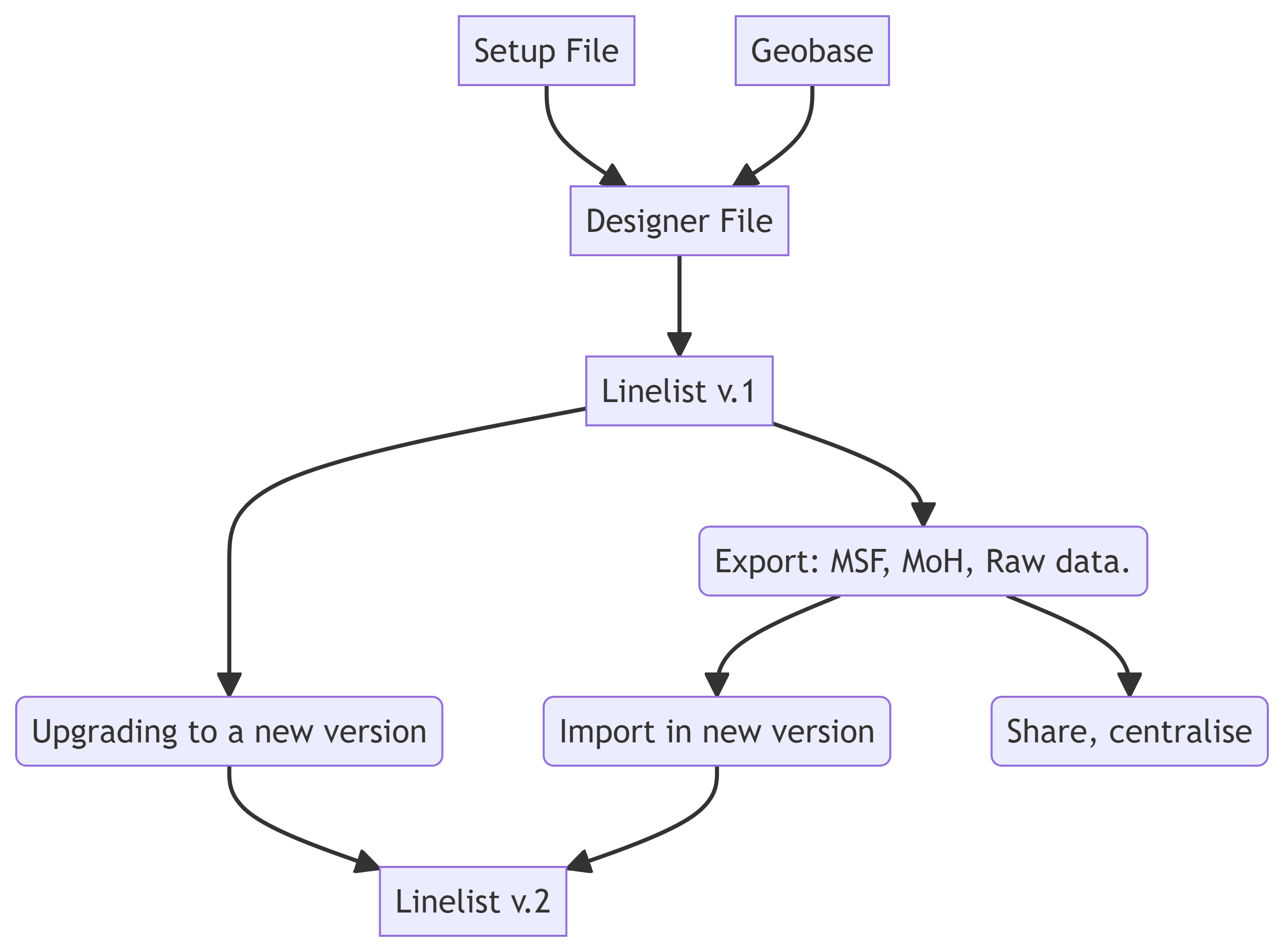
Show case of outbreak-tools usage

## Introduction

Outbreak-tools is a set of tools to facilitate the creation of linelists in Excel. Among other things, these tools allow you to automate:

* Adding variables (whether drop-down lists, integer or decimal values, or even Excel formulas) and format them.
* Translating a linelist from one language to another,
* Adding analyses to the linelist in tabular form (univariate, bivariate, temporal, spatial),
* Adding graphs to the linelist,
* Import/export the entire linelist or selected variables into specific formats.
* Managing geographic data in the linelist.
* Migration of the linelist as options/variables are added or removed.



