



# NCDC Newsletter

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



## From the desk of the Director



Dr. L.S. Chauhan  
Director, NCDC

This issue of NCDC Newsletter highlights many emerging infections which have global and national implications, namely spread of new MERS corona virus outside of Middle East, H7N9 in China, acute encephalitis syndrome in Bihar etc. It also has news about vaccine preventable diseases including measles, diarrheal diseases including new indigenous Rotavirus Vaccine produced in India, as well as the activities underway at NCDC. A section on “ Modern Technology and Health” has been introduced in this issue and will be continued as a regular feature.

I hope you will find the Newsletter informative. Looking forward to your feedback.

## Lead Story

### Outbreak of Acute Neurologic Syndrome in Muzaffarpur, Bihar – 2013

Outbreaks of an Acute Neurologic Syndrome (ANS) have been reported among children in Muzaffarpur District of Bihar for almost two decades. The first detected outbreak was in 1995, when over 1,000 cases and 300 deaths were reported. There have been subsequent large outbreaks of ANS in Muzaffarpur in 2005, 2011, and 2012. The illness primarily affects young children between the ages of 2 – 5 years. Characteristically, patients present with acute onset generalized seizures and altered mental status. The case fatality rate for children affected with this illness is exceptionally high (35-44%).

The outbreak typically occurs in the hot, dry months of May and June, each year; The number of cases declines dramatically with the onset of the monsoon. Epidemiologically, clustering of cases has not been noted; each affected child in the last several years has been an isolated case in his or her village. Affected children are neither the youngest nor the oldest in their household. The vast majority of cases reside in rural villages in Muzaffarpur, while very few patients are from urban sections of the district. Notably, Muzaffarpur district is a key litchi fruit growing region in India. The outbreak cases tend to peak during litchi harvesting season, which has led to various hypotheses regarding associations between consumption or contact with litchis and the development of this acute neurologic illness. These potential associations have not been confirmed.

Notable clinical characteristics among affected children include a reported lack of prodromal symptoms. In the 2012 outbreak, fever was documented in less than 50% of case patients, while hypoglycemia was reported in a sizable proportion of patients. Clinical laboratory findings indicate that the cerebrospinal fluid (CSF) of patients who received lumbar puncture examination in previous years was unremarkable, and not suggestive of an inflammatory process. This has raised the question of whether this illness may be a result of a non-infectious etiology.

There have been multiple epidemiologic and laboratory investigations of this syndrome in Muzaffarpur in the past several years. Laboratory testing of limited numbers of specimens of

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CSF and blood has been conducted at NCDC Delhi and NIV Pune for multiple viral pathogens, including Japanese Encephalitis virus, Dengue, Enterovirus, Nipah Virus, and Chandipura Virus, with negative results. To date, an etiologic agent for this illness has not been confirmed.

In order to better understand this illness and work toward clarifying the etiology of this disease, NCDC, with technical support from GDD-IC is conducting systematic prospective hospital-based surveillance of Acute Neurologic Syndrome cases in Muzaffarpur District. Additionally, case patients identified during surveillance were also enrolled in a nested case-control study designed to evaluate potential risk factors associated with this syndrome.

During the study period of May 17 to July 21, 2013, the NCDC field team conducted surveillance at the three main tertiary hospitals accessed by patients in Muzaffarpur District: the Shri Krishna Medical College Hospital (SKMCH), the Krishnadevi Deviprasad Kejriwal Maternity Hospital (KDKMH), and the Sadar District Hospital. In the 2013 outbreak period, all children under the age of 15 years presenting to one of the participating hospitals during the study period with altered mental status and/or acute onset of seizures were enrolled in prospective surveillance, irrespective of the presence of fever at presentation. Patients admitted with acute febrile seizures were excluded from enrollment.

For each patient enrolled in surveillance, standardized clinical and demographic information was collected. Routine CSF cytology and chemistry as well as peripheral blood count, electrolytes and liver panels were conducted on all patients at the hospital. Additional CSF, whole blood, serum, rectal swab and urine samples have been collected on all patients and submitted to NCDC for additional testing, including diagnostic tests for JE Virus, West Nile Virus, Nipah, Chandipura, and Enteroviruses.

To evaluate risk factors for illness, two age-matched controls were enrolled for each case patient: one hospital control admitted to the same hospital with any CNS symptoms, and one community control residing in the same village as the patient. Home visits and collection of standardized data on epidemiologic and environmental exposures were conducted for every case and control.

Between May 17 and July 15, 133 cases were enrolled in surveillance. The greatest number of cases was reported during the first 2 weeks of June 2013. Among cases, 94 (71%) were from Muzaffarpur district while the remaining patients were from neighboring districts, including East Champaran. The majority (71%) of patients were less than 6 years of age. Preliminary

