



NCDC Newsletter

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



FROM THE DESK OF THE DIRECTOR



Dr. L.S. Chauhan
Director, NCDC

We are very encouraged to have received positive feedback on our inaugural issue, released early in October 2012. The purpose of this newsletter is to provide a forum for sharing information on outbreaks, program updates from various departments at NCDC, technical and programmatic news and updates including capacity building, and information on selected documents and guidelines, forthcoming conferences/World Days, and monitoring of disease trends.

The current issue includes stories on the EIS program launched recently in India in collaboration with US CDC, outbreaks of scrub typhus, gastro-enteritis in Punjab and in Rajasthan (latter investigated by MPH students), news items on acute encephalitis syndrome, immunization coverage survey, training activities, and media reporting on outbreaks in the country. We shall also share on regular basis articles from the MMWR which are of relevance. This issue includes one MMWR article regarding AES surveillance in India.

I hope you will find this newsletter of interest and use. I look forward to receiving your valuable comments and feedback. Wishing you all a happy and prosperous new year 2013!

LEAD STORY

India Launches the India EIS India Training Programme in Collaboration with US CDC

The first cohort of the India Epidemic Intelligence Service (EIS) training programme was launched at the National Centre for Disease Control (NCDC), Delhi on 4 October 2012 by the Secretary Health and Family Welfare, Govt of India. The India EIS Training Programme has been conceptualized to complement the Government's strategy to augment the availability of skilled epidemiological capacities at the national, state and district level.

The India EIS is modeled on the best practices of the United States EIS "training through service". The Epidemic Intelligence Service (EIS) in the USA was the vision of Alexander Langmuir, who developed a program with a vital mission to address an unmet need for a cohort of trained epidemiologists available at all times and dedicated to the surveillance of infectious diseases and their swift control in outbreak situations in the United States. This model of training was strongly influenced by public health thought and experiences of English and continental Europe.

Volume-2, Issue-2,
January, 2013

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First Cohort of India EIS Officers at the EIS inaugural in NCDC

John Snow through his classic cholera study in the 19th century demonstrated the importance of analytic epidemiology and decisive action. William Farr, as superintendent of the statistical department of the registrar general’s office in the mid-19th century, collected and analyzed disease data and took public health action based on the findings.

The India EIS Training Program is a competency-based specialized training on epidemiology in which officers develop analytical public health skills while working under field conditions in a central public health programme or a state health department for two years under the technical guidance of experienced mentors.

This programme aims to train public health officers from the national, state, and district levels. Additionally, this program complements existing surveillance programs in India, the most prominent being the IDSP currently implemented throughout India. The first cohort of The India EIS Training Programme consists of a heterogeneous mix of seven officers with varied public health experience, six are from various states of India and one is a self sponsored candidate. They were selected after a rigorous two tiered screening process subsequent to the announcement of the course in June 2012. The selection process focused on identifying officers with an aptitude for public health work, willingness to working in field and dynamism to lead and work as part of a team. Immediately after the selection process, the officers underwent

a one month inception course at NCDC to brush up on the concepts and skills of epidemiology and disease surveillance. A mixed method of didactic teaching, case studies and field work was used in the inception course jointly conducted by NCDC and CDC, Atlanta.



EIS Officers in the field

The process of selecting next cohort of EIS officers is presently under way. Interested candidate may look out for announcement on NCDC website www.ncdc.gov.in and in selected newspapers

A roster of placement supervisors, mentors and co-mentors was established to facilitate skill building of the India EIS Officers. Placement sites were identified in both the state and national health programmes which include the National Vector Borne Disease Control Programme (NVBDCP), Integrated Disease Surveillance Project (IDSP), Immunization Programme, Revised National TB Control Program (RNTCP), LRS Institute, and the National AIDS Control organization (NACO). One was posted in Punjab state to be mentored by expert from PGIMER, Chandigarh.

Officers will complete a prescribed set of public health activities – the Core Activities of Learning (CALs) – to acquire the needed skills of a practicing field Epidemiologist in their placement sites. The CALs include field investigations, analysis and evaluation of surveillance data, epidemiologic data analysis, both oral and written scientific communication, and service to the organization where the officer is placed. While the officers will spend most of their time working at their placement sites, they will also spend time participating in various short courses, seminars, and the annual India EIS conference.

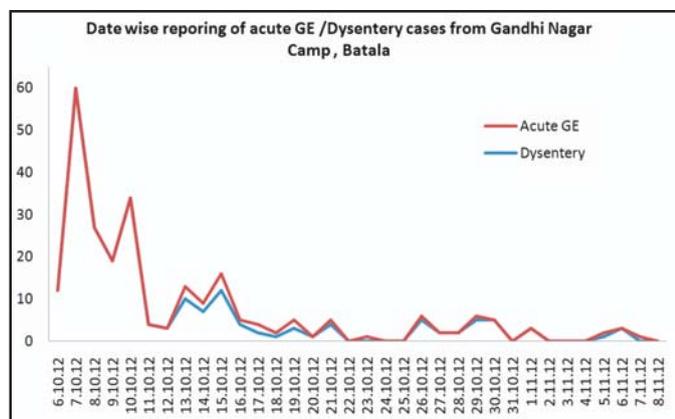
Based on the positive feedback received, NCDC has decided to scale up the intake of trainees to fifteen in 2013. Applications for the 2013 India EIS cohort will be available in February, 2013 on the NCDC website.

