

Project Title: The assessment of Real-Time Outbreak and Disease Surveillance system
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Executing Institute: Centers for Disease Control, R.O.C.(Taiwan)
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Abstract:

Real-time Outbreak and Disease Surveillance (RODS) collects and analyzes emergency department surveillance data in real time and has been in development since 1999 by the RODS Laboratory at the University of Pittsburgh. RODS had been implemented at Taiwan since 2004. In the beginning, data quality was not good. To improve its data quality, Taiwan CDC decided to redeploy the system in 2006. The upgraded version of the RODS was implemented in Nov. 2006. Currently, RODS receives data from more than 150 hospitals, and more than 12 thousand records each day. We aimed to evaluate the performance of the RODS system as a public health surveillance system. We focused on the evaluation of the data quality and representative of the RODS system and computing the correlation coefficients for the RODS and the Sentinel Surveillance system in influenza-like illness (ILI) and enterovirus infections. We found the correlation coefficients of the enterovirus and ILI data between RODS and Sentinel Surveillance system were 0.98 and 0.84 respectively. In early October, an outbreak of acute hemorrhagic conjunctivitis (AHC) was noted. We developed a syndrome group for monitoring the AHC epidemic immediately. Compared with the National Health Insurance data, the completeness of the data also increased from 0.61 to 0.86. In conclusion, the RODS system in Taiwan is evaluated to be useful for monitoring the epidemics of the ILI, enterovirus infections, and AHC. In the near future, the RODS system will become one of the productive surveillance systems at Taiwan CDC.

Keyword: Disease Outbreaks, Syndromic Surveillance, Automation, Sentinel Surveillance