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ISDS INTERNATIONAL SOCIETY FOR DISEASE SURVEILLANCE

Using a One Health Approach to Build an Integrated Surveillance Data System

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Objective

Integrate and streamline the collection and analysis of environmental, veterinary, and vector zoonotic data using a One Health approach to data system development.

Introduction

Environmental Public Health Zoonotic Disease surveillance includes veternary, environmental, and vector data. Surveillance systems within each sector may appear disparate from each other, although they are actually complimentaly and closely allied. Consolidating and integrating data in to one application can be challenging, but there are commonalities shared by all. The goal of the One Health Integrated Data System is to standardize data collection, streamline data entry, and integrate these sectors in to one application.

Methods

Data Assessment. An assessment of each surveillance function was carried out to evaluate data types and needs.

Identify Commonalities. Common data was identified across each of the surveillance areas.

Identify Unique Data. Data unique to specific surveillance efforts was identified.

Build Data Structure. A back-end data structure was developed that reflected the data needs from each surveillance area.

Build Data Entry Interfaces. Data entry interfaces were developed to meet the needs of each surveillance area.

Build Data QC. Procedures were developed that run several quality control checks on the data.

Build Data Eports. To allow users to carry out more extensive analysis of data, customized data exports were built.

Results

This data integration project resulted in:

- Reduced time spent entering and managing data
- Improved data entry error rates
- Increased visibility through automated program metrics
- Improved access to data from data users

Conclusions

Integrating data and building a data system that reflects the diversity of environmental, veterinary, and vector surveillance data is doable using off-the-shelf database tools.

The process of integrating data and building the data structure results in a more intimate understanding of the data revealing opportunities for improving data quality.

Keywords

One Health; surveillance data; informatics; Database

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