.S. Chadha from NIV, Pune , Dr V. Ravi , Dr L.S. Chauhan and Dr Anand with Dr Sunil Gupta as moderator to deliberate on the recommendations of each panel. The final proceedings of the workshop was prepared by the IDSP.

(Contributed by Drs Sanket Kulkarni and Pradeep Khasnobis, CSU IDSP)

Regional Training Programme for Prevention and Control of Communicable Diseases for Paramedical Personnel of South East Asian region concludes in NCDC



The National Centre for Disease Control, Delhi is a WHO Collaborating Centre for Epidemiology and Training. The objective of the FETP is to provide the knowledge and skills for the field application of Epidemiology in the prevention and control of communicable diseases. This training is being conducted at NCDC every year since 1999. Till date 192 participants from Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Sri Lanka, India and Timor Leste have successfully completed the previous courses. It is a tailor-made training programme for participants from countries of South East Asia Region to strengthen their epidemiological skills.

This year the training was conducted from 15th March to 11th April 2017. Four candidates from Timor Leste and five from India (Bangalore, Kozhikode, Punjab, Delhi and Lakshwadeep) undertook the fellowship programme. Senior faculty members from NCDC and WHO acted as resource person in the Programme.

A field survey titled 'Immunization Status of Children of 1-5 years and Factors affecting it: A Community Based Study in an Urban area of Rajasthan' was conducted in Alwar city from 1st to 8th April 2017 under supervision of course coordinator Dr. Ananya, Assistant Director, Epidemiology division, NCDC Delhi and Dr.

Naveen Chharang, Joint Director and Branch officer in-charge of the NCDC branch who supervised the groups and arrangements. The training programme was evaluated by presentation of field survey report and by comparing the performance of the participants before and after the course through assessment questionnaire.

(Contributed by Drs Ananya Ray Laskar & C. S. Aggarwal NCDC)

National Workshop held on Strengthening Laboratory-Based Surveillance of Antimicrobial Resistance.

In May 2017, NCDC with support from CDC-India organized a National Workshop on Strengthening Laboratory-based Surveillance of AMR involving representatives from NCDC's National AMR Surveillance Network. A total of 13 institutes from 11 states participated in the two-day workshop. The objectives of the workshop were:

1. Present and discuss implementation, progress, and challenges of the NCDC AMR surveillance network .
2. Deliberate key issues related to AMR surveillance methods and reporting, and build consensus for updated standard surveillance procedures.
3. Sensitize NCDC AMR network sites to a standardized AMR laboratory assessment tool.
4. Provide hands-on orientation to WHONET as a tool for AMR data management at the facility and the national level.

Representatives from each of the eight existing NCDC surveillance network laboratories and four of the proposed laboratories delivered

presentations about microbiology/AST practices and AMR related activities in their respective institutions.

Then, the workshop participants were divided into three groups to discuss key issues related to AMR surveillance. Each group was comprised of microbiologists, data managers, epidemiologists, and laboratory technicians. The working groups were facilitated by technical experts from CDC, NCDC, WHO and PGI Chandigarh. Key discussion points of each working group were:

Group 1: Methods and Discs to be used for Antibiotic Susceptibility Testing

Group 2: Internal and External Quality Assurance that need to be carried out throughout the network

Group 3: Standardisation of Surveillance and Reporting formats

On the following day, rapporteurs selected from each group presented a summary of the discussion and recommendations of the group.

The participants were provided an overview of the AMR laboratory assessment tool that will be used for collection of standardized information on laboratory practices that are relevant to AMR surveillance. The participants were also briefed on the principles of WHONET use for entry and management of AMR data. Participants were oriented to the basic components of WHO data entry and analysis during a brief hands-on training session.

Based on the discussions of the workshop, NCDC will develop Standard Operating Procedures for AMR Surveillance to support systematic implementation of surveillance across sites. Additionally, NCDC and partners will conduct site visits to assess AMR-related laboratory practices to support strengthening of surveillance. Additional, in-depth training on

WHONET data management for AMR surveillance will be provided to sites in order to streamline data management and submission to NCDC. The goal is to strengthen AMR surveillance at the facility level to enhance appropriate laboratory diagnostic and clinical antibiotic stewardship practices, to support use of these surveillance data to enhance understanding of AMR at the national level, and to use these compiled data to contribute toward a better understanding of AMR at a global level.