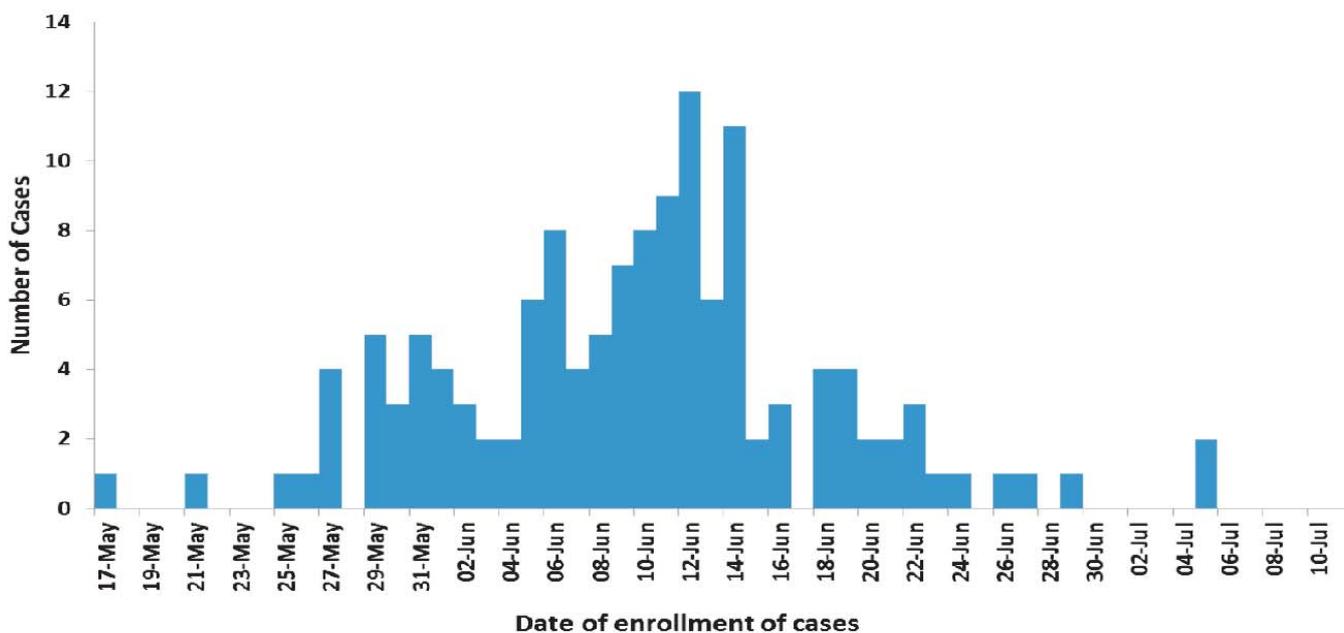


Figure 1: Epidemic Curve: Muzaffarpur Hospital-Based Acute Neurologic Syndrome Surveillance, 2013

data analysis indicate that 39% of patients had a documented fever of  $\geq 100.5^{\circ}\text{F}$  at the time of admission, 77% had peripheral leukocytosis with WBC count  $> 11,000$  cells/ $\text{mm}^3$ , while 23% had documented hypoglycemia (blood glucose  $< 70$  at admission). Notably, the majority (84%) of patients had normal CSF cell count ( $< 10$  cells/ $\text{mm}^3$ ), as well as normal CSF glucose (79%) and CSF protein (78%). Preliminary laboratory testing at NCDC indicate & negative results for Japanese

Encephalitis virus as well as West Nile Virus and Enteroviruses. Testing for West Nile Virus, Nipah and Chandipura viruses are underway. Brain Magnetic Resonance Imaging conducted for 10 patients indicates no strong evidence for a focal or diffuse inflammatory process.

Among all enrolled patients, 59 (44%) patients died, 61 (47%) were discharged, 5% left against medical advice, while 4% were referred to another facility. Among those who died, 72% died within the first 48 hours of admission. Conversely, among those who were discharged, 50% recovered and were discharged within 48 hours of admission.

While field-based data collection is almost complete, data analyses have now started. Key questions to address with analysis of clinical data are whether this illness represents an encephalopathy or encephalitis. Several features, including unremarkable CSF, altered sensorium and frequent decline to coma, absence of infectious prodrome in most cases, and absence of other focal neurologic findings, are suggestive of an encephalopathy. At the same time, other features including a peripheral leukocytosis and the presence of fever in a subset of patients may be consistent with encephalitis.

The focus of the next steps of analysis will help to differentiate this clinical question of encephalopathy or encephalitis. This differentiation can help direct next steps in laboratory diagnostic testing, additional epidemiologic factors to focus on in future investigations. Defining these clinical and epidemiologic distinctions may help to shed light on potential etiologies that merit further investigation, rule out certain exposure hypotheses as a potential risk factor for illness, and also guide empiric management and improve the survival of affected children in Muzaffarpur.

(Contributed by Dr Padmini Srikantiah, CDC)

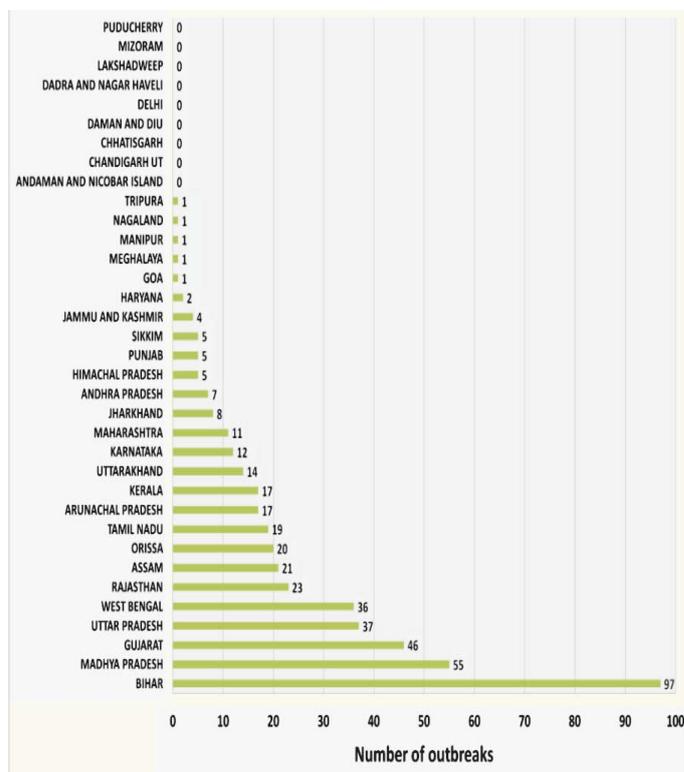
## Outbreak Update

### Measles outbreaks reported to and responded through IDSP

Measles is an important cause of morbidity and mortality among the Indian children even though a safe and cost-effective vaccine is available. A total of **466 measles outbreaks (>8% of total outbreaks)** have been reported under IDSP in a period of five years, during 2008-12. (Table 1) Bihar has reported maximum number of outbreaks (about 21%) in the country followed by Madhya Pradesh (12%) and Gujarat (10%) (Fig1)