(Contributed by Dr. Anil Kumar, Epidemiology Division, NCDC)

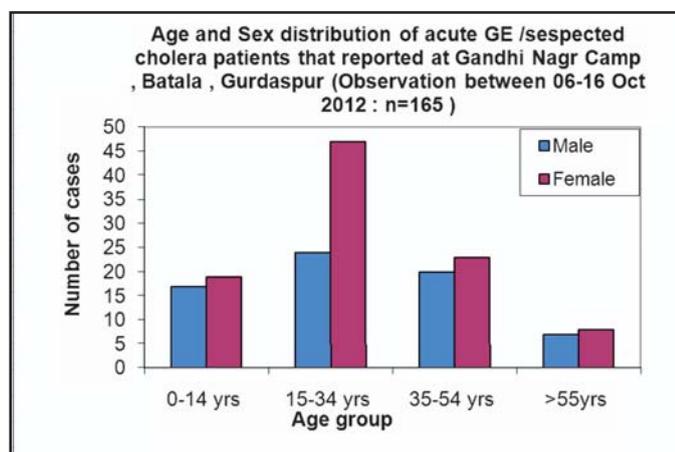
Outbreak Update

Outbreak of Acute Gastro-enteritis in the Industrial Town of Batala, Punjab

Between 6 October to 8 November 2012, an outbreak of acute gastro-enteritis (GE) occurred in the industrial town of Batala, Gurdaspur district, Punjab (population: 158000), resulting in 229 cases and 19 deaths (case fatality rate, 8.3 %). A Central Team from NCDC /RML Hospital Delhi and NICED Kolkata investigated this outbreak from 12th to 16th October. A person of any age having 3 or more loose stools in a day (24 hrs.) with/without vomiting within the last 1 month was considered a case. The main affected area was *Gandhi Nagar Camp* of the Batala Town, while cases were also reported from the adjoining areas of *Lallianwali gali*, *Murgimohalla*, *Gurunanak nagar*, etc. Twenty one cases of Dysentery were also reported from the same area.



A survey of the most affected area (Gandhi Nagar camp: estimated population 10682) was carried out on 13 October. Among a survey population of 295 distributed in 48 houses, an attack rate of 7.8 % was observed. Of 48 families, 5 families (10.4 %) revealed familial clustering of cases of acute GE. As per this survey, the first case of acute GE of this outbreak was on 29 September . The majority of



cases were found among women in the 15-34 years age group. The most cases drank tap water which was supplied by the Local Municipality. No exposure other than consumption of municipal water could be elicited.

Five out of seven stool samples that were collected from admitted acute GE cases in the Civil Hospital, Batala, yielded *Vibrio cholerae* O1 Ogawa sensitive to Tetracycline. One of the three dysentery samples collected was positive for *Shigella flexneri* serotype 3a and the other two revealed E.coli (These E.coli strains tested at NICED Kolkata were negative for EPEC , ETEC , EHEC , and EIEC E.coli types by multiplex - PCR assay). Till 15 October, State has also reported 6 stool samples positive for *Vibrio cholerae* out of 43 samples which were sent to Govt. Medical College, Amritsar.

The drinking water supply of the affected area is provided by the Local Municipality. Deep tube well water (200 feet deep) is pumped out and supplied directly via polyvinyl chloride pipes (PVC) after online chlorination. The sewer line runs underneath the water distribution line. Questioning admitted cases by Central Team at Civil Hospital, Batala revealed that since one month prior to 12th October residents of Gandhi Nagar area had observed faecal smell with increased turbidity in the supplied tap water. Four out of eight tap water samples collected on 5th October from affected Gandhi Nagar camp area and tested at the State Public Health Lab at Amritsar showed bacterial contamination. Subsequent sampling on 11th October revealed 4 unsatisfactory water samples out of 14 tested from the water supply pumps. Tap water supply to the affected Gandhi Nagar area was discontinued at that time.

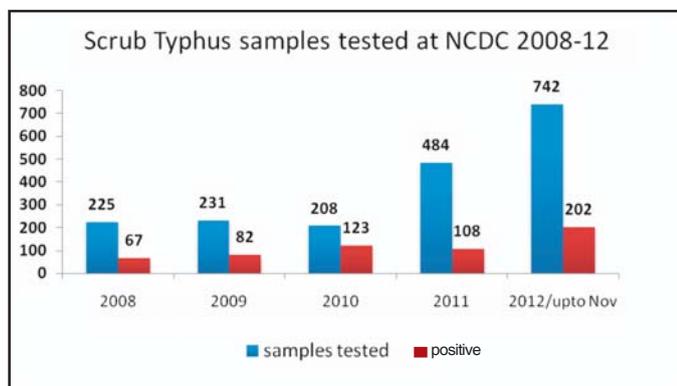
On 12th October a broken water supply distribution pipeline was discovered with adjoining sewer line running just beneath the water distribution pipeline. As per available information, the broken distribution line was repaired on the same day. The clustering of cases in houses located near this broken pipeline points towards a common source exposure leading to the outbreak. Moreover, though the number of GE cases dropped sharply after the day the broken pipe line was repaired, dysentery cases continued for some more time. A major effort by the state agencies to rapidly check-repair –replace the water supply lines , to monitor water quality regularly ,to promptly establish a 24 hr treatment center at the

community and to augment health education contributed to the control of the current outbreak of acute GE in Batala town.

