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EBOLA: A PUBLIC HEALTH NIGHTMARE IN WEST AFRICA, SIERRA LEONE'S CURRENT BATTLE

***BRIAN TEMPLE, M.D, M.S, FACP & **SULAIMAN G. CONTEH, M.B.Ch.B, M.Sc**

*Infectious Disease Physician, Green Bay (Wisconsin) USA; **Program Manager for Reproductive health/Family Planning program, Sierra Leone

Correspondence author: Btemplemd@gmail.com

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Introduction:

In an October 16th 2014 publication of the New England Journal of Medicine, a startling conclusion was made, “without drastic improvements in the control measures, the numbers of cases of and deaths from Ebola Virus Disease (EVD) are expected to continue increasing from hundreds to thousands per week... [1].

Such a statement conjures memories of the movie “Contagion” in which an airborne virus leads to pandemic, responsible for numerous deaths worldwide. The EVD outbreak in West Africa, declared a “global health emergency” by the World Health Organization (WHO) in August 2014 [1], has placed an unbearable stress on the vulnerable medical infrastructures of Sierra Leone, Liberia and Guinea [2].

The personification of such stress has been in the high mortality of those responsible for the

direct care of infected individuals. According to the latest WHO figures, 820 health-care workers have been infected with EVD of which 488 have died, in the three heavily affected countries [3]. In Sierra Leone, 12 physicians have lost their lives to EVD.

Understanding transmission dynamics of EVD and recognizing the earliest symptoms are keys to curbing disease transmission. A major hurdle is that EVD presents with non-specific symptoms, making it hard to differentiate from other more common regional diseases [4]. In regards to the high number of transmission in health-care workers, poor infection control infrastructure in non-Ebola Treatment Units (ETUs), lack of early recognition of symptom, non-identification of infected individuals, lack of beds in ETUs and cultural barriers have been identified as major proponents of disease transmission and targets for decreasing transmission [1, 4].

As of January 12, 2015 the Centers for Disease Control and Prevention (CDC) USA reported a

total of 21,171 cases with 13,397 having been confirmed by laboratory methods and 8,371 reported dead, in the three heavily effected countries (Figure 1). The largest number of suspected and confirmed cases (10,094 and 7766) has been reported from Sierra Leone [5].

Clinical Presentation and Transmission:

In a recent article published by Ansumana et al. fatigue, anorexia, fever, nausea/vomiting, muscle pain, joint pain and headache were the most common presenting symptoms at time of admission to their ETU in Sierra Leone [6]. These findings are similar to those reported by the WHO Ebola Response team's NEJM publication, from all three countries. They noted fever (87.1%) as the most common presenting symptom followed by fatigue (76.4%), anorexia (64.5%), vomiting (67.6%), diarrhea (65.6%) and headache (53.4%) [6]. Schieffelin et al also noted in Kenema, Sierra Leone, fever as the most common presenting symptom (89%) followed by headache, weakness and diarrhea [7]. Transmission of EVD occurs via direct contact to infected individuals or deceased person's bodily fluids or by contact with contaminated surfaces and materials [8].

A key element of identifying exposed and infected individuals (contact tracing/ case finding) as a measure of outbreak containment is that it allows for the separation of the unexposed. Allowing for observation of those suspected to have been in contact with an Ebola patient in the proper setting for 21 days and early initiation of a treatment protocol [1, 8].

Treatment in a proper ETU leads to improved outcomes, decreased transmission and decreases the risk to health-care providers. Safe burial methods, another important factor in controlling EVD transmission has also played a major role in disease control [1, 8].

Current Status and Conclusion:

Hope in the horizon is a reality. Like the fisherman lost in an unyielding storm, sees home. The Ebola crisis in Sierra Leone, Liberia and Guinea shows signs of relenting its unyielding choke hold on these countries. Ansumana et al. recently reported a decreased in case fatality from 47.7% to 31.7% within the same facility in Hasitngs in Sierra Leone. This is also a decrease from the 74% case fatality reported by Schieffelin et al. at the Kenema Government Hospital in Sierra Leone. Comparing new confirmed cases in Sierra Leone from the last 21 days and the last 7 days up to the 11th of January 2015, a rapid decline was noted (Figure 2) [9]. There has also been a fourfold decrease (426 to 108 cases) in the number of cases reported in the Western (urban and rural) areas in Sierra Leone, within the same period [9]. In Port Loko and Kono districts in Sierra Leone, significant decreases (3 fold and 5 fold) have also been reported with other major areas reporting zero new cases.

