

Report of the Committee formed by the Government of Uttar Pradesh

In compliance with the orders (**Ref No. O.A. No. 116/2014 dated 30.03.2022 and 26.04.2022**) passed by the Honorable Court, National Green Tribunal Principal Bench, New Delhi, the Government of Uttar Pradesh constituted a high-level technical committee headed by a neurovirologist from NIMHANS, Bengaluru, along with nominees from the Pollution Control Board, Indian Council of Medical Research, Animal Husbandry and Health and Family Welfare Department (**Ref N.G.T.-154/81/-7-2022-44 (Writ)/2016 T.C dated 9th May 2022**). The members on this committee were nominated by the chief of the respective departments (Annexure 1). The office of the Additional Chief Secretary, Environment Department, UP acted as nodal agency to facilitate the visit. The team undertook a study of the situation that is detailed in this report along with the remedial measures being recommended.

Background

Gorakhpur in Uttar Pradesh has been reporting outbreaks of Acute Encephalitis Syndrome (AES) since the year 1978. Acute Encephalitis Syndrome usually affects individuals of low socioeconomic status residing in rural areas with poor health-care infrastructure. A number of agents are known to be the causative agents of this syndrome. Japanese encephalitis virus (JEV) used to be considered the predominant causal agent of AES, which led to the introduction of SA-14-14-2 JEV vaccine in the affected areas through the universal immunization programme of the Government of India. However, despite vaccine introduction, cases of AES continued to occur and the etiological cause in about 50-60% of the patients remained undiagnosed.

Situational analysis

The committee members met on the 18th and 19th of May 2022 at Gorakhpur. The team visited the following medical centers to assess the situation. The state officials – Chief Secretary and Additional Secretaries were also present.

18th May 2022: (i) All India Institute of Medical Sciences, Gorakhpur (Tertiary Level)

(ii) Baba Raghav Das Medical College and Hospital, Gorakhpur (Tertiary Level)

(iii) ICMR- Regional Medical Research Centre, Gorakhpur.

(iv) Community Health Centre, Cahuri-Chaura, Gorakhpur (Primary Level)

19th May 2022: (i) District Hospital, Gorakhpur (Secondary Level)

(ii) Primary Health Centre, Khorabar, Gorakhpur (Primary Level)

A meeting with the state officials was organized on the evening of 18th May 2022. The State Surveillance Officer presented an overview of AES in the state and measures undertaken over the past 5 years to combat the disease on various fronts – access to medical care, infrastructure strengthening, capacity building, outreach activities, information and education campaigns for behaviour change as well as interdepartmental control measures as part of the “Whole of the government approach”.

Observations

To have a better understanding of the existing health care system in the district, committee members visited health care facilities. The following are key observations.

AIIMS Gorakhpur – Started two years ago, this hospital is now catering to more than 2500 new patients in their Out Patient department (OPD) every day. The facility has a dedicated and operational adult and pediatric Intensive Care Units (PICU) and functional laboratory services to manage critical all age group cases.

BRD Medical College, Gorakhpur – There has been tremendous improvement in bed and quality health care availability at this facility over the past few years. The number of beds with ventilator have increased from 6 in the year 2005-06 to now 75 and a total of 428 oxygen beds for pediatric age group. As informed by Dr Ganesh Kumar (Principal, BRD Medical college), over the past 4 years, with marked improvement in block and district level public health care facilities and overall reduction in number of AES cases in the region, the number of AES cases being admitted at BRD Medical college and AES related mortality have reduced remarkably. The Director of ICMR- RMRC, Gorakhpur also concurred with his opinion.

BRD Medical college has also been conducting special 2 year training course (Diploma in child health- DCH) for Officers of Provincial Medical services cadre who are then deployed to ETCs/ MINI PICUs and PICUs post training. This course has resulted in training and deployment of approximately 120 additional pediatricians in AES affected districts of the state.

District Hospital, Gorakhpur – A 12 bedded PICU was established here in year 2014, additional human resource (pediatricians and staff nurses) were deployed in the year 2017-18. The PICU is well staffed and trained, excellent line listing and record keeping of high grade fever and AES cases being treated at the facility is maintained. All necessary logistics are available and the equipment fully functional. Capacity expansion was done in year 2018-19 with addition of 5 Ventilator and 30 Non ventilator beds. Currently the hospital has 63 Pediatric beds (17 Ventilator and 46 Non ventilator). Some of the admitted patients' care-takers expressed their satisfaction with the facilities available at the PICU. One of the patient's mother conveyed that the hospital has acquired a very good name for quality care and she brought her 6 year old girl (with fever, convulsions and changed mental status) to the facility 7 days back as many from her village had recommended based on their earlier experiences.

Community Health Centre (CHC) Chauri Chaura (Mini PICU) – With addition of 3 Ventilator beds, the facility was been upgraded as a mini PICU in year 2018, 2 pediatricians are posted at the facility along with dedicated staff nurses for the mini PICU. The facility has two wards, one with 7 oxygen beds and another with 3 ventilators. Both the wards are well maintained including air conditioning. All necessary drugs and logistics are available and equipment functional. The facility has good record keeping and text book level bed head tickets for the admitted patient. There were 3 patients admitted at this facility at the time of team's visit.

Primary Health Centre (PHC) Khorabar : This is a block level Primary health center with a 6 bedded Encephalitis Treatment Centre (ETC). The ETC was well maintained with air conditioning, trained staff and availability of all necessary drugs and logistics and functional equipment. One AES patient was admitted at the time of team's visit, the patient was brought to the ETC by the area ASHA worker. The attendants were well aware of and fully satisfied with the facilities available at this ETC.