(Contributed by Dr. Somenath Karmakar, Joint Director, NCDC; Dr. Amit Karad, Consultant Epidemiologist; Dr. Ranjeet Prasad Consultant Epidemiologist; Dr. T Ramamurthy, Scientist F, NICED Kolkata; Dr. Sarit Chatterjee, Senior Physician, R M L Hospital; Dr. Adarshjot Kaur Toor, District Epidemiologist, Gurdaspur; and Dr. Deepak Bhatia, Project Coordinator, IDSP Chandigarh)

Multi-State Outbreak of Scrub Typhus

During 2012, outbreaks of scrub typhus were reported from many states in India. Over the years, the numbers of samples and areas which detected scrub typhus have also increased. The National Centre for Disease Control at its Zoonosis Division received 742 samples from suspected cases for scrub typhus from 11 states and 202 (27%) were found positive. In 2011, the number of samples received were 484 and in 2010, these were 204 (Figure).



Scrub typhus is known to be prevalent in foot hills of Himalayas viz Jammu & Kashmir, Sikkim, Manipur, Nagaland, Meghalaya, Himachal Pradesh etc. The disease has also been reported from Tamilnadu and Kerala. However, currently samples are being tested positive from Delhi, Haryana, Rajasthan, Maharashtra, Uttarakhand and Chhattisgarh.

The clinical picture consists of sudden high grade fever (>40°C [104°F]) with relative bradycardia and severe headache. The patient presents with high grade fever, severe headache, apathy, myalgia and generalized lymphadenopathy. A maculopapular rash may appear first on the trunk and then on the extremities and blenches within a few days. On careful examination, a papule may be seen at the site of inoculation which ulcerates and eventually

heals with development of a black eschar. The patients may develop complications that include interstitial pneumonia (30 to 65% of cases), meningoencephalitis and myocarditis. In these cases the mortality rate is high and may reach up to 30%.

A high index of clinical suspicion, prompt diagnosis and early institution of the appropriate treatment with antimicrobials such as tetracycline, the drug of choice, decreases the morbidity and mortality. The treatment recommended is Doxycycline 100mg twice daily for 7-15days or Chloramphenicol 500mg four times a day 7-15days. In children dose of Chloramphenicol is 150mg/kg/day for 5 days.



Maculopapular rash on the back



Scrub Typhus axillary eschar

Scrub typhus, also called “Chigger borne typhus” or Tsutsugamushi fever is caused by *Orientia tsutsugamushi*. *Orientia* is a small (0.3 to 0.5 by 0.8 to 1.5 µm) gram negative bacterium of the family Rickettsiaceae.

Scrub typhus is transmitted by the bite of a mite *Leptotrombidium deliense*. The vector mites inhabit sharply demarcated areas in the soil where the micro-ecosystem is favorable (mite islands). Human beings are infected when they trespass into these mite islands and are bitten by the larvae (chiggers). The mite feeds on the serum of warm blooded animals only once during its cycle of development, and adult mites do not feed on man. Scrub typhus normally occurs in a range of mammals, particularly field mice and rodents. The *L.deliense* group of vector mites is widely distributed all over the country coexisting primarily with rodents and other small mammals. The vector is generally found associated with either established forest vegetation or secondary vegetation after the clearing of forest areas. This species is generally abundant on grasses and herbs where bushes are scarce.

Scrub typhus is easily treatable disease and deaths can be prevented through use of antimicrobials. However, cases must be suspected early based on clinical findings.

Prompt institution of effective antibiotic therapy against rickettsiae is therefore the single most effective measure for preventing morbidity and mortality. To create awareness amongst medical professionals, a CD Alert on Scrub typhus (<http://nicd.nic.in/writereaddata/linkimages/May%20June-20098604739980.pdf>) was published (please see page 7 of the newsletter) and can be downloaded for use by all clinicians, and management of scrub typhus.

Routine laboratory tests are unlikely to diagnose any rickettsial diseases. However, investigation may reveal early lymphopenia with late lymphocytosis. Albuminuria is a common laboratory finding. Scrub typhus may be diagnosed in the laboratory by isolation of the organism, serology or molecular diagnosis (PCR). Isolation is time consuming, tedious and requires a BSL3+ facility.

Diagnosis can be accomplished most easily and rapidly by detecting IgM antibodies or demonstrating four fold rise in antibodies in the serum of the patient during the course of infection and convalescence. Facilities for serological diagnosis of Rickettsial diseases by Weil-Felix Test (WFT) and Enzyme linked Immunosorbent assay (ELISA) are available at National Centre for Disease Control, Delhi.

(Contributed by Drs. Veena Mittal, D.Bhattacharya & Mala Chhabra, Zoonosis division, NCDC)

An Outbreak of Acute Gastroenteritis due to *Staph aureus* following a Funeral Ceremony - Alwar, Rajasthan

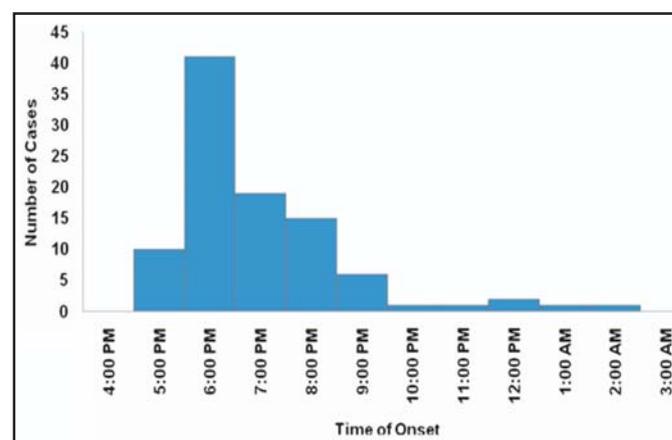
On 2nd September 2012, an unusually large number of patients with signs and symptoms of acute gastroenteritis attended the Civil Hospital Reini Block which prompted an investigation of the outbreak. The patients admitted in the hospital when interviewed revealed that most of the acute patients were from Kodiya and Thoomra village and they had fallen ill after attending a lunch as part of a death ceremony in Kodiya village earlier in the day