**Table 1:** Measles outbreaks reported & responded through IDSP between 2008-12

Year	Total Outbreaks	No. of Measles Outbreaks	% of Total Outbreaks	Cases	Deaths
2008	553	40	7.2	849	31
2009	799	44	5.5	766	19
2010	990	95	9.6	1941	27
2011	1675	177	10.6	2436	28
2012	1584	110	6.9	2764	24
<b>Total</b>	<b>5601</b>	<b>466</b>	<b>8.3</b>	<b>8756</b>	<b>129</b>



**Fig:-**State wise number of measles outbreak reported under IDSP,2008-2012

Relation between State wise measles immunization coverage (*Source – CES 2009*) and State wise number of measles outbreaks reported under IDSP is shown in Scatter Plot (figure 2).

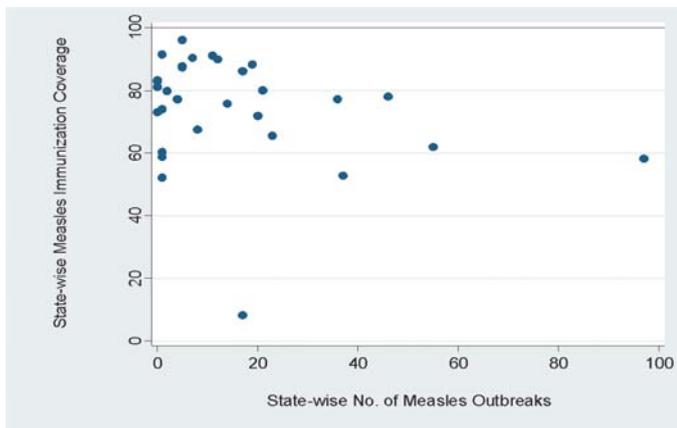


Fig. State wise number of Measles Outbreaks

Detailed analysis of outbreaks can be useful to identify gaps in immunization programme performance that may not be evident through monitoring vaccination coverage. Immunization programme weaknesses can include low coverage, heterogeneity of coverage with pockets of missed children, population movements, community resistance, cold-chain failure, inadequate human resources, poor data collection, and reporting errors.

The data highlights important focus areas:

- Analyse Measles outbreak data as a supplementary indicator to monitor the disease and evaluate programmatic efforts;
- Strengthen and maintain outbreak preparedness, rapid response to measles outbreaks and the effective treatment of cases;
- Support research to determine why outbreaks occurred (e.g. failure to vaccinate, accumulation of susceptible population or vaccine failure); and
- Identify areas at high risk or describe the changing epidemiology of measles in terms of age, immunization status etc.

[Contributed by: Dr Amit B. Karad, Praveen G, Dr Mohd. Zuber & Dr Jagvir Singh, IDSP, NCDC, Delhi]

## NCDC Highlights

### NCDC team in Uttarakhand to assist in post flood disease surveillance and response

During the 14<sup>th</sup> to the 16<sup>th</sup> June 2013, the state of Uttarakhand and specifically the districts of Rudraprayag, Chamoli and Uttarkashi received unusually heavy rains – nearly 375% of the normally expected rainfall for the period.

This resulted in the melting of the Chorabari glacier and flash flooding of the Mandakini and other rivers thereby affecting large geographical areas in these districts. Particularly severely affected were the areas near the holy shrines of Kedarnath, Badrinath and Hemkund Sahib.

Within a week of the disaster, NCDC team of epidemiologists led by the Director NCDC visited the flood affected areas to assess and support the state government in rapid epidemiological assessment and institution of public health measures. The teams travelled to some of the most inaccessible and cut-off places like Guptkashi, Rampur and Govindghat and provided practical recommendations to the state health department for prevention of any disease outbreaks. They specifically assisted in preparation of micro-plans on communicable disease surveillance, providing guidelines for management of health problems, and in assessing safe water supply and sanitation situation

While the situation is still far from normal from an infrastructural point of view, an early and sustained public health response from NCDC and other public health institutions have prevented any large disease outbreak from occurring in any of the affected districts.

(Contributed by Dr. Himanshu Chauhan, Epidemiology Division, NCDC Delhi)

### India EIS Programme Selection for 2013-2015 Cohort

The India EIS Programme is a 2-year program in applied epidemiology, in which EIS officers develop their skills while working within Indian public health agencies/programmes. This Selection mode is through a highly competitive process by a committee of experts. EIS Officers are placed for the two years under the technical supervision of a mentor in various health programmes. EIS officers complete a prescribed set of public health activities – the Core Activities of Learning (CALs) – to acquire the needed skills of a practicing field epidemiologist, including a field investigation, analysis and evaluation of surveillance data, epidemiologic data analysis, and both oral and written scientific communication. In June 2013, based on two sets of interviews and an epidemiological workshop, 12 candidates were selected (3 self-sponsored, 9 state-sponsored) for the second cohort of the India EIS Programme. The selected candidates are from Haryana, Uttarakhand, Karnataka, Kerala, AP, Himanchal, Odisha, Maharashtra, Darbhanga, Kolkata and New Delhi

## Evaluating HIV sentinel surveillance programme in India

In 2011, an estimated 34 million people worldwide lived with HIV infection, with 18 million deaths due to AIDS-related causes. In India, 21 lakh people were estimated to be living with HIV/AIDS with 1.48 lakhs deaths (2011). The HIV Sentinel Surveillance (HSS) was implemented in India in 1998 and 13<sup>th</sup> round has been completed in 2012-13.