Current status of AES in Gorakhpur, Uttar Pradesh:

- Most of the AES affected districts are located in the eastern part of the state.
- A total of 31830 AES cases and 4639 deaths (CFR- 14.6%) were reported in the state of UP between 2010 and 2020. Of these, 3334 were caused by Japanese encephalitis virus (JEV) with 476 deaths (CFR 14.3%). In contrast, in the year 2021, the CFR due to JE and AES reduced to 3.27% and 3.41 % respectively against a CFR of 16.6% (JE) and 17% (AES) from 2010 to 2016.
- Although a marked reduction in number of both AES and JE cases are noticed in the state, the proportion of Scrub typhus cases out of total AES cases in the state from 2017 through

2021 has increased from 32% to 49% while the proportion of JE cases out of total AES cases has reduced from 18 to 11% in the same period.

- The number of villages marked as high risk for AES has reduced to 208 (in 2022) from 617 (in 2018).

In the year 2017, the state carried out an in depth analysis of the AES situation to understand the major issues related to AES occurrence and a detailed state specific strategy has been developed incorporating the “Whole of the government” approach - 12 different departments and many non-government partner agencies are working together on various control and mitigation approaches in a coordinated manner.

Health Care infrastructure and access to health care

For clinical management of AES cases, a functional triple layered health facility network has been developed in the affected districts of the state – 1. Encephalitis treatment centres (ETCs), at Block level hospitals with all necessary medicines and functional equipment for management of uncomplicated AES cases, 2. Mini Pediatric intensive care Units (MINI PICUs) - 15 of these block level ETCs have been equipped with advanced pediatric care equipment including ventilators for management of complicated cases even in remote sub-district level areas, 3. Pediatric intensive care Units (PICUs) at district head- quarters -8 fully functional and well equipped PICUs have been established in 7 AES affected districts of Basti and Gorakhpur divisions.

There are well defined and established linkages between these three tiers of AES management facilities for seamless management of AES cases and a robust referral system has been put in place for this purpose.

Numbers of beds and human resource for these facilities have been defined by the state. Each ETC has been provisioned with 4 dedicated staff nurses, mini PICU with 6 and PICUS with 20 to 30 dedicated staff nurses (depending upon the number of ventilators in the PICU). There is a major and visible improvement in the health care infrastructure.

- Provision for shifting a critical case from a PHC to a tertiary hospital in an ambulance (108) is free and safe, emergency medical technicians and ambulance drivers have been trained

repeatedly on quick and safe transport of AES cases to the nearest designated public health care facility.

- A digital system to maintain and monitor health records of the community is in place and can be accessed executing confidentiality in the hour of need.

Clinical and Diagnostic services

- The medical personnel in the various tiers of health care are qualified and well trained and the practice of continued medical education is encouraged. Special trainings on case management of AES is adopted to build more capacity. Reputed institutes of the country like King Georges Medical University (KGMU), Lucknow, SGPGI Lucknow, CMC Vellore and BRD Medical college, Gorakhpur have been engaged for training of all tiers of clinical care professionals – Staff nurses, Medical officers and Pediatricians. Cadre specific training materials have been developed by the Health department for this purpose. Hands on training on procedures and equipment is also part of these training packages.
- Standard treatment protocols are followed and displayed at all levels of encephalitis treatment facilities. There is sustained availability of essential drugs and functional equipment and rigorous independent monitoring of the same is done by an outside agency (PATH). Utilization of azithromycin and doxycycline in treatment of high grade fevers has direct benefits.
- Pediatricians are skilled and collection of CSF sample by lumbar puncture in cases identified as AES is carried out unless medically not indicated. The collection of CSF sample is of high importance to confirm the causative pathogen in the laboratory especially for etiological agents such as Japanese encephalitis virus, *Streptococcus pneumoniae*, *Hemophilus influenzae* and *Neisseria meningitidis*.
- Serological tests (or sample collection for the same) for Malaria, Dengue, Chikungunya, Japanese encephalitis and Scrub typhus are mandatorily performed at all health care centres for all suspected AES cases. Samples negative for these tests are referred to ICMR – RMRC, Gorakhpur for other serological and molecular tests for laboratory confirmation and the report is usually available within 36 hours.

- The ICMR- RMRC, Gorakhpur has qualified and skilled laboratory technologists to carry out these tests and scientists to interpret the results (Annexure-II , DHR-ICMR AES diagnostic algorithm)
- The facilities also maintain records of all high grade fever cases admitted at ETCs, MINI PICUs and PICUs. A line list of all AES cases is maintained at every health care facility and a central data base is created.
- The clinical and laboratory staff are well informed regarding biomedical waste management. The biomedical waste is collected by an agency designated by the government for disposal as per the state guidelines and Bio-medical waste management Rules.

Information, Education and Communication (IEC)

A number of IEC activities are regularly being undertaken.

- State has developed cadre/clientage specific IEC materials in vernacular language and Hindi. Support of communication and behavior change experts from partner agencies like UNICEF has been taken to develop these materials and overall IEC and BCC (Behavior change communication) strategies.
- Audio visual materials, banners, posters, hand-outs, wall writings in rural areas, household stickers have been developed and widely and frequently disseminated in AES affected districts. Front line health workers (ANMs, ASHAs and AWWs) have been trained to undertake activities to impart information to educate the masses on personal hygiene, environmental cleanliness, mosquito control, as well as availability of health care services at nearby public health facilities.
- Asha workers visit every household in the locality they are assigned to understand the general well-being and take note of any health issues. They are trained to advise the patient's family on the availability of the nearest healthcare center.
- A unique mix of oral and traditional media - 'Dastak' is an initiative to knock on every door in the community to assess the health conditions and behavior in the family. This is carried out by ASHA workers emphasizing on changing prevention and treatment

practices including early detection/ referral of cases, compliance to treatment protocol, use of safe water, personal hygiene and environmental sanitation. Three such campaign are carried out every year since year 2018.