The cases were defined as those with diarrhoea (more than three loose stools within 24 hrs of consumption of food) and / or vomiting with a history of having taken food in the death ceremony function in Kodiya Village on September 2012. As there was no guest list available, a line list of cases that visited the Civil Hospital Reini Block (n=97)

was prepared. A door to door survey of the Kodiya (population 850) and Thoomra (population 1205) village was conducted to identify cases using the case definition.

Of the 150 guests in the ceremony, 130 were identified in the door to door survey. Using a detailed questionnaire, information was obtained from each of the 130 persons relating to the food items consumed by them during the death ceremony and whether they took ill after consuming the food. Eight were excluded as they had attended the ceremony but not consumed any food or drinks. The final analysis was performed for 122 study participants.

Overall 97 fell ill (attack rate of 79%) and 25 did not. The food was served at the function at 1430 hours. The first case presented with symptoms at 1730 hours and most cases (62%) were ill by 21 hours. Nearly one third (31%) of the cases, were in the age group of 15 to 35 years. Both genders were equally affected. Diarrhea was the most commonly reported symptom (89.7%), followed by vomiting, abdominal pain and nausea. Blood in stool was the least commonly reported symptom. No cases reported fever. The median incubation period was 4 hours and the epidemic curve suggested a common point source epidemic (fig 1).



Cases of Food Poisoning by Time of Onset of Symptoms, Reini Block, Rajasthan, 2 September 2012

Analysis of food items consumed by the persons attending the death ceremony showed that those who ate Chindiya, a locally prepared fried black lentil black dish, were four times (RR= 4.1) more likely to have diarrhoea as compared to those who did not, although the difference was not statistically significant (table). None of other food items consumed showed a statistically significant association with the development of symptoms. Three food samples each of Chindiya, Laddo & Puri

were sent to the State Food Testing Laboratory in Jaipur , Rajasthan , for microbiological examination. The results showed the samples of Chindiya, Laddo & Puri were unsafe and unfit for human consumption as clusters of Gram positive cocci (*Staphylococcus spp.*, such as *S. aureus*) were grown on cultures of these samples. Although the most common way for food to be contaminated with *Staphylococcus* is through contact with food workers who carry the bacteria or through contaminated milk, the present outbreak food handlers were not examined nor lab specimens from food handlers were collected.

Table 1: Food Specific Attack Rates

Food Item Served	Number of person who are specified food			Number of person who did not eat specified food				Risk Rate	95% CI	
	10	Not III	Total	Attack III	III rate	Not	Total			Attack
Puri	91	24	115	79%	6	1	85%	85%	0.92	0.6-1.2
Sabzi	90	21	111	81%	7	4	11	64%	1.27	0.8-2.01
Laddo	90	23	113	80%	7	2	9	78%	1.02	0.7-1.4
Chindiya	96	21	117	82%	1	4	5	20%	4.1	0.7-23.7
Water	87	18	105	83%	10	7	17	59%	1.4	0.9-2.1

This outbreak of *Staphylococcus spp.*, underscores the importance of including food borne infections in the ambit of present surveillance program (both clinical as well as lab surveillance) in order to know the epidemiology of food borne infections in India. Educational and training programs for proper food handling, food sanitation and personal hygiene should also be instituted.

Food borne illnesses are important public health problems world wide, affecting both developed as well as developing countries leading to substantial costs in public health terms and serious losses in terms of morbidity and mortality. Researchers estimate that the yearly cost of all foodborne diseases in developed countries like the United States is \$5 to \$6 billion in direct medical expenses and lost productivity. *Salmonella* species and *Staph. aureus* in particular are the most commonly implicated organisms.

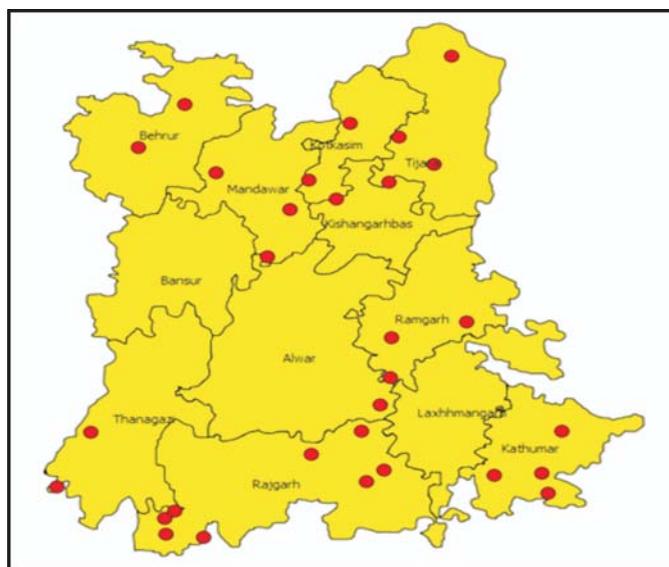
In India, a review of data from the Integrated Disease Surveillance Project (IDSP) showed 16% of all outbreaks detected in 2011 were food poisoning outbreaks, and hence an important public health problem.