The objectives of HSS are to monitor trends in HIV prevalence over time, monitor the distribution of HIV prevalence in different population subgroups and geographical areas, and identify emerging pockets of HIV epidemic. We evaluated the quality and system attributes of India's HSS system, following the CDC MMWR guidelines (MMWR2001; 50:1-35).

To evaluate the surveillance system, two states with four identified districts in each state were identified by purposive sampling. Site in-charge, counselor/staff nurse and lab technician in all identified sites, as well as the district officers, in-charges of state reference laboratories; state AIDS control society and the regional institutes were interviewed.

Available records including policy documents, operation manuals and program guidelines were reviewed. Records of previous HSS were reviewed for comparative analysis. We accessed the online supervisory data entries for HSS activities.

The surveillance system comprises routine surveys of targeted populations covering demographics, risk behaviours and sero-testing for HIV. Antenatal clinics are identified as sentinel sites. The sites allow the HSS to give geographical coverage estimates at district level. In HSS 2012-13, a total of 557 of 640 districts (87%) were covered across 34 states.

The sample size requirement per site was 400. Pregnant women attending ANC clinics were recruited by consecutive sampling. For the sero-testing component, the unlinked anonymous testing (UAT) method was followed, in which the testing is not linked with personal identifiers. Data collection was done using a pre-designed tool. The collected data was sent weekly to the linked regional institute for data entry. Dual data entry was done online at the regional institute.

Training for HSS is conducted at three levels. Training of trainers and supervisors training were conducted at national level and for HSS site teams, this training was conducted at the state level.

## Performance of the national HIV sentinel surveillance system

Since 1998, HSS has been used in assessing national and state level HIV prevalence trends over time. It has provided geographical distribution of HIV positivity across the country.

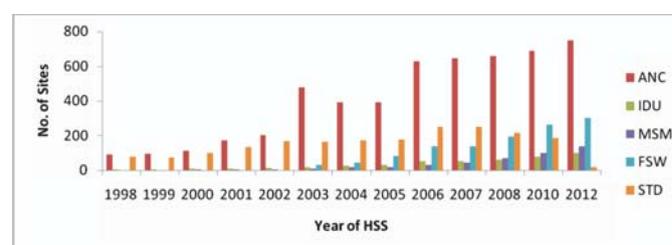


Fig: Expansion of HSS sites, India, 1998 – 2012

The surveillance system is relatively simple. HSS is hospital-based which facilitates ease of system operation. It uses a one page format, containing of 11 questions of which 9 are close-ended. The questionnaire has two languages, English and the local language for better understanding in filling. All 20 field staff interviewed stated that the data collection, flow of information and lab algorithm are simple and easily understandable. The data entry is done online by the regional institute which simplifies the field staff work, as they only collect the information. However, involvement of many stakeholders at different committees in formulation and implementation makes the process not simple. HSS has shown flexibility in adopting to changes needed over time. HSS is able to be customized to region based on population specific HIV prevalence estimates, by which the number of sites for each population group is changed based on the prevalence and the performance of each site. In addition, the HSS has added local language in the data form from 2010-11.

The overall quality of HSS was found to be good. Data collection tool is bilingual for better understanding and data capture. The completed data forms are cross verified both at the site and at the regional institute level for completeness. Dual data entry was introduced in the HSS from 2008. During the data cleaning, if the mandatory fields are missing, the data is removed from analysis. The mandatory fields include unique identification number, age and HIV status. Also, the sites that collect less than 75% of the allotted data are not included in the analysis. In 2010-11, the data collected from 10 sites was removed due to less than 75% data collection. This improves the quality of data. The other important step in improving data quality is post surveillance epidemiological investigation: districts with outlier prevalence are investigated by field investigations for confirmation.

Staff involved at national, state and the field level are trained with proper training guidelines and operation manuals.

The quality of training is monitored by making mandatory pretest and post test evaluations.

The testing labs were reduced across years and in 2012-13, 117 labs were included in surveillance. The labs that were not performing well were withdrawn from the HSS. The standard operating procedures and protocols were available for uniform maintenance of quality across all laboratories of HSS. In HSS, the two-test protocol is followed to ensure the quality of testing. Also, in HSS 2012-13, test kits of the same batch number were supplied to all the labs in order to minimize the kit errors.

HSS has a four tier supervision system, central team, regional institutes, SACS and SSTs (State Surveillance Team) for monitoring the sites and labs. Feedback reporting and action taken is done in real time basis, through online reporting. The level of adherence to guidelines and methodology of surveillance was high among the visited HSS sites and SRLs, which indicated the acceptability of the surveillance system. The completeness of forms was taken as a proxy indicator for the acceptability by the field staff.

The surveillance system provides good representativeness of data. The sites were spread all over the country covering 557 districts. HSS provided trends for more than 500 districts in 1998. However, 75% of the HSS sites were located in urban areas of the district and hence minimal rural coverage was observed. The surveillance system is sensitive to pick up trends, which is one of the objectives of HSS. It is also sensitive to identify emerging pockets of the HIV epidemic. HSS employs real time monitoring and supervision.

However, timeliness of HSS 2012-13 needed improvement. Although clear timelines of various activities at the state and national level were defined, there was delay in release of funds, procurement of logistics in a few states and supply of test kits to State reference labs.

(Contributed by Dr Mohan Kumar, EIS Officer based at NACO)

### Three-Month WHO Regional Training Course on Epidemiology at NCDC

A WHO Collaborating Centre for Epidemiology and Training since 1996, NCDC conducts FETP training every year for participants from countries of South East Asia Region. The objective of the course is to strengthen the technical capabilities and skills of health personnel by providing practical training in the field of epidemiology, management of health programmes and usage of computer.

experts from NCDC, premier health Institutes/ Organization in India, and WHO-India..