- Simultaneously, predefined interdepartmental activities like special classes, poster making and quiz competitions in schools by identified trained health nodal teachers, meetings by elected public representatives on disease prevention, vector and rodent control activities, cleaning of animal farms and pigsties and relocation of the later to uninhabited areas, ensuring availability of safe potable drinking water, management of water logging and cleaning of large and small drains in all rural and urban areas are conducted by 12 different departments as Sanchari Rog Niyantaran (Communicable disease control) campaign.
- All these activities of Dastak and Sanchari Rog Niyantaran campaigns are predefined as a GO by Chief Secretary of UP, detailed microplans are prepared by each department and all activities are monitored by Government officials (District Nodal officers designated by State head quarter) and independent partner agencies (WHO, UNICEF and PATH) on a digital format, accessible real time to all stake holders and decision and policy makers.
- Training of master trainers and cascaded trainings across all AES affected districts are carried out. Training videos on routine immunization, use of larvicidal agents, washing hands are available. Using water from India Mark 2 hand pumps, keeping pigsties away from human habitats, accessing healthcare immediately are messages conveyed regularly to the communities.

Vaccination

Gorakhpur experienced a massive outbreak of Japanese encephalitis in the year 2005 resulting in a large number of deaths. The Government of India initiated the vaccination for Japanese encephalitis soon after and over the years has resulted in a significant and dramatic decrease in JE cases. The vaccination programme continues for children and has a near 100% coverage. Record keeping of vaccinated children is important and meticulously followed.

Surveillance programmes

- Under the surveillance programs, serological testing of blood samples from pigs are being collected for detecting antibodies to JEV regularly. This is essential as pigs are considered as amplifying hosts in the life cycle of JEV.
- Surveillance for febrile illness both at household level and OPDs are carried out. ASHA workers line list all cases of febrile illness during the Dastak campaign and refer the same to nearest health care facility for early diagnosis and treatment.
- Continuous surveillance of high endemic district areas to identify AES hotspots are required to plan targeted interventional strategies, improve control measures and strengthen IEC activities.

Policy implementation

Multiple studies have been conducted in the past 5-6 years in UP on surveillance of AES, risk factors and impact assessments (Thangaraj et al, 2020, Srivastava et al, 2022a, 2022b, Ravi et al, 2022), Based on the findings from these surveillance studies, policy changes have been adopted and implemented. These pertain to Information, Education communication(IEC), BCC, diagnosis and treatment practices.

- An algorithmic approach to identify the pathogen causing AES has multiple benefits in terms of clinical management, understanding the epidemiological burden of the particular causative agent and implementation of control measures to avoid the transmission. The algorithmic approach and treatment strategies have also been adopted by the state government in their programme implementation plan.
- As scrub typhus is one of the commonest pathogens causing AES in UP, empirical treatment for scrub typhus is being instituted after initial clinical assessment and sample collection for laboratory tests. This is being done to avoid delay in treatment.

Control and Prevention

A number of prevention activities and control measures are being undertaken by the Government of UP. Large scale interdepartmental convergence to mitigate the occurrence of AES include Health and Family Welfare and Medical Education, Information and Broadcasting,

Women and Child Development, Animal Husbandry, Agriculture, Fisheries, Panchayati Raj, Rural Development, Urban Development and Social Justice and Empowerment.

- Control of mosquitoes in the paddy fields (*Culex tritaeniorhynchus* – vector for JEV), educating the masses regarding the risks in stagnated water as breeding area for *Aedes* sp mosquito larvae and reducing the exposure to mosquito bites by covering, fogging in regions reporting dengue fever are steps taken to reduce the incidence of cases of JE, dengue fever and malaria.
- Some of the risk factors identified for occurrence of scrub typhus has been storing of fire wood in houses and children playing in bushes infested with mites (Thangaraj et al, 2018). The replacement of firewood with LPG cylinders in many of the rural households has mitigated this risk factor while the periodic trimming of bushes has also helped controlling the disease to a large extent.
- Cleaning of the lake and water bodies and sampling of treated industrial effluents and sewage treatment plants are in place and need to be continued. Cleaning of rural drains, red marking of unsafe hand pumps, cutting of shrubs and weeds, fogging in urban areas, seeding water bodies with gambusia fish are measures undertaken for controlling the occurrence of AES.

Monitoring and Evaluation

A very important aspect in health care is to monitor and evaluate the system periodically to understand the benefits, the gaps and plan further action. This also provides insights into the cost effectiveness of the adopted system.

- An analysis of the total cases, laboratory confirmation of the disease, clinical outcome in terms of survival from the illness, mortality and morbidity is being undertaken. These are conducted at 3 levels – state nodal officer, district officer as well as by independent 3rd parties such as WHO, PATH and UNICEF to remove the bias.
- A feedback monitoring of 22,734 villages and 1,12,530 households revealed 79% families reported ASHA workers educated the family on prevention of encephalitis, 87% families were educated by ASHA workers on importance of early treatment in fever while 71%

families reported ASHA workers educated them on use of 102 /108 ambulance for transportation of AES case to the nearest healthcare facility.