(Investigated by FETP-2012 Batch & compiled by Drs. Tanzin Dikid & Aakash Shrivatsava, Epidemiology Division, NCDC)

NCDC Highlights

Assessing the Immunization Coverage in Alwar District, Rajasthan, 2012

Immunization forms the major focus of child survival programme in India. The Universal Immunization Programme (UIP), began in India in 1985 with the aim to provide childhood vaccines for six vaccine-preventable diseases (tuberculosis, diphtheria, pertussis (whooping cough), tetanus, poliomyelitis, and measles) at no cost to children under 1 year of age. The India Epidemic Intelligence Services (EIS) officers, as a field exercise, conducted a survey among the children, aged 1-2 years in the rural areas of Alwar district to assess the immunization coverage from 16-18 October 2012.



Clusters Covered for the Immunization Coverage Survey

As a cross sectional survey using the World Health Organization EPI Cluster survey (30 clusters, 7 children in each cluster) design (Fig 1), household interviews were conducted, using a pre-tested structured interview form adopted from UNICEF and the Indian National Family Health Survey-3.

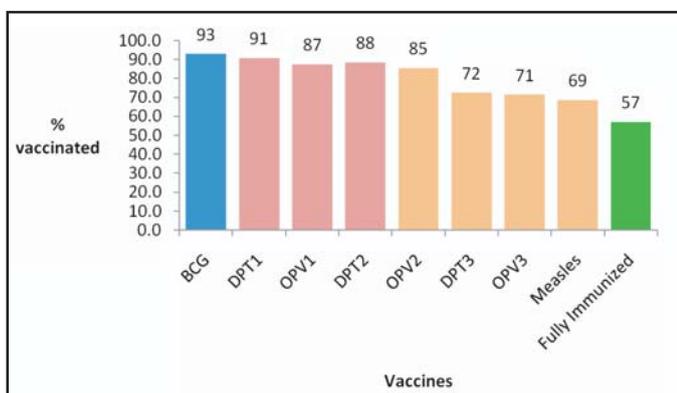
A total of 213 children were evaluated in 1035 households visited (Mean/ cluster = 35). The mean age of children in survey households was 17 months; 52% were boys. The mother was the most common respondent (85%) during the survey. Among mothers, 69% reported a primary & secondary education whereas 21% reported being illiterate. Among fathers, 80% reported being an unskilled worker. The majority of respondents were Hindus (96%), and 48% of children belonged to the OBCs, 30% belonged to SCs/STs and 22% were from the general caste. Only half (51%) of the children had

an immunization card; amongst these, 58% were fully filled. One child was reported as never having received any vaccine.

The overall coverage of fully immunized (one dose of BCG, three doses of DPT, three doses of OPV and one dose of measles vaccine) was 57% whereas the vaccination coverage dropped to 33% when only children with available immunization cards were considered.



The coverage by vaccine was 93% for BCG; and 91%, 88%, and 73% for DPT1, DPT2 and DPT3 respectively (Fig 2). With respect to polio, 87% and 85% of children received the first and second oral polio vaccine, and 71% of children received the 3rd dose. Approximately two third of children (69%) received the measles vaccine.



Immunization Coverage of Individual Vaccines, -Alwar District, Rajasthan(October 2012).

The most common (60%) source of vaccination for children was from outreach sessions conducted by primary health workers, except for BCG, where almost 50% of children received their vaccine from Government Hospitals at birth. The vaccination coverage was found to be associated with the socio-demographic characteristics, as the households of

the SC/ST community had a lower coverage than other communities ($\chi^2 = 5.32, p = 0.02$).

The vaccination coverage found in Alwar district was although slightly higher than previous reports, the figure is below the minimum target set as a national goal, indicating the need to address the vaccine coverage in district Alwar in Rajasthan.

(Contributed by India EIS Officers: 2012-14 cohort, Drs. Mohan Kumar, Parvez Pathan, Rajesh Pandey, Satish Kumar, Kapil Goel, Y.H.Tulsian & Tripurari Kumar)

Three-Month Regional FETP Course at NCDC

The National Centre for Disease Control (NCDC), Delhi is a WHO Collaborating Centre for Epidemiology and Training. The three month Regional Field Epidemiology Training Programme (FETP) for senior personnel from the member countries of the WHO South East Asia Region was started in 1996 with the objective to provide the knowledge and skills for the field application of epidemiology in the prevention and control of communicable diseases.



A total of 257 participants from Bangladesh, Bhutan, DPR Korea, India, Indonesia, Myanmar, Maldives, Nepal, Sri Lanka, Thailand and Papua New Guinea have so far been trained. The last Regional Field Epidemiology Training Programme course held from 23 July to 19 October 2012, was attended by 11 participants namely from Bhutan (2), Maldives (1), Thailand (2), Sri Lanka (1), Indonesia (2), Timor Leste (1) and Nepal (2).

The training curriculum included five-weeks of modular classroom teaching (ten modules), followed by six-weeks of field posting for “learning by doing”, and two weeks of report writing and evaluation. During the field posting, participants were posted at the Alwar branch of NCDC, where they conducted an evaluation the surveillance system in Alwar District, analysed data of the District Hospital, carried out a community survey

on knowledge, attitude and practices (KAP) regarding dengue fever in a village of Alwar District, and participated in an investigation of an outbreak of food poisoning. They analyzed the outbreak data, prepared a report and presented findings at the field station. After their return from field, the trainees finalized their reports under the supervision of the faculty from NCDC.