Although transmission of EVD is yet to be fully controlled and eradicated from the region, we must applaud the efforts of those who have sacrificed their lives and continue to put their lives at risk to control this pandemic. The projected thousands of weekly cases have been

quelled to a manageable number. Case identification, contact tracing, preventive and treatment measures, community involvement and proper burial procedures have proven to be effective public health tools in the control of EVD.

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Figure 1: 2014 Ebola outbreak in West Africa: Outbreak distribution map, showing the three heavily affected countries [5]: www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html

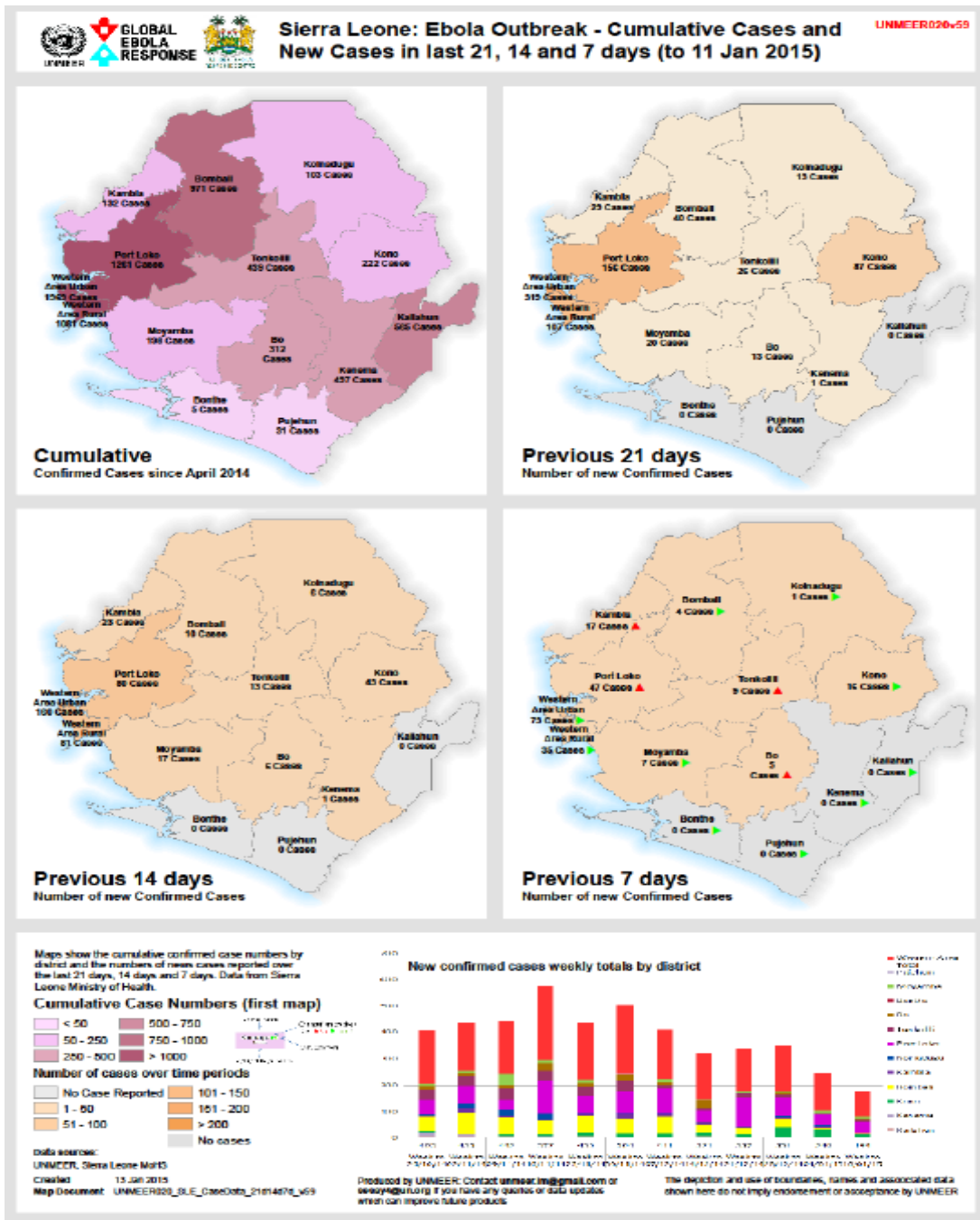


Figure 2: Sierra Leone: Ebola outbreak – cumulative cases and new cases in the last 21, 14 and 7 days (to 11 January 2015) [9]: http://nerc.sl/www/sites/default/files/UNMEER020_SLE_CaseData_21d14d7d_v59.pdf