- The marked reduction in AES cases from 4724 in 2017 to 1701 in 2021 with CFR reducing from 13.37 in 2017 to 3.41 in 2021 and the decrease in JE cases from 693 with CFR 13.4 in 2017 to 153 cases and CFR 3.27 in 2021 is significant.
- Sustained planning and efforts over past 5 years have resulted in – (i) Better understanding and perusal of environmental and personal cleanliness (ii) Change in health seeking behavior (ii). Improved utilization of public health care facilities at the peripheral and district level - reflecting faith generation in the public health care delivery mechanisms (iv) Convergence of activities towards a single goal – Bringing down the prevalence and incidence of Vector borne and communicable diseases. (v) This has given rich dividends in the form of substantial decrease in AES and JE incidence and mortality and has also resulted in reduced outbreaks of other diseases.

Recommendations of the committee

The recommendations have been formulated based on the visits to the health centers and the tertiary hospitals, the information gathered from the conversations with the in-patient care takers and treating pediatricians, studying some of the case files for investigations and treatment, the documents provided by the respective health centers / institutes, the discussions with the public health specialist from PATH, state health officials and by referring to the recent publications from various studies on AES in this region. Based on the information gathered through these various means, it is apparent that the number of AES cases in Gorakhpur and areas around have reduced significantly over the past 5 years (Annexure III & IV, and Data sourced from IDSP, GOUP) .

- Although the pediatricians still encounter some AES cases, the etiological agents in the current times identified are scrub typhus (25%), followed by Japanese encephalitis virus (8%) and dengue (5%). The number of AES caused by enterovirus is only 0.02% (State epi-data).
- A policy change of treating a child with febrile illness with doxycycline and azithromycin to avoid any possibility of the child developing AES has paid huge dividends. An

effectiveness study conducted on the prescribing doxycycline and azithromycin has reported tremendous benefits in reducing the number of AES cases (Thangaraj et al, 2020).

- A diagnostic algorithm is adopted to identify the pathogen causing AES. Samples wherein an infectious etiology is not identified may be tested for auto-immune causes (non-infectious). At the bottom of the algorithm, when no infectious or non-infectious etiology is identified, such samples may be subjected to next-generation sequencing. The ICMR-RMRC, Gorakhpur has been equipped with the infrastructure to carry out the detection and identification of unsuspected agents and novel pathogen discovery using metagenomic sequencing. All results need to be interpreted correctly and in consultation with the treating pediatrician / clinician.
- A robust referral system starting with every PHC / CHC linked to a district hospital has considerably reduced the burden on the main BRD hospital in Gorakhpur. Improvement of peripheral and district level healthcare facilities has decongested the tertiary healthcare resulting in prompt and better patient care and improved outcomes. Strengthening of peripheral health care may be continued with appropriate numbers of doctors and nurses depending on patient footfall and case load.
- Periodic audits pertaining to bio-medical waste management, biosafety and anti-microbial resistance are being carried out and need to be continued.
- Contact tracing of any positive case of AES is carried out to strategies targeted interventions.
- Surveillance of mites, mosquitoes, water bodies, STPs (as per notified standards), ETPs (as per notified standards) (BOD, COD, TSS, pH, CF) is being carried out and has to continue at defined times and in the event of any outbreak of notified pathogens.
- A system of sampling of potable water at the user end is in place and needs to be continued. This will ensure provision of safe water (pathogen and toxin free) at all times.
- Waste water can cause mosquito breeding. Necessary action should continue to avoid waste water logging and ensure its treatment.

Closing the last mile on AES.

Through sustained inter departmental efforts spearheaded by the Health Department, Government of UP, the occurrence of AES in Gorakhpur over the years has radically reduced. This has been possible due to the untiring efforts on all fronts – medical, social, community and political. It is noteworthy that despite the last two years when the entire country was battling the COVID pandemic, with unrelenting efforts on all fronts by the Government of UP, there has been a noticeable decrease in the number of AES cases in the State.

The launching of the Dastak Campaign and Sanchari Rog Niyamtran Abhiyan, formulating State Guidelines on AES have been major steps to control the disease. A continued multi-sectoral approach with concerted and coordinated efforts, microplanning and unwavering commitment from the medical fraternity, Pollution Control Board, Animal Husbandry and Agriculture Sector, Health and Family Welfare Department has paid the dividend so far and will further reduce the occurrence of AES in Gorakhpur.

- There are two institutions in UP, ICMR-RMRC in Gorakhpur and KGMU, in Lucknow that have been at the forefront of determining etiology of AES for the past four decades. These Institutes are well versed with the local epidemiological, ecological and environmental factors that have been behind the past outbreaks of AES in Gorakhpur.
- The Indian Council of Medical Research (ICMR) has been one of the foremost Institute that has assisted the Govt. of UP in the diagnosis, prevention and control. Indeed, it has established an advanced ICMR- **Regional Medical Research Centre, Gorakhpur (RMRC)** within the BRD Medical College at Gorakhpur. This centre is headed by a senior level scientist as its head and has amongst its staff experienced virologists, epidemiologists and vector biologists. Moreover, this centre over the years has accumulated an enormous amount of data pertaining to etiology, risk factors and immune response to JEV, enterovirus and scrub typhus.
- The Virology section of department of Microbiology at **King George Medical University (KGMU), Lucknow**, is yet another institution that has been providing extensive support to the Govt. of UP for investigation of AES outbreaks since 1978.

