RSV data upload process in FLUMART

Global Influenza Programme (GIP), Geneva

World Health Organization
Overview

- RSV data sheet preparation for upload process
- User registration in FLUMART
- Data upload process
- Configurations and validation process
  - Data validation or cleaning process
- Errors and challenges
RSV data preparation

- The RSV datasheet (excel sheet) can be created either
  a) in the provided data template (given datasheet)
  b) or in own existing data structure, data dictionary or data format
     (if this option is chosen, country should ensure
     all the variables in the database similar to the template
     variables;
     an electronic sample copy of database and data dictionary must
     be shared with WHO so that configuration can be developed for
     extract, transform and load the data into the system.
RSV data preparation

- Create a record for a new patient ID as soon as the specimen is received by the laboratory.

- Update laboratory, clinical and other information as and when it becomes available.

- In case of an information update for a patient record previously submitted, search for the patient ID and update the new information in the appropriate field. Do not create a new record for the same illness episode of a patient.

- The patient identity should be unique and non-repeated i.e., the entire database will be based on this patient ID.
RSV data preparation

- Leave the field blank if information is not known
- Update laboratory, clinical and other information as and when it becomes available
- Ensure that all information is filled or updated as and when it becomes available
- If the entire field is no more in use, the entire field can be hidden or removed when uploading data
RSV data preparation

- Report laboratory related data on a weekly basis
- Update clinical and other information as and when it becomes available
- Submit the whole data base (new records + old records) along with the information update of any previous records on a weekly basis (every Thursday)

When updating old records the patient id and sentinel id should be identical with it's previous ids
User registration

<table>
<thead>
<tr>
<th>Email accounts</th>
<th>Domains</th>
<th>FLUMART access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wims</td>
<td>WHO</td>
<td>Yes (Ads registration not required)</td>
</tr>
<tr>
<td>Gmail</td>
<td>Google</td>
<td>Yes (Ads registration not required)</td>
</tr>
<tr>
<td>Yahoo</td>
<td>Yahoo</td>
<td>Yes (Ads registration not required)</td>
</tr>
<tr>
<td>Ads</td>
<td>All other domains</td>
<td>Yes (Ads registration required and mandatory)</td>
</tr>
</tbody>
</table>

All email addresses can be sent in flumart@who.int for the registration
WHO FLUMART
all global influenza data components in one system

Data visualization applications
OUTPUTS
Analysis, tables
Charts, Reports

RSV data in FLUMART | January 2018

World Health Organization
Data Upload Process

https://extranet.who.int/flumart
Data Upload Process
Data Upload Process

Sign in

bkrm_2@yahoo.com

Next

Hello bkrm_2@yahoo.com
Not you?

I forgot my password
Data Upload Process

Welcome to FLUMART (TEST) 3.0

FLUMART (TEST) is a data warehousing tool to facilitate data exchange, harmonization, consolidation and storage of health data. It provides a basis for the reporting needs of this organization.

For more information about FLUMART (TEST), please visit this site.

Go directly to Data Load

Click on any of the origins to load data directly.

Code Tables

RSV: RSV_DEMO
Data Upload Process

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Code Tables

RSV.RSV_DEMO

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Data Upload Process

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Click on any of the origins to load data directly.

Code Tables
RSV.RSV DEMO
Data Upload Process

Origin RSV_DEMO (RSV_DEMO)

Choose a file in the list below or browse for a file to upload.

File | File (click to open) | File Size | Date Modified | Action
No data to display
Data Upload Process

Origin RSV_DEMO (RSV_DEMO)

Load Now | History

Choose a file in the list below or browse for a file to upload.

Upload Code Table Data File

<table>
<thead>
<tr>
<th>File</th>
<th>File (click to open)</th>
<th>File Size</th>
<th>Date Modified</th>
<th>Action</th>
</tr>
</thead>
</table>

No data to display

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Data Upload Process
Data Upload Process

[Image: Data Upload Process in FLUMART software]

- Select the Data Upload process.
- Navigate to the Desktop folder.
- Open the RSV_DataTemplate Excel worksheet.

[FLUMART (TEST) 3.0 by World Health Organization]

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Data Upload Process

Choose a file in the list below or browse for a file.