This year, for the 18<sup>th</sup> FETP beginning on July, 15 candidates from DPR Korea, Mynamar, Maldives, Bhutan, Sri Lanka and Indonesia are attending the training. The course is of three months duration and covers modules encompassing field epidemiology, laboratory, use of computer applications through lectures, case studies and real time field projects.

Since 1996, 257 participants from Bangladesh, Bhutan, DPR Korea, Indonesia, Maldives, Myanmar, Nepal, Papua New Guinea, Sri Lanka, Thailand, Timor Leste and India have successfully completed the course.

(Contributed by Dr. Arti, Epidemiology Division, NCDC)

### Training on Geographic Information System at NCDC

Geographic Information Systems (GIS) and Field Adapted Survey Toolkit (FAST) training was held at NCDC from 17<sup>th</sup> – 28<sup>th</sup> June, 2013.

The training was provided by Mr Carl Kincaid an expert from CDC, Atlanta arranged the Global Disease Detection India Centre. Training was scheduled in two batches—17<sup>th</sup> – 21<sup>st</sup> June and 24<sup>th</sup> - 28<sup>th</sup> June, 2013, allowing for a total of 37 participants. Trainees included NCDC officials, EIS Officers, MPH Scholars and officials from NVBDCP & NACO.



Mr Carl Kincaid, CDC Atlanta



Participants of GIS Training at NCDC Delhi, 17<sup>th</sup> -28<sup>th</sup> June 2013

The course included areas such as the Arc GIS Desktop software application, and hands-on-training pertaining to the Field Adapted Survey Toolkit (Fast).The participants

found the training to be helpful due to its classroom training and hands-on application using open source software. Trainees were excited at the possibilities of utilizing the software to support public health surveillance and outbreak response.

(Contributed by Dr. Rajeev Sharma & Dr. Anil Kumar)

### Training on Strategic Health Operations Centre (SHOC) at NCDC

To strengthen the efforts of Integrated Disease Surveillance Programme (IDSP) in responding to disease outbreaks, the Strategic Health Operations Centre (SHOC) at NCDC-Delhi was developed in 2012. Equipped with the state-of-the-art technology the SHOC allows NCDC / IDSP to act as a command centre to manage disease outbreaks, public health emergencies from a centralized location.

NCDC/GDD-IC organized a two-week training from 27th May to 7th June 2013 on how NCDC can use the SHOC efficiently to respond to disease outbreaks/ public health emergencies. Emergency management Specialist, Sarah Ramsey, and Emily Frant, Public Health Analyst from CDC, Atlanta trained the faculty members. The training highlighted the importance of a SHOC, centralized management system called Incident Response System, development of infectious disease plan, activities and standard operating procedures.



SHOC training in progress at NCDC

After the training, Jenny Beaver, a research graduate assistant, from CDC, worked with different divisions of NCDC to complete the Infectious Disease plan and build up the SHOC's capacity in outbreak response. The final infectious plan will outline all of NCDC's response plans, policies and procedures and will act as the centerpiece of a comprehensive emergency management effort.

(Contributed by Dr Pradeep Khasnobis & Ms. Jennifer Beaver)

### Outbreak Investigation Workshop, May 2013

In order to better investigate the 40-50 outbreaks being reported to IDSP weekly, on May 16 and 17, 2013, an outbreak investigation workshop was conducted by Dr Jagvir Singh and Dr Kayla Laserson. All EIS officers attended, along with senior leadership at NCDC Delhi and NCDC branches from around the country. The two day course comprised a review of outbreaks and important findings investigated by IDSP, multiple hands-on case studies, and an exercise to use recent outbreak data reported to IDSP to describe all the steps needed to investigate an outbreak. All participants engaged in lively discussions and hands-on practice and will be able to apply these skills to outbreak investigations across the country.

### Japanese Encephalitis in Uttar Pradesh and in urban areas of New Delhi

Japanese Encephalitis (JE) is a major public health problem in India. Since the first case reported in 1955, JE was restricted primarily to South India. Later, the disease spread to north India from 1978 onwards. Uttar Pradesh (UP), a highly endemic state contributing more than 70 % of JE cases in the country during the recent past, has witnessed since 1978, extensive and recurrent outbreaks. The JE situation and trends in UP over past 30 years has been reviewed recently and can be read in the following publication.

*RoopKumari, P. L. Joshi.* A review of Japanese encephalitis in Uttar Pradesh, India. WHO - South-East Asia Journal of Public Health. 2012; 1 (4): 374-395

To confirm indigenous transmission of JE in urban areas of Delhi, NCDC carried out an investigation of four cases of JE reported in September 2011. The results of the investigation can be accessed from the link given below

*RoopKumari, Kaushal Kumar, Ashok Rawat, Gir Raj Singh, Narendra K. Yadav and Lakhbir S. Chauhan.* First indigenous transmission of Japanese Encephalitis in urban areas of National Capital Territory of Delhi, India. Tropical Medicine and International Health. June 2013; 18 (6): 743-749.

## News /Events

### India develops a low cost Rotavirus vaccine

On 14 May, 2013, Indian scientists announced in New Delhi the results of third phase of clinical trials, involving

6,799 infants, of a relatively inexpensive home grown rotavirus vaccine called Rotavac. As an oral vaccine, Rotavac reduced severe rotavirus-related diarrhoea cases by 56 per cent in infants under-one year, with protection continuing into the second year, according to Dr K Vijayarghavan, secretary, Department of Biotechnology.

Developed under an India-US collaboration, the new vaccine can be given along with oral polio vaccine and reportedly has efficacy levels comparable to two licensed vaccines already available in the market. However, Rotavac is expected to cost only US\$ 1 per dose.