- In addition to these two institutes, the **All India Institute of Medical Sciences, Gorakhpur**, which started 2 years ago, is now a full fledged tertiary institute equipped with state of the art infrastructure and trained manpower to provide medical care as well as engage in programs related to surveillance and research.

The Health Department of the Government together with the major Institutes may continue the surveillance and clinical, ecological and environmental monitoring of the situation to combat any future occurrence of AES in the State and formulate remedial measures including diagnostic strategies with a dynamic algorithm and treatment modalities.

Annexures and References:

1. Annexure I :Official Memorandum from the Govt of UP, dated 09.05.2022, regarding constitution of the committee
2. Annexure II: DHR-ICMR AES -Diagnostic Algorithm for identification of AES pathogens.
3. Annexure III : Graph AES 2017-22 Admissions and Deaths
4. Annexure IV : Graph JE 2017-22 Admissions and Deaths
5. Data Source : A review of Japanese encephalitis in Uttar Pradesh, India_WHO South-East Asia J Public Health 14374-2595862_071238 ** Data Source : IDSP UP and VBD Unit, Health Directorate, GOUP.
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7. Srivastava N, Deval H, Khan N, Kant R, Das A. Decline of Japanese encephalitis in Eastern Uttar Pradesh, India, 2009-2019. Asian Pacific Journal of Tropical Medicine, 150, 2022.
8. Srivastava N, Deval H, Mittal M, Kant R, Bondre V. The outbreaks of Acute Encephalitis Syndrome in Uttar Pradesh, India (1978-2020) and its effective management : A remarkable public health success story. Frontiers in Public Health, 9, 2022 doi 10.3389/fpubh.2021, 793268
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10. Thangaraj J, Zaman Kamran, Pandey A, Saravanakumar V, Deoshatwar A, Mittal M, Gupta N and Murhekar M. Effectiveness of presumptive treatment of acute febrile illness with doxycycline or azithromycin in preventing acute encephalitis syndrome in Gorakhpur, India : A cohort study. Indian Pediatrics, 57, 619-624, 2020.

PHOTOGRAPHS-Committee members visit to the health care facilities, Gorakhpur, 18-19 May 2022



Meeting at the AIIMS, Gorakhpur



At ICMR-RMRC, Gorakhpur



Presentation at the AIIMS, Gorakhpur



Presentation at BRD Medical College Hospital



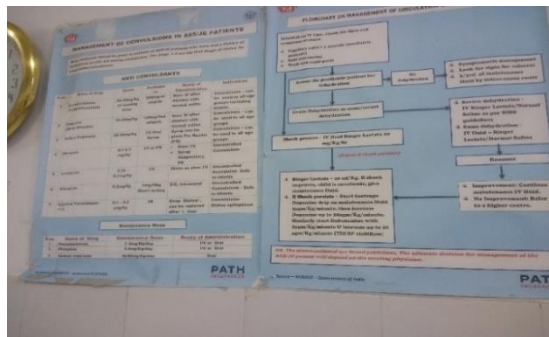
District Hospital, Gorakhpur



District Hospital, Gorakhpur



PICU, District Hospital, Gorakhpur



Treatment chart displayed at the PHC.

File No. 81-7005(099)/274/2020-07

Government of Uttar Pradesh
No.-N.G.T.-154/81/-7-2022-44 (Writ)/2016 T.C.
Environment, Forest and Climate Change Department (Division - 7)
Lucknow: Date: 09 May, 2022

Office Memorandum

In compliance with the order(s) O.A. No.116/2014 Meera Shukla Vs Municipal Corporation Gorakhpur & Ors., dated 30.03.2022 and 26.04.2022 passed by Hon'ble National Green Tribunal, New Delhi, a high-level technical team shall be constituted to study the health impacts of pollution in Gorakhpur and surrounding areas, and suggest appropriate treatment and other prevention measures – with the following members:

1. **Neurovirology Specialist nominated by the Director, NIMHANS, Bengaluru – Chairperson**
2. Officer nominated by the Chairperson, Central Pollution Control Board, New Delhi – Member
3. Officer nominated by the Director General, Indian Council of Medical Research, New Delhi – Member
4. Expert nominated by Additional Chief Secretary, Medical Health & Family Welfare Department, Government of UP – Member
5. Technical Officer nominated by Principal Secretary, Animal Husbandry Department, Government of UP – Member

The Office of the Additional Chief Secretary, Environment, Forest and Climate Change Department, Government of Uttar Pradesh will serve as the nodal centre for coordinating the inspection and allied works carried out by the aforesaid high-level team. Logistic support will be provided by the District Magistrate, Gorakhpur, and expenses for inspection and other related works will be borne by Uttar Pradesh Pollution Control Board. The team shall submit the report within the prescribed period to National Green Tribunal, New Delhi (email: judicial-ngt@gov.in) and the Chief Secretary, Government of UP (email: csup@nic.in).

