

# Tackling Seasonal Outbreak of Cerebrospinal Meningitis (CSM) through Fast, Professional-Grade Laboratory Testing



*Dr. Idris Nuhu*

Nigeria is one of the twenty-six countries within the sub-Saharan Meningitis Belt and has the highest rates of Cerebrospinal Meningitis. In Nigeria, Meningitis cases are found to occur at a greater rate, during the dry season and Sokoto state is one of the most affected states.

Dr. Idris Nuhu is a house officer with the Pediatric Medical Ward (PMW) at Specialist Hospital, Sokoto. Prior to the establishment of the Sokoto Meningitis Lab, care and treatment of patients with CSM progressed very slowly and was fraught with unethical practices. CSM is a highly fatal disease and 5% to 10% of patients die 24-48 hours after the onset of the symptoms. Medical practitioners often had to prescribe a course of treatment to prevent death or complications, because facilities for testing were unavailable or because the turn around time for diagnostic procedures took too long. Even though fatality was prevented, this practice has been linked to the recent mutation of *Neisseria meningitidis*, the chief causative agent of CSM and the rapid progression of seasonal outbreaks of CSM from alert to epidemic thresholds.

*“The time or resources necessary to take Cerebrospinal Fluid (CSF) samples for testing in order to direct the course of patient’s treatment just weren’t available because the medical facilities are so understaffed. So, doctors here are forced to take action based on the symptoms a patient is presenting by order of priority, which means for most cases, going straight to treatment without first conducting any Lab investigation.”*

*- Dr. Nuhu*

In 2016, Nigeria was hit by an outbreak of Cerebrospinal Meningitis. The first case was reported in Zamfara in December 2016. By June 2016, there had been a total of 14,518 cases and 1,166 deaths across 25 states. The Sokoto-Kebbi- Zamfara tri-state area was the worst hit by this outbreak, accounting for over 89% of the cases. In response to the 2016 Meningitis outbreak which claimed 1,166 lives in Nigeria, eHealth Africa collaborated with the International Foundation Against Infectious Diseases in Nigeria (IFAIN) and the Sokoto State Ministry of Health

(SMoH) to deploy the Sokoto Meningitis Laboratory. The lab handle the testing of cerebrospinal fluid (CSF) samples collected from patients with suspected cases of CSM in three states including Sokoto State. eHA constructed the lab, currently manages the facility and coordinates lab operations and sample transportation from health facilities across local government areas in the Sokoto metropolis. IFAIN provides the reagents, technical support and laboratory machines including the Bactec 9050 for blood culture, while the SMoH provides the manpower (Medical Lab Scientists and Technicians) and some testing kits.

Through the Sokoto Meningitis Laboratory, eHealth Africa contributes immensely to the rapid diagnosis and accurate management of of CSM through world-class laboratory investigations that isolate the causative organisms and determine antibiotic sensitivity. The results of these tests are then directly reported to the medical officers in order to direct the course of treatment. In addition, eHealth Africa sends routine reports to the Ministry of Health and the Nigerian Centre for Disease Control (NCDC). These reports enable the NCDC and the Ministry of Health to be better prepared to handle public health threats and to plan programs like vaccination drives and mass prevention campaigns.

The availability of a sound laboratory facility has restored Dr. Nuhu’s faith in the health system and its ability to deliver holistic, quality health services to his patients. The turn around time for cerebrospinal fluid and blood cultures is between 2 to 5 days, a far cry from what was previously obtainable.

*“Things have changed for the better since this lab was established. The state-of-the-art equipment and the professionalism exhibited by the staff put my mind at rest that I am getting the best possible medical diagnostic testing for my patients.”*

Since launch, the Sokoto Lab has tested 908 CSF and blood samples taken from patients with symptoms of Meningitis and over 219 have been confirmed positive for Meningitis. With quality diagnostic systems in place, Dr. Nuhu advocates for more awareness to be raised by the government so that people can come to the hospital for treatment immediately they observe symptoms; and increase their chances of survival.

Now more than ever, citizens of Sokoto, Kebbi and Zamfara states can be assured of quality and effective laboratory diagnosis before treatment according to laid down guidelines for the World Health Organization.