RECENT POLIO OUTBREAKS AND MOVEMENT IN WAR CONFLICT ZONES

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Abstract: Poliomyelitis is a highly infectious disease caused by poliovirus. It invades the nervous system, and can cause total paralysis in a matter of hours. Worldwide polio cases are on the rise, especially in war conflict zones. For example, polio outbreak in Syria reached 25 cases and the first case was confirmed in Iraq. Due to conflict in the region, immunization rates have dramatically decreased. In this paper, the extent of polio outbreaks will be examined and modeled using several statistical methodologies. Data of polio cases and immunization will be collected for countries with recent polio cases such as Pakistan, Syria, Iraq and others. The data will be collected from several databases such as World health Organization (WHO), Centers for Diseases Control and prevention (CDC) and others. The recent virus origin and current movement will be mapped and modeled using several software, and the future outbreaks and virus movement will be modeled. Because of the risk of cross-border transmission, polio outbreak is expected to spread to several other countries especially among refugees’ camps. The WHO had confirmed 25 laboratory-confirmed cases in Syria, with another 13 confirmations pending. But it is expected that at least 110 children have clinical symptoms, and more than 1,000 children are carrying and spreading the virus causing serious concern worldwide. If this situation is not monitored and checked properly, it will pose a threat to children worldwide. Understanding the extent of the polio spread will help to determine control methods to prevent paralyses of thousands of children.

Keywords: Poliomyelitis, polio vaccination, war zones, GIS

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