Signed by Durga Shankar Mishra
Date : 06-05-2022 13:15:24
Reason: Approved

(Durga Shankar Mishra)
Chief Secretary

Copy to: The Director, NIMHANS, Bengaluru



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उत्तर प्रदेश शासन

संख्या-एन.जी.टी.-154/81-7-2022-44(रिट)/2016 टी0सी0

पर्यावरण, वन एवं जलवायु परिवर्तन अनुभाग-7

लखनऊ : दिनांक : 09 मई, 2022

कार्यालय ज्ञाप

मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली द्वारा O.A. No. 116/2014 Meera Shukla Vs Municipal Corporation Gorakhpur & Ors. के अन्तर्गत पारित आदेश दिनांक 30.03.2022 एवं 26.04.2022 के अनुपालन में मा0 अधिकरण द्वारा गोरखपुर एवं आस-पास के क्षेत्रों में प्रदूषण जनित स्वास्थ्य समस्याओं के संबंध में अध्ययन करते हुए उसके निवारण के लिये उचित चिकित्सा एवं अन्य कार्यवाही संबंधी सुझाव प्रस्तुत किये जाने के उद्देश्य से निम्नवत् एक उच्च स्तरीय दल का गठन किया जाता है :-

- 1- निदेशक, नेशनल इंस्टीट्यूट ऑफ मेंटल हेल्थ एण्ड न्यूरोसाइंस (NIMHANS), बेंगलुरु द्वारा नामित न्यूरो वायरोलॉजी विशेषज्ञ - अध्यक्ष
- 2- अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, नई दिल्ली द्वारा नामित अधिकारी - सदस्य
- 3- महा निदेशक, भारतीय आयुर्विज्ञान अनुसंधान परिषद्, नई दिल्ली द्वारा नामित अधिकारी - सदस्य
- 4- अपर मुख्य सचिव, चिकित्सा स्वास्थ्य एवं परिवार कल्याण विभाग, उ0प्र0 शासन द्वारा नामित विशेषज्ञ - सदस्य
- 5- प्रमुख सचिव, पशुधन विभाग, उ0प्र0 शासन द्वारा नामित तकनीकी अधिकारी - सदस्य

उपरोक्त उच्च स्तरीय दल के निरीक्षण से संबंधित कार्य हेतु अपर मुख्य सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ0प्र0 शासन नोडल संस्था होंगे जिनके द्वारा समन्वय स्थापित कर उच्च स्तरीय दल का निरीक्षण यथाशीघ्र सुनिश्चित कराया जायेगा। उच्च स्तरीय दल को लॉजिस्टिक सपोर्ट जिलाधिकारी, गोरखपुर द्वारा उपलब्ध कराया जायेगा। दल के निरीक्षण एवं अन्य संबंधित कार्य हेतु व्यय उ0प्र0 प्रदूषण नियंत्रण बोर्ड के सहमति शुल्क से वहन किया जायेगा। उच्च स्तरीय दल द्वारा अपनी रिपोर्ट मा0 अधिकरण के समक्ष ईमेल-judicial-ngt@gov.in एवं मुख्य सचिव, उ0प्र0 शासन को ईमेल-csup@nic.in पर निर्धारित समयान्तर्गत उपलब्ध करायी जायेगी।

Signed by दुर्गा शंकर मिश्र

Date: 06-05-2022 13:15:24

Reason: Approved

(दुर्गा शंकर मिश्र)

मुख्य सचिव।

संख्या एवं दिनांक तदैव

प्रतिलिपि-निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

- 1- निदेशक, नेशनल इंस्टीट्यूट ऑफ मेंटल हेल्थ एण्ड न्यूरोसाइंस (NIMHANS), बेंगलुरु।
- 2- अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
- 3- महा निदेशक, भारतीय आयुर्विज्ञान अनुसंधान परिषद्, नई दिल्ली।
- 4- अपर मुख्य सचिव, चिकित्सा, स्वास्थ्य एवं परिवार कल्याण विभाग, उ0प्र0 शासन को इस अनुरोध के साथ प्रेषित कि उक्तानुसार गठित उच्च स्तरीय दल में अपने विभाग से विशेषज्ञ/तकनीकी अधिकारी तत्काल नामित करते हुए उनका विवरण (नाम, पदनाम, ईमेल एवं मोबाइल नं0 आदि सहित) पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ0प्र0 शासन (ई-मेल soenvups@rediff mail.com) पर अविलम्ब उपलब्ध कराने का कष्ट करें।
- 5- प्रमुख सचिव, पशुधन विभाग, उ0प्र0 शासन को इस अनुरोध के साथ प्रेषित कि उक्तानुसार गठित

Translated version of the letter enclosed for further needful > Director's office

21/5/22

1695
18/5/22

उच्च स्तरीय दल में अपने विभाग से विशेषज्ञ/तकनीकी अधिकारी तत्काल नामित करते हुए उनका विवरण (नाम, पदनाम, ईमेल एवं मोबाइल नं० आदि सहित) पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ०प्र० शासन (ई-मेल soenvups@rediff mail.com) पर अविलम्ब उपलब्ध कराने का कष्ट करें।

6- जिलाधिकारी, गोरखपुर।

7- सदस्य सचिव, उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।

8- गार्ड फाइल।

आज्ञा से,

(मनोज सिंह)

अपर मुख्य सचिव।

उत्तर प्रदेश शासन
चिकित्सा अनुभाग-7
संख्या-414/पांच-7-2022
लखनऊ: दिनांक 13 मई, 2022

