Approaches to the Surveillance of Foodborne Disease: A Review of the Evidence

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Abstract

Foodborne disease surveillance aims to reduce the burden of illness due to contaminated food. There are several different types of surveillance systems, including event-based surveillance, indicator-based surveillance, and integrated food chain surveillance. These approaches are not mutually exclusive, have overlapping data sources, require distinct capacities and resources, and can be considered a hierarchy, with each level being more complex and resulting in a greater ability to detect and control foodborne disease. Event-based surveillance is generally the least resource-intensive system and makes use of informal data sources. Indicator-based surveillance is seen as traditional notifiable disease surveillance and consists of routinely collected data. Integrated food chain surveillance is viewed as the optimal practice for conducting continuous risk analysis for foodborne diseases, but also requires significant ongoing resources and greater multisectoral collaboration compared to the other systems. Each country must determine the most appropriate structure for their surveillance system for foodborne diseases based on their available resources. This review explores the evidence on the principles, minimum capabilities, and minimum requirements of each type of surveillance and discusses examples from a range of countries. This review forms the evidence base for the Strengthening the Surveillance and Response for Foodborne Diseases: A Practical Manual.

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