Rotavirus is a leading cause of diarrhea-related deaths in most developing countries, causing some 450 000 deaths among children below five worldwide each year, of which about 100 000 are in India alone. India's new rotavirus vaccine promises to drastically reduce diarrhoeal deaths

### Foundation stone laying of New Building Complex for NCDC

On 28<sup>th</sup> April, 2013, Union Minister of Health & Family Welfare, Government of India, Shri Ghulam Nabi Azad laid the foundation stone for New Building complex for NCDC. Being built at a cost of Rs 326.19 crores, the construction work is expected to be completed by 2015. While addressing the function, Shri Ghulam Nabi Azad, appreciated the remarkable contributions made by NCDC in the area of communicable Disease surveillance and control over the past many years and stressed the need for it to focus also on the emerging problem of Non Communicable Diseases as a way forward. Secretary, Health and Family Welfare, Shri K. Desiraju, DGHS Dr. Jagdish Prasad and other officials also graced the occasion with their presence.



Hon'ble Union Minister of Health & Family Welfare Shri Ghulam Nabi Azad at the the foundation stone laying function

### Update on the Middle East Respiratory Syndrome -Coronavirus (MERS-CoV)

The novel coronavirus (nCoV) was first reported in Saudi Arabia in September 2012. The Coronavirus Study Group (CSG) of the International Committee on Taxonomy of Viruses (ICTV) in May 2013 designated the novel coronavirus as "Middle East Respiratory Syndrome Coronavirus (MERS-CoV)". So far the infection seems to be geographically linked to Arabian Peninsula in Middle East with cases originating from four countries viz Saudi Arabia, Jordan, Qatar and United Emirates. Although laboratory-confirmed cases have been reported from France, Italy, and the UK they have had close contact with the case who returned from Saudi Arabia. Globally, from September 2012 to 9<sup>th</sup> July 2013, WHO has reported a total of 80 laboratory-confirmed cases of MERS-CoV infection, including 45 deaths (case fatality rate of 55%).

MERS-CoV has been shown to spread between people who are in close contact. Transmission from infected patients to healthcare personnel has also been observed. Health care facilities need to observe importance of systematic implementation of infection prevention and control practices. Health care facilities that provide care for patients suspected or confirmed with

MERS-CoV infection should take appropriate measures to decrease the risk of transmission of the virus to other patients, health care workers and visitors.

Most cases of illness present with fever and cough that progress to a severe pneumonia causing shortness of breath and breathing difficulty. Although most cases have been characterized by a severe illness, milder illness has been detected also been reported.

Based on the current situation, WHO ([http://www.who.int/csr/don/2013\\_07\\_07/en/](http://www.who.int/csr/don/2013_07_07/en/)) encourages all Member States to continue the surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

### Himachal Pradesh declared a Smoke Free State

On 2<sup>nd</sup> July, 2013 the state of Himachal Pradesh was declared as Smoke Free State under Section-4 of COTPA, 2003 by Sh. Kaul Singh Thakur, Hon'ble Minister,

Health and Family Welfare, Govt. of Himachal Pradesh by signing a Certificate of Declaration on the occasion.

Hon'ble Minister ensured his full support to the

organization in implementation of complete COTPA (Section 4, 5,6 and 7) and also appealed govt officials to make rules to stop smoking at home also. He assured the Law department's full support in this regard.

On the occasion, the Minister also felicitated with Appreciation Certificates & Citation to the first three districts (Bilaspur, Shimla and Mandi) and Government departments including Health, Rural Development



Hon'ble Minister of Health & Family Welfare, Govt. of Himachal Pradesh Shri . Kaul Singh Thakur declaring Himachal Pradesh a Smoke Free State

& Panchayati Raj, Excise & Taxation, Tourism, Transport, Education, and Police, and the Himachal Pradesh Voluntary Health Association for their outstanding contribution in making Himachal a Smoke Free State.

### **NDMA/CDC Conference on "emerging –re-emerging pathogens and their bio-risk management" at New Delhi**

The U.S. Centers for Disease Control & Prevention (CDC) and National Disaster Management Authority (NDMA), Govt. of India organized a Joint Conference on "Emerging and Re-emerging Pathogens & Bio-risk Management" on May 7 & 8, 2013 at the India Habitat Centre in New Delhi.

The conference was inaugurated by Sh. M. Shashidhar Reddy, Vice Chairman, NDMA and Ms. Nancy J Powell, US Ambassador to India. Other dignitaries present during the inaugural session were Major General (Dr.) J. K. Bansal, Member, NDMA, Dr VM Katoch, Secretary, Health Research, ICMR, Dr. Jagdish Prasad, Director General of Health Services, GOI and Dr. Kenneth Earhart, US CDC Country Director. There were 294 delegates in attendance representing NDMA, Ministry of Health & Family Welfare, Ministry of Defense (MoD), Ministry of Agriculture (MoA), Ministry of Railways, National Security

MMWR Morb Mortal Wkly Rep.2013 May 10;62(18):366-71.

## **Emergence of avian influenza A(H7N9) virus causing severe human illness - China, February-April 2013.**

**Centers for Disease Control and Prevention (CDC).**

### **Abstract**

On March 29, 2013, the Chinese Center for Disease Control and Prevention completed laboratory confirmation of three human infections with an avian influenza A(H7N9) virus not previously reported in humans. These infections were reported to the World Health Organization (WHO) on March 31, 2013, in accordance with International Health Regulations. The cases involved two adults in Shanghai and one in Anhui Province. All three patients had severe pneumonia, developed acute respiratory distress syndrome (ARDS), and died from their illness. The cases were not epidemiologically linked. The detection of these cases initiated a cascade of activities in China, including diagnostic test development, enhanced surveillance for new cases, and investigations to identify the source(s) of infection. No evidence of sustained human-to-human transmission has been found, and no human cases of H7N9 virus infection have been detected outside China, including the United States. This report summarizes recent findings and recommendations for preparing and responding to potential H7N9 cases in the United States. Clinicians should consider the diagnosis of avian influenza A(H7N9) virus infection in persons with acute respiratory illness and relevant exposure history and should contact their state health departments regarding specimen collection and facilitation of confirmatory testing.