The linelist is designed in a configuration file called *setup*. This *setup* file is then loaded into another file that designs the linelist called *designer*. The designer creates the linelist, based on the configurations of the *setup*. The linelist creation procedure is a 3-step process:

1- Define your needs in the setup file: The configuration of the file is inspired from Kobo’s XLS forms. No in-depth knowledge of Excel is required. A setup file is defined by disease, and can be used to create linelists in several languages.

2- Download geographic data for the targeted area: There is [an application](https://reports.msf.net/secure/app/outbreak-tools-geoapp) available online to download geographic data for the region of interest. It is updated as new geographical information becomes available.

3- Generate the linelist by specifying the options in the designer.

# Exercises

This series of 3 exercises explores the possibilities mentioned above, using a measles setup file. The folders contain all the materials needed to perform the exercises.

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|  | **Activate macros before exercises**  If you’re going to run the designer to build a linelist, you’ll need to enable VBA macros in Excel, as well as access to the VBA object model:  1- Display the *Developer* tab in Excel.  2- In the *Developer* tab, click on *Macro security*. Check the options as shown in the following image:   |  | | --- | |  | |

## Exercise 1: Exploration.

* Open the file linelist\_measles\_en\_ex1.xlsb. The file password is 1234.
* Browse the linelist sheets.
* Fill in geographical data using the geo-Helper. Select the data you want.
* Explore univariate, bivariate and temporal analyses. Recompute the same analyses by filtering on people under 2 years of age.
* Export the filtered data with the anonymous export for MSF.

## Exercise 2: Modifying the setup file

* Open the setup file setup\_measles\_base\_ex2.xlsb. We want to add the following variables:
  + In the *Admission* section, just before the *hospitalization* sub-section:
    - muac (MUAC) which takes three values: “Green (125+mm)”, “Yellow (115-124mm)”, “Red (< 115mm)”
  + In the *Vaccination* section, just after *Vaccination against measles*:
    - vacci\_measles\_doses (Number of doses received) which is a numeric variable.
    - Add a validation to this variable to make sure it’s between 0 and 4.
* Translate the added labels into French
* Check the setup for errors.

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|  | *You should normally have a configuration file identical to setup\_measles\_exercise\_two.xlsb. You can also start from this file if you like.* |

* Regenerate a new linelist with the designer named linelist\_measles\_en\_ex2 in the demo folder, making sure you’ve selected English as the language. You’ll use the file geobase-cod-2023-03-13\_20230612.xlsb as your geobase.
* Import the data import\_linelist\_en.xlsb into the linelist. Look at the data that has not been imported and browse the data in the generated linelist.

## Exercise 3: Analysis

We’ve decided to add some analyses to the outcome file.

* Open the setup setup\_measles\_base\_ex3.xlsb.
* In the analyses sheet, add a univariate table showing the number of patients by type of discharge. Add percentages and a graph for this table.
* In the analyses sheet, add a temporal table showing the evolution of discharge types by notification date. Add a percentage option in row, and do not add a total.
* In the analysis sheet, add a graph of output types. In graph specifications, represent the number of deaths per notification date, in bars.
* Translate all labels into French
* Check the setup for errors.

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|  | *You should get a configuration file identical to setup\_measles\_exercise\_three.xlsb. You can also start from this file if you like.* |

* Regenerate a new linelist with the designer called linelist\_measles\_en\_ex3 in the demo folder, making sure you’ve selected English as the language.
* Import the data import\_linelist\_en.xlsb into the linelist. Browse the generated linelist data.
* Print the Patient linelist sheet.