File | File (click to open) | File Size | Date M

No data to display

Upload Data File

Upload Code Table Data File

Allowed file extensions: .xlsx
Maximum file size: 20MB
Data Upload Process
## Data Upload Process

### Upload result

#### Data Upload Process Details

**Total Origin Values**: 135

- **Total Loaded**: 0
- **Total Not Loaded**: 135

### Step by Step Details

#### Successful uploading

- **Step 78**: 2017-12-08 11:15:55 AM
  - **Status**: Finished full materialization of USER.Materialize_T_RSV_Full.

- **Step 77**: 2017-12-08 11:15:55 AM
  - **Status**: Finished full materialization of USER.Materialize_T_RSV_Full.

- **Step 76**: 2017-12-08 11:15:55 AM
  - **Status**: Exit PostToCore Dynamic Activity Loader

- **Step 75**: 2017-12-08 11:15:55 AM
  - **Status**: Exit PostToCore Dynamic Activity Loader

- **Step 74**: 2017-12-08 11:15:55 AM
  - **Status**: No_RSV_THA_workflow_PostToCore.config file found in ETL folder (okay).

#### Unsuccessful uploading

- **Step 73**: 2017-12-08 9:48:20 AM
  - **Status**: The workflow was aborted.

- **Step 72**: 2017-12-08 9:48:20 AM
  - **Status**: Conversion failed when converting the varchar value 'InputError' to data type int.

- **Step 71**: 2017-12-08 9:48:20 AM
  - **Status**: Beginning full materialization of USER.Materialize_T_RSV_Full (EXEC rsv:USER.Materialize_T_RSV_Full)

- **Step 70**: 2017-12-08 9:47:11 AM
  - **Status**: Beginning full materialization of rsv_T_VIEW_DIM_RSV (exec rsv:USER.Materialize_T_VIEW_DIM_RSV_Full).

- **Step 69**: 2017-12-08 9:47:11 AM
  - **Status**: Enter CUSTOM_PostStgnToCoreActions
Data Upload Process
(Upload result)
Configuration and validation process

- Datasheet configuration and mapping the fields
- Validation process
- Error logs
**Configuration and validation process**

Datasheet configuration: File format, datasheet name and data starting row

- **Origin Type:** EXCEL2007
- **Name of worksheet or named range:** Data
- **Starting row of the data (1-based):** 2

Datasheet file format
Datasheet name
Data starting row

Starting row of the data, where the first row in Excel is row 1 and not always appear on the same line, enter “2” and use the
Configuration and validation process

Mapping the field (column) names with the RSV dataset

<table>
<thead>
<tr>
<th>Mapping field name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country name</td>
</tr>
<tr>
<td>Sentinel site code</td>
</tr>
<tr>
<td>Patient ID</td>
</tr>
<tr>
<td>Patient’s age in completed years if age 2 years and above</td>
</tr>
<tr>
<td>Patient’s age (in completed months) if less than 2 years</td>
</tr>
<tr>
<td>Patient’s birth date</td>
</tr>
<tr>
<td>Patient’s sex</td>
</tr>
<tr>
<td>Date of onset of symptoms</td>
</tr>
<tr>
<td>Date of specimen collection</td>
</tr>
<tr>
<td>Patient required hospitalization</td>
</tr>
<tr>
<td>Symptom onset within last 10 days</td>
</tr>
<tr>
<td>History of cough</td>
</tr>
<tr>
<td>History of shortness of breath</td>
</tr>
<tr>
<td>Measured fever</td>
</tr>
<tr>
<td>History of fever</td>
</tr>
<tr>
<td>Wheezing</td>
</tr>
<tr>
<td>Sorethroat</td>
</tr>
<tr>
<td>Cold</td>
</tr>
<tr>
<td>Chest indrawing</td>
</tr>
</tbody>
</table>

Data field names from which data uploaded into the RSV-FLUMART
## Data validation or cleaning process

### Demo datasheet from a country Demo

<table>
<thead>
<tr>
<th>Country name</th>
<th>Sentinel site code</th>
<th>Patient ID</th>
<th>Patient’s sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>12345678</td>
<td>M</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>87654321</td>
<td>F</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td></td>
</tr>
</tbody>
</table>
## Data validation or cleaning process