PMID: 23657113 [PubMed - indexed for MEDLINE]

and Law Enforcement Representatives, delegates from the National and State levels, academia, and both public and private sectors. The conference addressed bio-surveillance and bio-risk management issues, and provided an opportunity for multisectoral discussions on bio-security. The conference raised awareness on these issues and created opportunities for increased bi-lateral collaborations.

### Visit of Dr. James J. Sejvar, Neuroepidemiologist from CDC to assist in investigations of Acute Neurological Syndrome at Muzaffarpur

James J. Sejvar, M.D. who is a Neuroepidemiologist with the Division of High-Consequence Pathogens and Pathology, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention at Atlanta, USA recently visited NCDC to provide expertise on the viral encephalitis and nervous system disorders as it relates to the outbreak in Muzaffarpur, Bihar. Dr. Sejvar visited the affected areas and analysed the data on the clinical and

laboratory aspects of the AES outbreak. He also met with the outbreak response team in the field for outbreak investigations. His assistance during the outbreak has been appreciated as the NCDC staff are trying to ascertain the etiology and mode of transmission of this disease which is adversely affecting young children each year in Muzaffarpur.



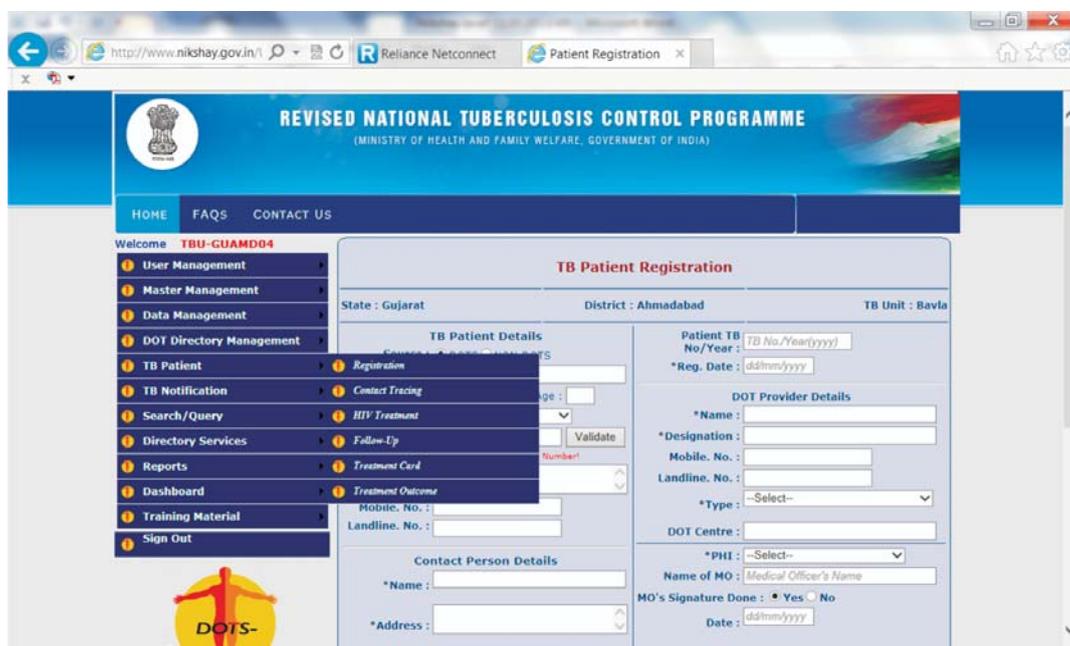
Dr. James J. Sejvar, examining a child with Acute Neurological Syndrome at Muzaffarpur, Bihar

## Modern Technology and Health

### Web-based Tuberculosis Case Tracking System (Nikshay), India

In order to overcome delays in information usage and assist in decision support for individual case management and related information, Central TB Division (CTD) in collaboration with National Informatics Centre (NIC) in April 2012 decided to develop and rapid implement a web-based case tracking system.

The system architecture based on existing paper based recording & reporting was used to design an online software named "Nikshay" meaning TB Control in Sanskrit. The software was pilot-tested and Login IDs and passwords were created for



2 national level, 35 provincial level, 692 district level & 2800 Tuberculosis Unit level users. In addition, 38654 Health facilities were mapped throughout the country. User manuals were developed & master trainers trained at national level & software was launched in May 2012.

The rapid training cascade was completed in training of provincial level (50), district level (668) and block level (~10,000) data entry operators using training videos in English & Hindi, user manual and demonstrations. All health officers & TB Officers were sensitized by July 2013.

The main objectives were to facilitate individual patient wise monitoring & tracking of TB treatment, to automate reporting, once the case wise data is regularly entered and updated, and to facilitate online referral / transfer mechanism with real time information transmission to prevent patient loss and facilitate effective programme management (e.g. e-HRD, e-procurement e-supply chain, e-cash transfer).

Presently, the program is being used by the CTD at central level, by all State TB programmes and district TB cells, Tuberculosis Units, Culture and Drug Sensitivity Laboratories, DR-TB Centres,

Since implementation in last one year, till date (11th July 2013) over 1.5 million patients have been registered in Nikshay. 38,000 private health facilities have been registered and >15,000 TB patients notified by these private health facilities have been registered in Nikshay.