कार्यालय-ज्ञाप

मा0 एन0जी0टी0, नई दिल्ली में योजित ओ0ए0 संख्या-118/2014 मीरा शुक्ला बनाम म्युनिसिपल कार्पोरेशन गोरखपुर व अन्य में पारित आदेश दिनांक 30.03.2022 एवं 26.04.2022 के अनुपालन में गोरखपुर एवं आस-पास के क्षेत्रों में प्रदूषण जनित स्वास्थ्य समस्याओं के सम्बन्ध में अध्ययन करते हुये उसके निवारण के लिये उचित चिकित्सा एवं अन्य कार्यवाही सम्बन्धी सुझाव प्रस्तुत किये जाने के उद्देश्य से पर्यावरण, वन एवं जलवायु परिवर्तन अनुभाग-7 के कार्यालय-ज्ञाप दिनांक 09.05.2022 द्वारा निदेशक, नेशनल इंस्टीट्यूट ऑफ मेन्टल हेल्थ एण्ड न्यूरोसाइंस(एनआईएमएचएएस) बेंगलुरु द्वारा नामित न्यूरो वायारोलॉजी विशेषज्ञ की अध्यक्षता में उच्च स्तरीय दल का गठन किया गया है। उक्त गठित उच्च स्तरीय दल में अपर मुख्य सचिव, चिकित्सा स्वास्थ्य एवं परिवार कल्याण विभाग की ओर से नामित विशेषज्ञ भी सदस्य के रूप में शामिल हैं।

2- अतः प्रश्नगत प्रकरण में उपर्युक्तानुसार गठित उच्च स्तरीय दल में चिकित्सा एवं स्वास्थ्य विभाग की ओर से डा0 विकासेंदु अग्रवाल, स्टेट सर्विलान्स ऑफिसर, उत्तर प्रदेश (मोबाइल नम्बर-9219793100, ई-मेल आईडी-vikas_agg22@yahoo.co.in) को सदस्य नामित किया जाता है।


प्रांजल यादव
सचिव।

संख्या-414 (1)/पांच-7-2022, तददिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- (1) महानिदेशक, चिकित्सा एवं स्वास्थ्य सेवायें, उ0प्र0 लखनऊ।
- ✓ (2) निदेशक, नेशनल इंस्टीट्यूट ऑफ मेन्टल हेल्थ एण्ड न्यूरोसाइंस(एनआईएमएचएएस) बेंगलुरु।
- (3) संयुक्त सचिव, पर्यावरण वन एवं जलवायु परिवर्तन अनुभाग-7, उ0प्र0 शासन।
- (4) अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
- (5) डा0 विकासेंदु अग्रवाल, स्टेट सर्विलान्स ऑफिसर, उत्तर प्रदेश।
- (6) गार्ड फाइल।