(Contributed by Epidemiology Division, NCDC)

NCDC Conducts an Epidemiology Course for Paramedical Staff for WHO

Each year, NCDC conducts a four week training course for paramedical staff, in collaboration with WHO SEARO. The course is designed to augment the capacity of paramedical personnel of the SEA Region in understanding disease dynamics in community and institution of effective interventions for its prevention and control. So far, 14 cohorts have been trained successfully at NCDC. The 2012 course began at NCDC on 15 November with six trainees from Maldives and Timor Leste.

(Contributed by Epidemiology Division, NCDC)

A Stakeholders' Workshop on International Health Regulations (IHR 2005) Held in Delhi

A workshop of national level IHR stakeholders was organized by NCDC, the India IHR National Focal Point, with support from WHO. The main objective of the workshop was to sensitize stakeholders from various ministries and departments towards their respective roles and responsibilities in the effective implementation of IHR in India and to develop mechanisms for coordination among them.

Chaired by Director, NCDC who is also the national focal point for IHR (2005), the workshop was attended by IHR nodal persons from Bhabha Atomic Research Centre, Ministry of Chemicals & Fertilizers, Food Safety & Standards Authority of India (FSSAI), Department of Livestock Health, Bureau of Immigration, Ministry of Law & Justice, Indian Veterinary Research Institute, Airports Authority of India and Railways Ministry in addition to experts from WHO, NCDC & NVBDCP. The challenges in the implementation of the IHR and contingency plans by various stakeholders were discussed at length, resulting in the identification of priorities and the way forward.

A few of the salient recommendations were as follows: the Rapid Response Teams (RRTs) should respond to any public health emergency of international concern (PHEIC); The IDSP Division

of NCDC will share outbreak summary data with other stakeholders and vice-versa; stakeholders will share relevant information with NFP; FSSAI will provide information on the laboratory mapping activity and gap analysis report on FSSAI labs so these laboratories can be utilized for confirmation of food-borne outbreaks by IDSP (NCDC to take up the matter with FSSAI and develop a mechanism for collaboration for food borne outbreak surveillance). In addition, steps will be taken to ensure India is an active member of the INFOSAN Food Safety Collaborative Network; a list of public health experts trained in chemical, radiological, biological & nuclear emergencies will be prepared; and a dedicated IHR secretariat at the National Focal Point will be established to strengthen the existing mechanisms.

(Contributed by Epidemiology Division, NCDC)

Forthcoming Meetings/ Conferences and Important Days

Indian Public Health Association (IPHA) conference

Theme: Strengthening Partnerships Towards Excellence in Public Health – One Vision, One Voice

Dates: February 2013

Venue: Kolkata

Details are available on website : www.iphacon2013.org

Conference Secretariat

IPHA BhabanAQ - 13/5, Salt Lake, Sector – V, Kolkata – 700091, West Bengal, India

Phone: +91 33 3291 3895 / 2367 1133

Email: secretariat@iphacon2013.org

40th Annual National Conference of IAPSM & Joint State Conference of IPHA and IAPSM

Theme: Women's Health : Today's Evidence, Tomorrow's Agenda

Dates: 22 to 24 January 2013

Venue: Nagpur

Details are available on website :

www.iapsmconnagpur2013.org

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Important Days to Remember

World Leprosy Eradication Day

30 January 2013

World Cancer Day

4 February 2013

International Women's Day

8 March 2013

World TB Day

8 March 2013

News and Events

Morbidity and Mortality Weekly Report

Expanding Poliomyelitis and Measles Surveillance Networks to Establish Surveillance for Acute Meningitis and Encephalitis Syndromes- Bangladesh, China, and India, 2006-2008

Introduction

Quality surveillance is critical to the control and elimination of vaccine-preventable diseases (VPDs). A key strategy for enhancing VPD surveillance, outlined in the World Health Organization (WHO) Global Framework for Immunization Monitoring and Surveillance (GFIMS) (1), is to expand and link existing VPD surveillance systems (particularly those developed for polio eradication and measles elimination) to include other priority VPDs. Since the launch of the Global Polio Eradication Initiative in 1998, the incidence of polio has decreased by 99% worldwide (2). A cornerstone of this success is a sensitive surveillance system based on the rapid and timely reporting of all acute flaccid paralysis (AFP) cases in children aged <15 years, with confirmatory diagnostic testing performed by laboratories that are part of a global network. As countries achieve polio-free status, many have expanded syndromic surveillance to include persons with rash and fever, and have built measles diagnostic capacity in existing polio reference laboratories. Acute meningitis/encephalitis syndrome (AMES)* and acute encephalitis syndrome (AES)* are candidates for expanded surveillance because they are most often caused by VPDs of public health importance for which confirmatory laboratory tests exist. Vaccine-preventable cases of encephalitis include approximately 68,000 Japanese encephalitis (JE) cases, resulting in 13,000-20,000 each year in Asia (3). Moreover, although bacterial meningitis incidence in Asia is

Background

AMES and AES surveillance rely on identification of persons presenting with a clinically compatible syndrome, collection and testing of specimens, and laboratory confirmation (7, 8). During 2006-2008, Bangladesh and China introduced AMES surveillance, and India introduced AES surveillance. In all three countries, surveillance was initiated in areas with well-established AFP and rash/fever surveillance systems, high AFP performance indicators, no endemic polio transmission, and expressed interest by their ministries of health (MoHs) to introduce AMES/AES surveillance.