(Drs Sunil Gupta NCDC & Mayank Diwedi CDC India)

IDSP conducts an in-depth review of its implementation in Haryana

In-depth reviews provide critical feedback mechanism for monitoring implementation and instituting corrective measures for a programme. A Central team of IDSP, NCDC consisting of Dr. Pradeep Khasnobis, Sr CMO & Officiating NPO, Dr. Suhas Dhandore Deputy Director, Dr. Sunet

Kaur Consultant Epidemiologist, Dr. Uma Gupta Consultant Microbiologist, Mr. Ajay Kumar Consultant IT, Mr. Amit Mittal Consultant Finance and Ms. Sujata Malhotra Data Manager visited Haryana and conducted an in-depth review of IDSP implementation in the State from 20 -23 June 2017.

During the review they visited state surveillance unit Haryana, health facilities at various levels of Districts Karnal and Mewatuptil sub-centre level. The team reviewed surveillance data flow at various levels, feedback mechanism, laboratory infrastructure and financial mechanisms.

A debriefing meeting was held with state health department officials on 23 June 2017. Dr. Amarjeet Kaur, CMO, RoHFW Chandigarh participated in debriefing meeting on 23rd June 2017

(Contributed by Drs Jyoti and Prdeep Khasnobis, CSU IDSP)



Officers of IDSP participating in the IDSP review in Haryana

Training Course on Epidemiology and Management of Malaria and Vector Borne Diseases concludes

Training for Entomologists, Epidemiologists & Consultants was organized by Centre for Medical Entomology & Vector Management in collaboration with World Health Organization at NCDC from 11th -31st May 2017. Twenty

entomologists/epidemiologists of IDSP, NVBDCP consultants participated in this training. For successful culmination of the training, different expert's faculties from NCDC, NIMR, NVBDCP, ex-faculty from NCDC in the

field of medical entomology were invited to deliver lectures on various specialized topics. The training comprised of overview lectures and discussion on various Vector Borne Diseases prevalent in India and sampling methods of vectors, entomological surveillance, outbreak investigation, insecticide resistance and epidemiological aspects of vector borne disease transmission.

Participants were taken to Alwar, Rajasthan from 22-25 May 2017 and Jaipur from 25-27 May 2017 for entomological surveillance and vector control activity demonstration. Field

training was provided to them on various aspects of entomological/epidemiological data collection, monitoring of records, methods of surveillance of various disease vectors, etc. In view of recent outbreaks of CCHF & Scrub Typhus, special emphasis was given to teach sampling methods of ticks, mites and fleas. After completion of this training, participants were capable to undertake entomological surveillance of disease vectors, susceptibility status of vectors against insecticides commonly using in the programme and support for preparation of district/State action plan for vector control.

(Contributed by Dr TG Thomas, NCDC)



NCDC reaches out to the community on World Environment Day

World Environment Day is being observed on 5th June every year. It was observed by National Centre for Diseases Control (NCDC) to reach the general public and to create mass awareness about the environmental issues. The activities were organized by officers of Centre for Environmental & Occupational Health Division, Centre for Non Communicable Diseases and Entomology department from NCDC as well as Medical Superintendent, Hindurao Hospital, Delhi.

The main activities conducted were:

a) Educational exhibition for sensitization on pollution, prevention of drug resistance



development, sensitization on mosquitoes borne diseases b) Display of materials like: NICD Cooler, larvae & adult of Aedes and Culex mosquitoes, plants whose extracts have anti larval properties.

An on-the-spot drawing competition for young children was organized with the theme: *'Connecting People to Nature – in the city and on the land, from the poles to the equator'*. To ensure participation of public the team of NCDC actively interacted with all. (Contributed by Drs Shikha Vardhan & CS Aggarwal)

IDSP works with Health Informatics Expert from WHO Headquarters to update ICT Master Plan

IDSP and WHO conducted a Joint Monitoring Mission of Integrated Disease Surveillance Programme (26th November to 8th December 2016). Recommendations included updating the IDSP Portal with surveillance deliverables. Based on the above recommendations, IDSP conducted series of meetings for finalization of surveillance case definitions as well as list of prioritized diseases under surveillance with the help of WHO.



In order to facilitate this, Dr. Ramesh Krishnamurthy, Senior Advisor, Department of Information, Evidence and Research Health Systems and Innovation Cluster, WHO HQ, Geneva worked with counterparts from IDSP, NIC and health programmes from 19 April- 8 May, 2017).

The draft ICT master plan for IDSP was shared in a meeting of senior health officials at Nirman Bhavan under Chairmanship of Shri Lav Aggarwal, Joint Secretary, MoHFW on 5 May 2017 followed by final presentation was given to Shri Sanjeeva Kumar, Additional Secretary, and MoHFW on 8th May 2017. The final report on ICT master plan for IDSP is awaited from WHO.