### Demo datasheet from a country Demo

<table>
<thead>
<tr>
<th>Country name</th>
<th>Sentinel site code</th>
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<th>Patient’s sex</th>
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<td>Demo</td>
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<td>Demo</td>
<td>Demo</td>
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<td>F</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td></td>
</tr>
</tbody>
</table>

### Validation code

```
if Patient’s sex = ‘M’ then
    Patient’s sex = ‘Male’
else if Patient’s sex = ‘F’ then
    Patient’s sex = ‘Female’
else
    ‘input error’
```
Data validation or cleaning process

Demo datasheet from a country Demo

<table>
<thead>
<tr>
<th>Country name</th>
<th>Sentinel site code</th>
<th>Patient ID</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>12345678</td>
<td>M</td>
</tr>
<tr>
<td>Demo</td>
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<td>F</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td></td>
</tr>
</tbody>
</table>

Validation code

if Patient’s sex = ‘M’ then
Patient’s sex = ‘Male’
if Patient’s sex = ‘F’ then
Patient’s sex = ‘Female’
else ‘input error’

Validated data

Uploaded data from a country Demo

<table>
<thead>
<tr>
<th>Country name</th>
<th>Sentinel site code</th>
<th>Patient ID</th>
<th>Patient’s sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>12345678</td>
<td>Male</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>87654321</td>
<td>Female</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td>Input error</td>
</tr>
</tbody>
</table>
# Data validation or cleaning process

## Demo datasheet from a country Demo

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<th>Patient's sex</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Demo</td>
<td>12345678</td>
<td>M</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>87654321</td>
<td>F</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
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<th>Sentinel site code</th>
<th>Patient ID</th>
<th>Patient's sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>12345678</td>
<td>Male</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>87654321</td>
<td>Female</td>
</tr>
<tr>
<td>Demo</td>
<td>Demo</td>
<td>76543211</td>
<td>Input error</td>
</tr>
</tbody>
</table>
Errors and challenges
## Errors and challenges

In column 'specimen_type', the value 'THROATSWAB+NASOPHARYNGEALSWAB' is not recognized and could not be validated.

In column 'specimen_type', the value 'Secretion' is not recognized and could not be validated.

In column 'specimen_type', the value 'Suction' is not recognized and could not be validated.

In column 'specimen_type', the value 'Tracheal secretion' is not recognized and could not be validated.

In column 'specimen_type', the value 'Tracheal suction' is not recognized and could not be validated.

In column 'specimen_type', the value 'THROATSWAB+NASOPHARYNGEALSWAB' is not recognized and could not be validated.

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Errors and challenges

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In column 'specimen_type', the value 'Tracheal suction' is not recognized and could not be validated.

In column 'specimen_type', the value 'THROATSWAB+NASOPHARYNGEALSWAB' is not recognized and could not be validated.

In column 'specimen_type', the value 'Secretion' is not recognized and could not be validated.

<table>
<thead>
<tr>
<th>Age in year</th>
<th>Age in month</th>
<th>PT SEX</th>
<th>Specimen types</th>
<th>Yes/No/NA</th>
<th>Respiratory</th>
<th>Flu type</th>
<th>RSV result</th>
<th>RSV type</th>
<th>FLU result</th>
<th>RSV rnp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Male</td>
<td>Nasal Throat Swab</td>
<td>Yes</td>
<td>4</td>
<td>Influenza_AH1N1_pdm</td>
<td>RSV Positive</td>
<td>RSV_A</td>
<td>Influenza Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Female</td>
<td>Nasopharyngeal Aspirate</td>
<td>No</td>
<td>5</td>
<td>Influenza_AH3N2</td>
<td>RSV Negative</td>
<td>RSV_B</td>
<td>Influenza Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td></td>
<td>Tracheal Aspirate</td>
<td>NA</td>
<td></td>
<td>Influenza B</td>
<td>Sample Not Tested</td>
<td>NA</td>
<td>Not Tested For Influenza</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Spumt</td>
<td>NA</td>
<td></td>
<td>Not Tested</td>
<td>Inadequate Sample</td>
<td>NA</td>
<td>Not Typed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BronchoAlveolar Lavage</td>
<td>UNKNOWN</td>
<td></td>
<td>NA</td>
<td>Sample Rejected</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not Available</td>
<td>NA</td>
<td></td>
<td>HIV EXPOSED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>129</td>
<td></td>
<td></td>
<td>Nasopharyngeal Swab</td>
<td></td>
<td></td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>23</td>
<td></td>
<td>Throat Swab</td>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Errors and challenges