Implementation

Active AMES/AES surveillance was established at sentinel hospitals in three districts of Bangladesh (three sites), four prefectures in four provinces of China (24 sites), and four states of India (four sites). Case investigations were conducted by polio and hospital surveillance staff (China). Blood and cerebrospinal fluid (CSF) were collected from patients at sentinel sites who had an illness that met the clinical case definition. Case investigation data were entered into standardized electronic data management systems that were developed separately for each implementing country. Every month, summary results were reported by the respective national program office to the MoH, which provided feedback to sentinel sites.

For detail, please see <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6149a3.htm>

The Union Cabinet Approves 4000 Crore Rupees to Tackle Encephalitis

The Government on 18 October 2012 approved a Ministry of Health and Family Welfare proposal to tackle the spread of encephalitis in 60 priority districts of the country over a five-year period, 2012/13 to 2016/17. The ministries responsible for implementing the programme are Health and Family Welfare, Drinking Water and Sanitation, Social Justice and Empowerment, Housing and Urban Poverty Alleviation, and Women and Child Development. Focused interventions will be done in five states — Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal.

The major activities to be addressed by the government ministries include public health interventions, expansion of JE vaccination, improved case management, medical and social rehabilitation, improved provision of drinking water and sanitation in rural and urban areas and improved nutrition. The cabinet approved the implementation of interventions/activities for JE/AES for the following ministries out of the budget available during the 12th Plan. The Health and Family Welfare Ministry will receive Rs 1,131 crore, while the drinking water and sanitation ministry will get Rs 2,301 crore and the social justice and empowerment ministry will get Rs 9 crore. The housing and urban poverty alleviation and women and child development ministries will also get additional funding — the former getting Rs 418 crore and the women and child development ministry getting Rs 177 crore. The implementation of the proposal is expected to substantially reduce the no of JE cases through strengthening of JE vaccination and vector control. It will also reduce encephalitis cases by examining the transmission of enterovirus in children through the supply of safe drinking water and enhanced nutritional status of children.

Parliamentarian's Forum on Pneumonia and Diarrhea

New Delhi: With India reporting one-fifth of the global deaths caused by pneumonia and diarrhoea among children, a group of parliamentarians announced on 16th November 2012 formation of a new forum to improve child survival in India. "Pneumonia and diarrhoea are two diseases that are killing lakhs of children every year in India. What is even more unfortunate is that the target is often children with little or no access to medical attention. It is time we addressed this critical issue of child survival in India, because we need to work towards saving our tomorrow," they said.

The forum will ensure the issue of child health is articulated at the top of the national and state government agendas and aim to create awareness and utilise platforms to raise the profile of child survival. The forum members will engage with various experts such as doctors, civil society representatives and organisations working on child survival to strategize on how to increase visibility.

Dengue Vaccine Study in Thailand Shows Protection Against 3 out of 4 Dengue Virus Serotypes

In a study published recently in *The Lancet* a live attenuated dengue vaccine candidate produced by Sanofi Pasteur showed a vaccine efficacy of 61.2% against dengue virus serotype 1; 81.9% against type 3 and 90% against type 4. Against serotype 2, the vaccine did not show any protection. The study was conducted in the Ratchaburi province of Thailand among 4002 children aged 4 to 11 years, in partnership with Mahidol University under the patronage of the Thai Ministry of Public Health. The vaccine was given in 3 doses, six months apart (0, 6, and 12 months).

Dengue is mosquito-borne disease caused by four dengue virus serotypes (1 to 4). Of an estimated 220 million people infected annually, two million, mostly children develop dengue hemorrhagic fever (DHF) which is a serious form of disease. Dengue outbreaks are occurring frequently and expanding geographically and causing many deaths, in particular in Asia (including India) and Latin America.

Chloroquine is Making a Comeback

Presently, the artemisinin-based combination therapy (ACT) is the mainstay of malaria treatment. There is an ongoing concern that ACT may soon develop resistance as is happening in the Thai-Cambodia and Myanmar-Thai border areas. However, there is good news to report. In a study published recently in the *American Journal of Tropical Medicine and Hygiene* authors Ndiaye et al, show that the previously efficacious drug chloroquine is once again beginning to work effectively against malaria. In summary, the authors reported "70% of the malaria parasites we found in Senegal are reacting once again to chloroquine. This is a trend also seen in a few other countries in Africa." These findings are likely to influence the way malaria is treated and will open various treatment options. Chloroquine is not only cheaper to use but will help preserve and protect ACT which is currently used extensively. Moreover, chloroquine is one of the few drugs that can be given to pregnant women at the beginning of their pregnancy.

The Joint Conference of the Indian Society of Malaria and Other Communicable Diseases and Indian Assn of Epidemiologists, 2 -4 November, New Delhi.

The Joint Conference of the ISMoCD and IAE, held in New Delhi from 2-4 November 2012, was attended by more than 300 delegates from across India. The conference with the theme, "Healthy Public Policies: Opportunities and Challenges" was opened by Dr Jagdish Prasad, DG Health Services. It provided an opportunity for public health professionals to share information and to highlight the major health challenges in the 21st century. The three orations "Cutting Edge Research on Malaria Drug Development", "Public Health at Cross Roads", "Leadership and Strategic Management in Disease Control" were delivered by Prof Padmanabhan, Prof Lalit M Nath and Prof. SD Gupta respectively. Plenary presentations included topical and broad ranging subjects ranging from the polio endgame in India, to the emerging problem of non-communicable diseases and also topics such as living with dengue, threat of antimicrobial resistance, health response to emergencies and natural disasters, public health manpower issues,

monitoring and evaluation as a tool for program efficiency, and introducing the new India EIS Training Programme launched by the GOI recently at NCDC. The parallel sessions discussed topics such as health security and emerging infections, climate change and health, and elimination of neglected tropical diseases. Nearly 70 abstracts were

received and selected ones were presented at the conference. The conference was well received and formally closed on the 4 November by Ms. Savita Gupta, Hon'ble Mayor of South Delhi Municipal Corporation and Dr Vishwa Mohan Katoch, Secretary Dept of Health Research and DG, Indian Council for Medical Research .