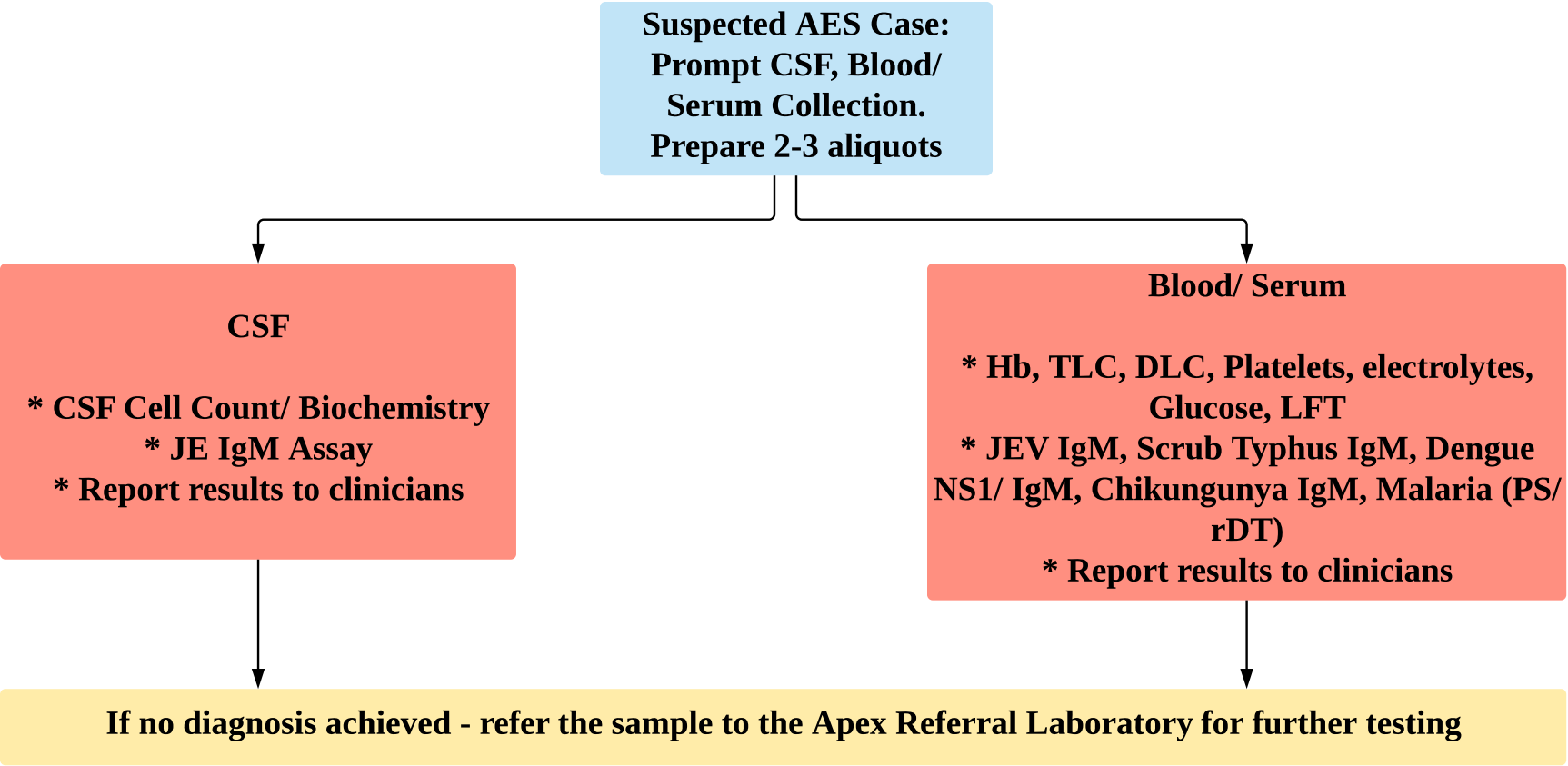
आज्ञा से,


(प्राणेश चन्द्र शुक्ल)
संयुक्त सचिव।

N/V/920699

1214
24/5/22

Dr. Anika Desai
23/5/22



**Laboratory Testing Algorithm for testing cases of
Acute Encephalitis Syndrome at the level of District Hospital**

At Apex Regional referral Lab

Molecular Test (PCR)

*** Bacterial PCR: *H.influenzae*; *S. pneumoniae*; *N.meningitides***

*** *MTB gene expert* #**

*** *Chandipura* #**

*** *Herpes virus DNA PCR* #**

*** *Enterovirus RNA PCR* #**

optional, to be done as per clinical need

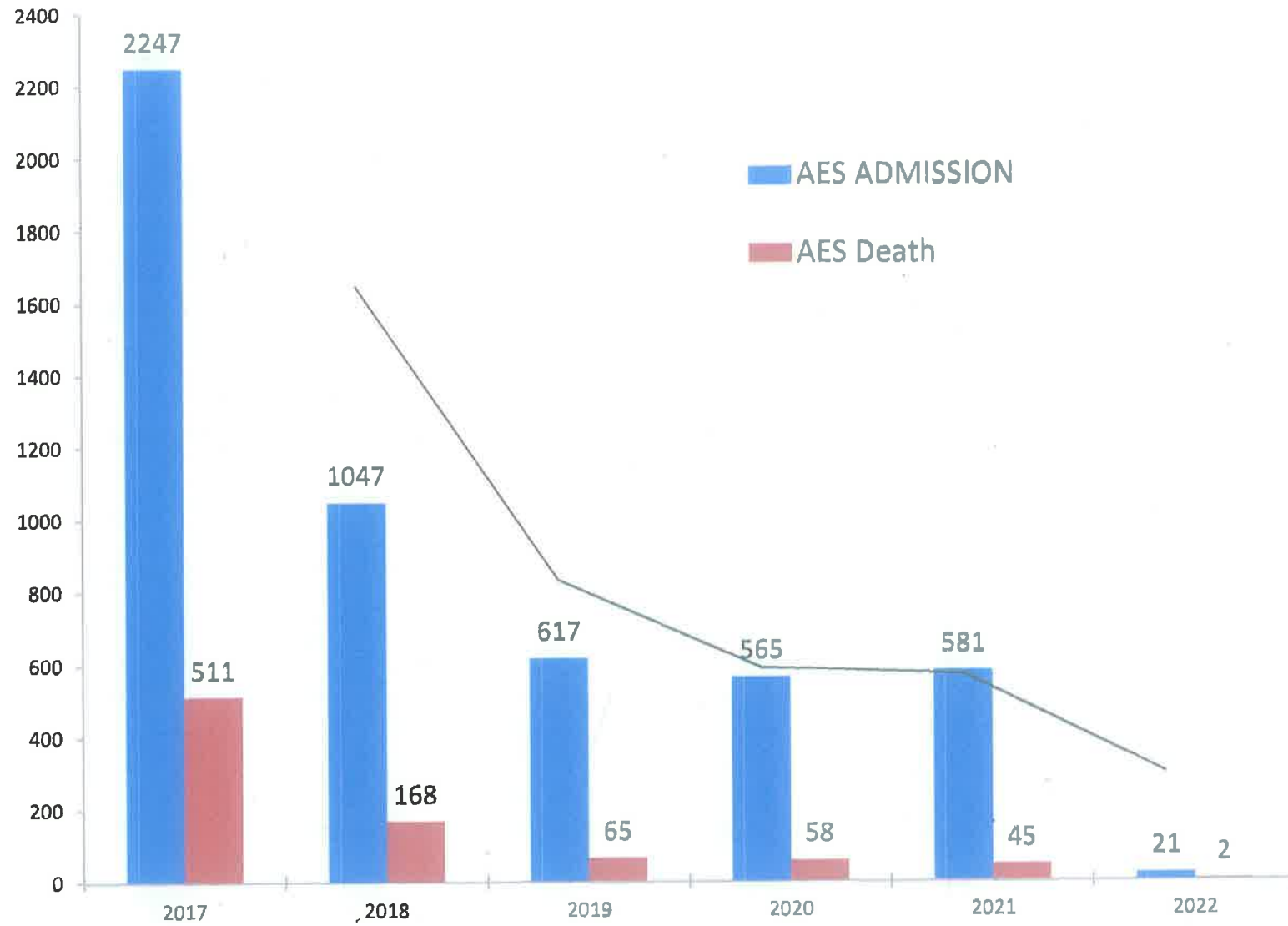
Serology

*** West Nile IgM**

*** Leptospirosis IgM**

**Laboratory Testing Algorithm for testing cases of
Acute Encephalitis Syndrome at the level of Regional Referral Lab**

AES 2017 TO 2022 (ADMISSION / DEATH)



JE 2017 TO 2022 (ADMISSION / DEATH)

