The Impact of Using TVWS in The Field of Health in Countries in Conflict: The Case of Central African Republic

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Abstract—Since the rebellion of December 2012, Central African Republic government controls only 20% of the national territory. Most of health and telecommunications infrastructure are destroyed. Operators are not ready to reinvest; doctors are deserting these conflict zones. This has the consequence of increasing the mortality rate due to frequent diseases such as hypertension and diabetes.

This article proposes, on the hand, the use of free spaces in television broadcasting channels called television white space (TVWS) to allow the establishment of broadband Internet network and on the other hand e-health solution for remote patient monitoring that operates this high-speed network. This solution based on Internet of Things (IoT) allows caregivers to collect data on patient's blood pressure, blood glucose level, electrocardiogram and body temperature in conflict areas and transmit them to a specialist doctor in the capital Bangui for better interpretation and indication. In our study, the monitoring and the data collection of the patients based on Internet of Thing is required because it allows the doctor located in Bangui than nursing staff located in conflicts areas to remotely get access to the vital parameter of the patient in real time and support the processes of making a decision regarding the need of the patient. The Internet of Thing solution is more efficient and flexible for real time data transmission between the doctor and the patient than the data also that can be collected from the existed devices and send to the doctors in the remote sites.

This proposal contributes to the improvement of health services in countries in conflict and reduces mortality rates in areas not covered by conventional operators.

Keyword—TVWS, Broadband, IoT, e-health, Countries in conflict

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