Selected NCDC documents and publications



CD Alert

Publications:

May -July 2009

Volume 13:No. 1,

Pages: 8

For more details: <http://nicd.nic.in/writereaddata/linkimages/May%20June-20098604739980.pdf>

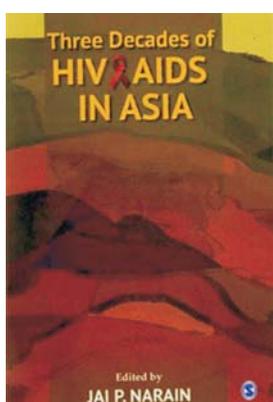


IDSP- Non Communicable Disease Risk Factors Survey

Pages: 142

For more details:

<http://www.idsp.nic.in/idsp/IDSP/Allph1st.pdf>



Three Decades of HIV/AIDS in Asia

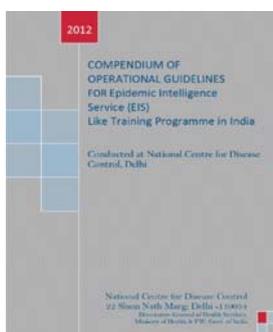
Editor: Jai.P. Narain

Publication: Sage

Pages: 468

For more details :

<http://www.sagepub.in/browse/book.asp?bookid=1732&mode=1>



Compendium of operational Guidelines for India EIS

Publications: NCDC

Volume 1: No. 1

Pages: 16

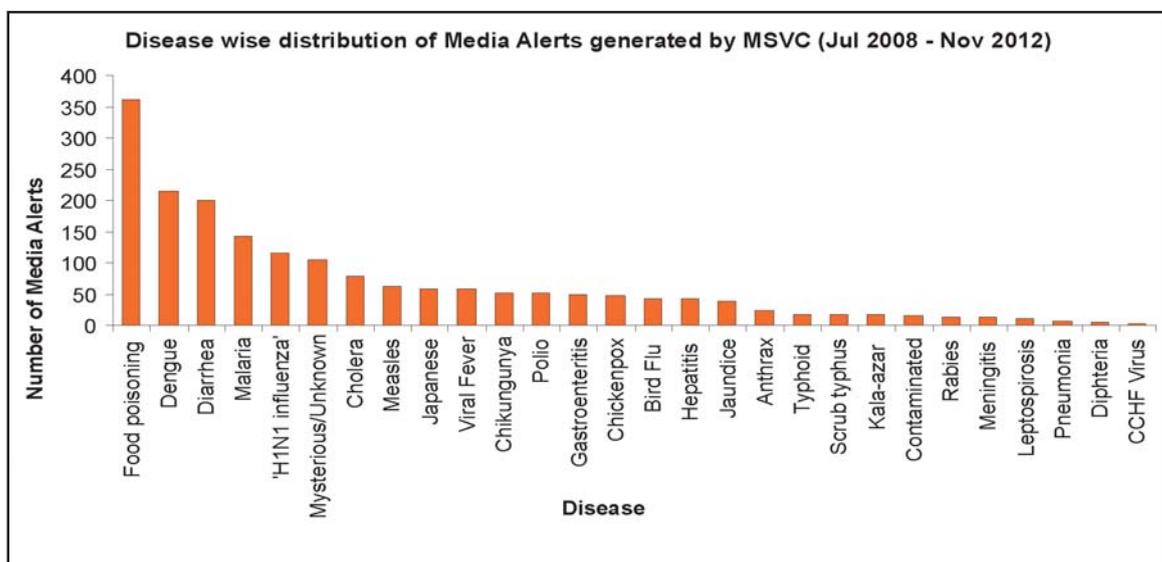
For more details:

http://nicd.nic.in/Final_EIS_Compendium_11612.pdf

Monitoring Trends

Early Detection of Outbreaks Through Media Reports and Verification

The Media Scanning and Verification Cell (MSVC) at NCDC, Delhi, has been collecting information on unusual health events reported in different media on infectious diseases in India since July 2008. This information, after scrutiny by epidemiologists, is disseminated electronically for verification by IDSP-State/ District Surveillance Units so that appropriate public health action can be taken. The global and national media sources monitored include print media, internet news, news wires and websites, TV channels and news shared by partners including the Global Public Health Intelligence Network (GPHIN), WHO, CDC and other international agencies.



A total of 2004 media alerts have been generated by The MSVC from July 2008 to 31st December, 2012 covering a wide variety of health events, with food poisoning and dengue leading the health events (figure). The MSVC identifies outbreaks before the conventional reporting system thereby helping to initiate an earlier response and containment. It has proven to be an effective supplemental tool for the timely detection and management of public health threats in India.

(Contributed by Dr. Rajeev Sharma, Dr. Amit Karad, Dr. Bisworanjan Dash, Mr. Avnesh Sharma, Mrs. Pooja Arora, MSVC, NCDC)

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Acknowledgement: Technical & financial assistance by U.S. Centers for Disease Control & Prevention is duly acknowledged.

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