(Contributed by Dr Kiran Rade, Central TB Division, Dte.GHS, Nirman Bhavan New Delhi)

## Forthcoming conferences & meetings

- **First India Epidemic Intelligence Service (EIS) Conference**  
**Dates:** 24-26 October 2013  
**Venue:** National Centre for Disease Control  
 22, Sham Nath Marg, Delhi-110054  
**Theme:** Epidemiology in the Context of Emerging Infections and Non-communicable Diseases  
 For details: [www.indiaeisconference.com](http://www.indiaeisconference.com)
- **The Third International Conference on Dengue and Dengue Hemorrhagic Fever 2013 (Dengue 2013)**  
**Dates:** 21-23 October 2013  
**Venue:** The Imperial Queen's Park Hotel in Bangkok, Thailand.  
**Theme:** "Global Dengue: Challenges and Promises".  
 For details: [www.dengue2013bangkok.com](http://www.dengue2013bangkok.com)
- **XII International Conference on Vector & Vector Borne Diseases (ICOV 12) Udaipur**  
 September 9-11, 2013;  
 Insect Microbial & Herbal Control Laboratory

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- **2013 SAFETYNET (SEARO/WPRO) Conference**  
**On November 12-14, 2013 in Da Nang City, Vietnam**  
 The deadline for abstract submission is July 31, 2013

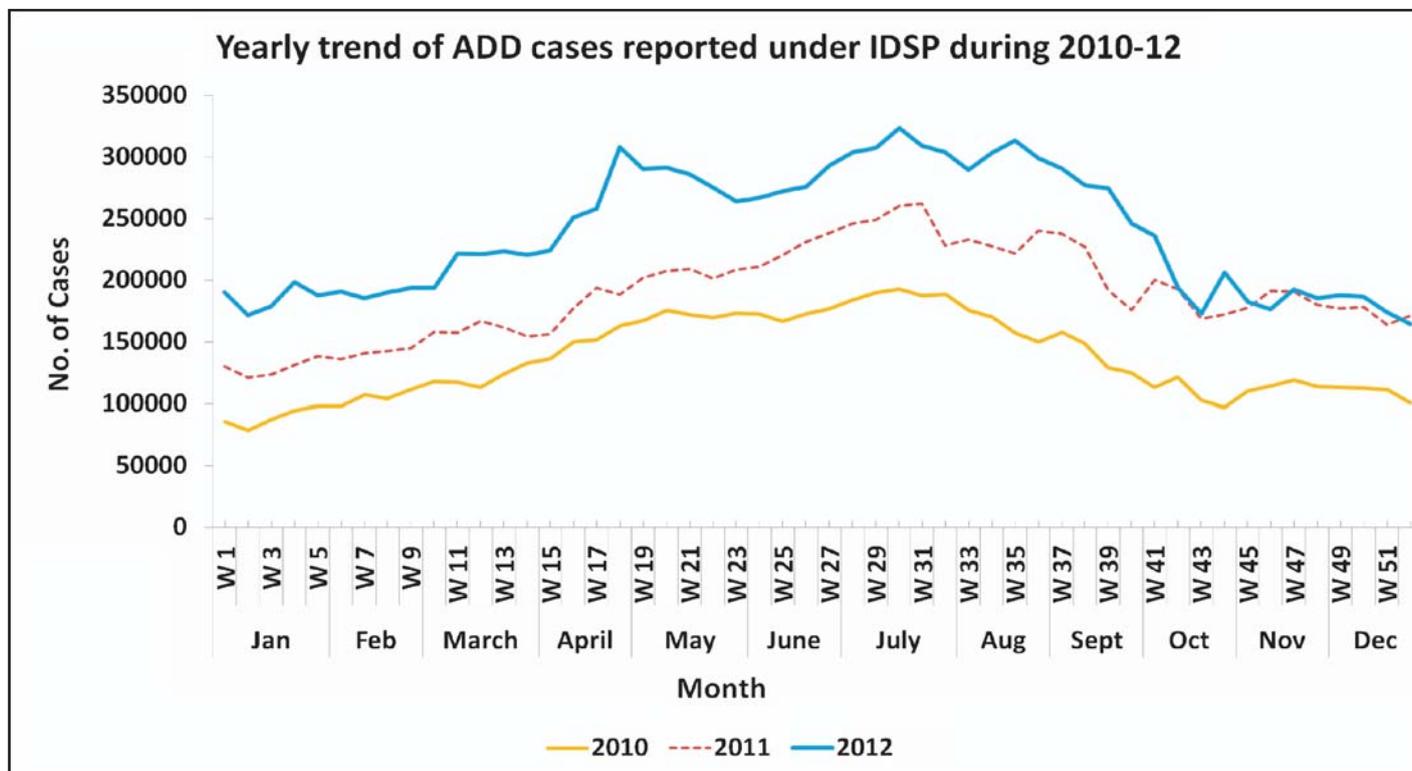
## World Health Days

July	1	Doctors Day (In India)
	28	World Hepatitis Day
	29	ORS Day
August	1-8	World Breast feeding Week
September	1 <sup>st</sup> to 7 <sup>th</sup>	National Nutrition Week
	12	World Oral Health Day
	28	World Rabies Day

## Monitoring Disease Trends

### Acute Diarrheal Diseases (ADD) in India, 2010-12

The number of ADD cases reported under IDSP have been increasing consistently over last three years. This could in part be due to improved reporting of surveillance data by States/Union Territories. The data shows that cases are reported throughout the year. However, increase in cases is seen from the month of March/April with a peak in July/August. Of the yearly average number of 12.4 million ADD cases reported in India, the most number of cases were reported from West



Bengal (19.2%), Uttar Pradesh (8.9%), Gujarat (6.6%), Odisha (6.5%), Andhra Pradesh (6.5%) and Karnataka (6.3%). During the same period the maximum numbers of outbreaks were reported from Karnataka (166), West Bengal (141), Andhra Pradesh (140), Maharashtra (126), Tamil Nadu (123), Gujarat (121) and Bihar (99).

(Contributed by Dr Amit Karad, Prasun Sharma & Dr Jagvir Singh, IDSP, NCDC Delhi)

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