International Influenza A Virus Zoonoses Surveillance

Global Influenza Branch | Situation Awareness Modeling

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**System for Outbreak Response, Coordination, and Surveillance (SOURCE) DCIPHER Pilot: NCIRD Influenza Division (ID) International Influenza A Zoonoses Surveillance Project Plan**

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# Summary

The goal of this engagement is to improve the capabilities within the National Center for Immunization and Respiratory Diseases (NCIRD) at CDC for surveillance of international reports of influenza A virus in animals.

**Current State**

Currently, NCIRD’s Influenza Division (ID) receives individual access individual reports of influenza A virus mainly, avian virus in animals from the World Organization for Animal Health (WOAH), World Health Information System (WAIS). ID then manually extracts animal information from the report and enters it into a virus-specific Excel spreadsheet. ID also uses complex, multi-step R-code to auto generate parts of a weekly report that are combined with some manual report building.

Subsequently, the Excel spreadsheets and R-code are used to create a weekly report containing two key artifacts:

1. Tables describing the weekly and all-time counts, dates of reports and animal type affected of each influenza virus pathogenicity and sub-type stratified by country.
2. A bullet-pointed summary describing the number of outbreaks, pathogenicity, subtype, animal type, country and assigned event\_id for all outbreaks that occurred that week.

The weekly report is then shared with ID stakeholders, including leadership. Map visualizations are generated each week based on region where outbreaks occurred using the R-code.

# Outcomes

The major outcomes for the project are the following:

1. **Ingest** data related to future influenza A virus reports in animals from (in order of preference): 1) WAHIS web portal; 2) Mass data excel file supplied by WOAH; 3) Manual data entry module created in SOURCE (see “Conditions”, below).
2. **Develop** interactive module in SOURCE to facilitate the review and approval of international reports of influenza A virus in animals by ID international flu surveillance team.
3. **Collate** approvedreports ofinternational influenza A virus in animals into a comprehensive database of record.
4. **Generate** weekly reports and visualizations automatically to facilitate sharing of information with ID stakeholders and leadership.

# Key Stakeholders

The following section outlines the key stakeholders who will be involved in the ideation, configuration, and dissemination of the Line of Effort (LOE).

## LOE Team Membership

The LOE Team is composed of the following roles.

* ID International Animal Flu POC
  + Christine Szablewski
* DCIPHER Team Points of Contact (Affiliation):
  + Stephen Soroka (FTE)
  + Jonathan Lehnert (Booz Allen)
  + Dina Rudelson (Palantir Technologies)

# User Groups

The following section identifies user groups for the work to be done in the pilot effort:

* **User Group 1: International Flu Epidemiologists**
  + Describe user group: These are the epidemiologists who are responsible for collating, managing, and reporting on international influenza A virus surveillance data.
  + Define any blanket permission rules for the user group: These users can see all data and have the ability to approve international reports for inclusion in database of record.
* **User Group 2: International Flu Stakeholders**
  + Describe user group: These individuals are the current recipients and consumers of the weekly animal influenza surveillance report.
  + Define any blanket permission rules for the user group: These users are only able to view reports and visualizations generated off of approved international animal influenza reports.

# Data Sources

This section describes data source, types, and connection mechanisms.

|  |  |  |
| --- | --- | --- |
| **Data Source** | **Data Description** | **Data Connection?** |
| World Animal Health Influenza Reports | Reports of influenza A virus in animals submitted to the WAHIS by World Organization for Animal Health member states. | In order of preference:   1. System connection to WAHIS 2. Data extraction from sharepoint file 3. Manual Entry |

# Intended Workflows

The following section details the intended workflows (e.g. “Submitting and augmenting case information”, “Manage and investigate new clusters”, etc.) for the LOE.

|  |  |  |  |
| --- | --- | --- | --- |
| **Workflow Description** | **User Group(s)** | **Summary of Data Sources & Integration Required** | **Summary of Platform Configuration Required** |
| Data extraction from animal disease report sharepoint document | International Flu Epidemiologists | Automated extractions from excel sharepoint document | Requires development of a mechanism to extract pertinent information from large excel sharepoint (that contains all reports of all animal disease from all time). |
| View and Approve/Reject international animal influenza reports for inclusion into dataset of record (DoR) | International Flu Epidemiologists | International Flu Reports from sharepoint excel extraction | Workshop module showing complete line list of reports received and current status; Ability to filter line list of reports based on specified criteria; Ability update status of a report and store status of a report with the record downstream |
| Visualize aggregated case numbers. | International Flu Epidemiologists; International Flu Stakeholders | Approved International Flu Reports | Workshop module showing visualizations of interest, including ability to filter based on influenza virus subtype or other variables of interest |
| Generate summary table and updates sentences of international influenza A virus reports in animal for inclusion in a PDF and emailing to interested stakeholders | International Flu Epidemiologists | Approved International Flu Reports | Parameterized Report or Notepad |

# Conditions

* International Animal Influenza reports are currently shared via PDFs with relevant information contained in structured sentences and summary table. Ideally, a systematic way of ingesting this information will be identified. In the event that it is not, the SOURCE team, in consultation with the program, will need to determine a way to parse this information. As a last resort, a module to facilitate the manual entry of data into the platform will be created.

# Timeline

* Kickoff meeting January 4, 2023
* Project Timeline: March 1, 2023 – September 1, 2023
* Monthly meetings 3rd Wednesday of every month (build status check in)