



"THE CHALLENGE OF LEPTOSPIROSIS FOR GLOBAL HEALTH SECURITY"

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Background & Objective



Leptospirosis remains a public health problem in tropical countries, including Indonesia. In 2021, there were 734 cases of leptospirosis with 84 deaths (CFR 11.44%). Several regions experienced outbreaks, including Yogyakarta, Semarang, and Kendari. Surveillance plays a role in the rapid and accurate detection and reporting of leptospirosis outbreaks, but its implementation in some areas has not been optimal. The causes include suboptimal cross-sector coordination, ineffective mitigation, weak laboratory capacity, uneven distribution of facilities, limited health personnel, and low diagnostic budgets.

Method



This study utilised a literature review method by analysing official reports from the Ministry of Health and scientific publications indexed by Google Scholar and PubMed between 2020 and 2025.

Objective



To identify strategies for strengthening leptospirosis surveillance using digital and GPS-based systems to enhance early detection and global health security

Conclusion



The implementation of leptospirosis programmes in Indonesia has not been optimal. Therefore, adopting a digital technology-driven strategy is essential to enable real-time case monitoring, early detection, and prevent transmission, for strengthening public health protection and global health security

Results



Strengthening prevention and control strategies for leptospirosis through approach of surveillance involving cross-sectoral collaboration, increasing laboratory capacity through training of diagnostic facility distribution analysts, improving human resource qualifications, and integrated digital data. Leptospirosis surveillance has been implemented through an early warning system and sentinel surveillance, but it needs to be supported by multicentre research involving ongoing collaboration, the application of spatial data-based environmental early warning systems, the strengthening of mandatory national reporting through environmental programmes and public education using an Android-based integrated information system-GPS with National Identification Number as indicators, map the case location and store them on a server.

REFERENCE