In column 'specimen_type', the value 'THROATSWAB+NASOPHARYNGEALSWAB' is not recognized and could not be validated.

In column 'specimen_type', the value 'Secretion' is not recognized and could not be validated.

In column 'specimen_type', the value 'Suction' is not recognized and could not be validated.

In column 'specimen_type', the value 'Tracheal secretion' is not recognized and could not be validated.

In column 'specimen_type', the value 'Tracheal suction' is not recognized and could not be validated.

In column 'specimen_type', the value 'THROATSWAB+NASOPHARYNGEALSWAB' is not recognized and could not be validated.

In column 'specimen_type', the value 'Secretion' is not recognized and could not be validated.

### Table: Specimen Types

<table>
<thead>
<tr>
<th>Age in year</th>
<th>Age in month</th>
<th>PT_SEX</th>
<th>Specimen types</th>
<th>Yes/No/NA</th>
<th>Respiratory</th>
<th>Flu type</th>
<th>RSV result</th>
<th>RSV type</th>
<th>FLU result</th>
<th>RSV rnp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Male</td>
<td>Nasal_ThroatSwab</td>
<td>Yes</td>
<td>4</td>
<td>Influenza_AH1N1_pdm</td>
<td>RSVPositive</td>
<td>RSV_A</td>
<td>InfluenzaPositive</td>
<td>Positive</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Female</td>
<td>NasopharyngealAspirate</td>
<td>No</td>
<td>5</td>
<td>Influenza_AH3N2</td>
<td>RSVNegative</td>
<td>RSV_B</td>
<td>InfluenzaNegative</td>
<td>Negative</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td></td>
<td>TrachealAspirate</td>
<td>NotAvailable</td>
<td>5</td>
<td>Influenza_B</td>
<td>SampleNotTested</td>
<td>NA</td>
<td>NotTestedForInfluenza</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sputum</td>
<td>NA</td>
<td>5</td>
<td>Influenza_B</td>
<td>SampleNotTested</td>
<td>NA</td>
<td>NotTestedForInfluenza</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BronchoAlveolarLavage</td>
<td>UNKNOWN</td>
<td>99</td>
<td>HIV_EXPOSED</td>
<td>SampleRejected</td>
<td>NotTyped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>129</td>
<td></td>
<td></td>
<td>NasopharyngealSwab</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>23</td>
<td></td>
<td>ThroatSwab</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ThroatSwab_NasopharyngealSwab</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rule:**

if ThroatSwab+NasopharyngealSwab then ThroatSwab_NasopharyngealSwab
## Errors and challenges

<table>
<thead>
<tr>
<th>Age in year</th>
<th>Age in month</th>
<th>Gender</th>
<th>Specimen types</th>
<th>Yes/No/NA</th>
<th>Respiratory rate</th>
<th>Flu type</th>
<th>RSV result</th>
<th>RSV type</th>
<th>FLU result</th>
<th>RSV rnp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Male</td>
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<td>Yes</td>
<td>4</td>
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<td>2</td>
<td>1</td>
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<td>No</td>
<td>5</td>
<td>Influenza_AH3N2</td>
<td>RSVNegative</td>
<td>RSV_B</td>
<td>InfluenzaNegative</td>
<td>Negative</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td></td>
<td>TrachealAspirate</td>
<td>NotAvailable</td>
<td></td>
<td>Influenza_B</td>
<td>SampleNotTested</td>
<td>NA</td>
<td>NotTestedForInfluenza</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sputum</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>NotAvailable</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td>ThroatSwab</td>
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RSV Data Uploading Demo

https://extranet.who.int/flumart
Thank you