(Contributed by Drs Suhas Dhandore & Pradeep Khasnobis)

NCDC participates in meetings to strengthen core capacities at ground crossing international points of entries in compliance to IHR (2005)

The International Health Regulations (IHR) are an international legal instrument that is binding on 196 countries across the globe, including all the Member States of WHO. Their aim is to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide. The IHR, which entered into force on 15 June 2007, require countries to report certain disease outbreaks and public health events to WHO. India is a signatory to IHR 2005 and NCDC is the national focal point for IHR implementation in India.

Two national level meetings were organized by IH Division, DGHS which is the nodal division for core capacities implementation for points of entries (core capacity 9) under IHR (2005). These meetings were held as a preparatory measure for reviewing existing situation with regard to public health threats and potential for spread through ground crossings across the borders shared by bordering districts (of two countries).

1. Kolkata meeting (involved the states bordering Bangladesh)

2. Siliguri meeting (with states bordering Nepal, Bhutan and Myanmar)

Experts from various stakeholders along with IDSP surveillance officers (State surveillance Officers/District surveillance officers) from five states and other stakeholders reviewed the nature and type of outbreaks detected in the past 3 years and the existing surveillance and response with regard to potential public health threats for spread through ground crossing points across the borders. core capacities and procedures. A visit to Petrapole Integrated Checkpost Post (ICP) at

ground crossing was also undertaken to give the stakeholders a practical experience of the actual situation. Dr PradeepKhasnobis, Sr. CMO, IDSP and Dr MeeraDhuria, Assistant Director, Epidemiology Division attended the meeting.

Besides the above common objectives, the meeting also included a field visit to Panitanki check post at the border with Nepal. Dr AK Bansal, Addl. Director & Head (Malaria and Coordination Division), Dr Pradeep Khasnobis, NPO IDSP, Dr Naveen Gupta, Joint Director, Zoonosis and Dr Simrita Singh, Deputy Director, Microbiology Division, NCDC also participated in the meeting.

(Contributed by Drs Meera Dhuria & CS Aggarwal, NCDC)

Dr Meera Dhuria, Epidemiology Division, NCDC participated as resource person in a training workshop on “Response to CBRN Emergencies & Medical Preparedness” organized by Disaster Management Department of Municipal Corporation of Greater Mumbai from 05th April 2017 to 7th April 2017. She took a session on “Characteristics of Chemical Hazards and Management.”

Safety initiatives taken in India to address chemical risk are:

A number of regulations covering the safety in transportation, liability, insurance and compensations have been enacted. Following are the relevant provisions on chemical disaster management, prevailing in country

- Explosives act 1884
- Petroleum act 1934
- Factories act 1948
- Insecticide act 1968
- Environemnet Protection act 1986
- Motor vehicles act 1988
- Public Liability Insurance act 1991
- Disaster Management act 2005

Monitoring Disease Trends

Trend of Influenza A (H1N1) cases and death in India

IDSP, NCDC is monitoring Influenza A (H1N1) through its units established in all districts of 36 States/UTs. From cases and deaths trend of Influenza A (H1N1) of 2013-2017 (till 30th June,2017), it is observed that, major spurts of cases and deaths has occurred from January to March in 2015. In 2015, the cases and deaths were primarily reported from the States of Rajasthan, Gujarat, Maharashtra, Delhi, Karnataka, Madhya Pradesh, Telangana and

Uttar Pradesh. In 2015, till 31st December, 2015, 42592 cases have been reported from all States/U.Ts , out of which 2990 have died.

In 2016, upsurge of Influenza A (H1N1) cases were not observed. In 2016, till 31st December, 2016, 1786 cases have been reported from all States/U.Ts , out of which 265 have died.

In 2017, the upsurge in H1N1 cases was observed from January, from the affected States (primarily from the States of Tamil Nadu, Puducherry, Telangana and Karnataka followed by Andhra Pradesh, Maharashtra and Kerala) and the trend seems to be declined in June, 2017

Months	2013		2014		2015		2016		2017*	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
January	548	100	23	4	1864	169	460	76	679	24
February	2179	195	52	7	18108	906	648	116	2483	52
March	1659	195	77	13	14268	1009	261	39	3355	113
April	348	84	85	27	1519	161	40	8	1859	128
May	71	23	122	31	306	43	15	4	1687	157
June	23	3	141	24	223	37	10	2	1541	91
July	57	17	79	21	517	29	44	2		
August	161	32	78	24	1795	105	50	6		
September	87	22	97	31	1980	221	73	3		
October	77	15	37	13	1340	183	52	1		
November	27	3	40	9	404	81	21	2		
December	16	10	106	14	268	46	112	6		
Cumulative	5253	699	937	218	42592	2990	1786	265	11604	565

*Reported till 30.06.2017

Trend of cases and deaths from Influenza A (H1N1) 2013-2017*

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