

Show case of outbreak-tools usage

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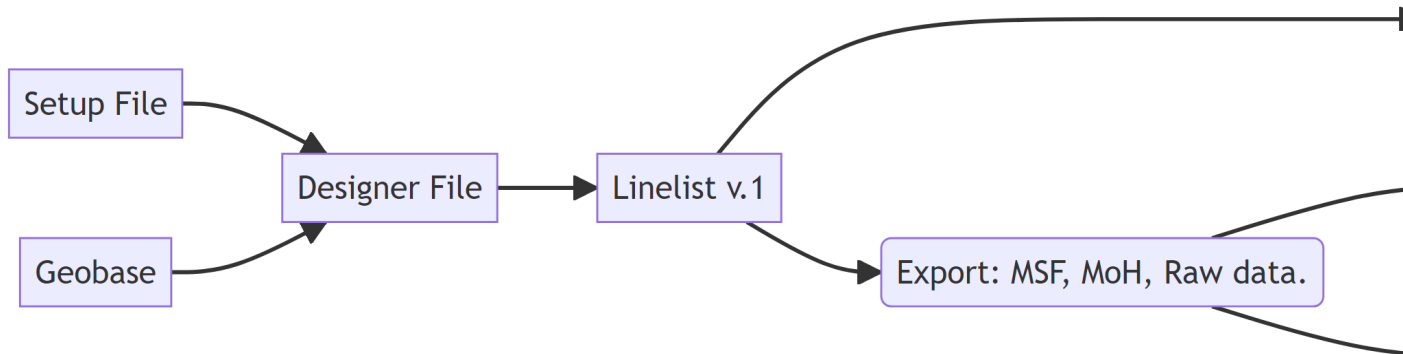
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Introduction

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 create linelists in several languages.
- 2- Download geographic data for the targeted area: There is [an application](#) 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.

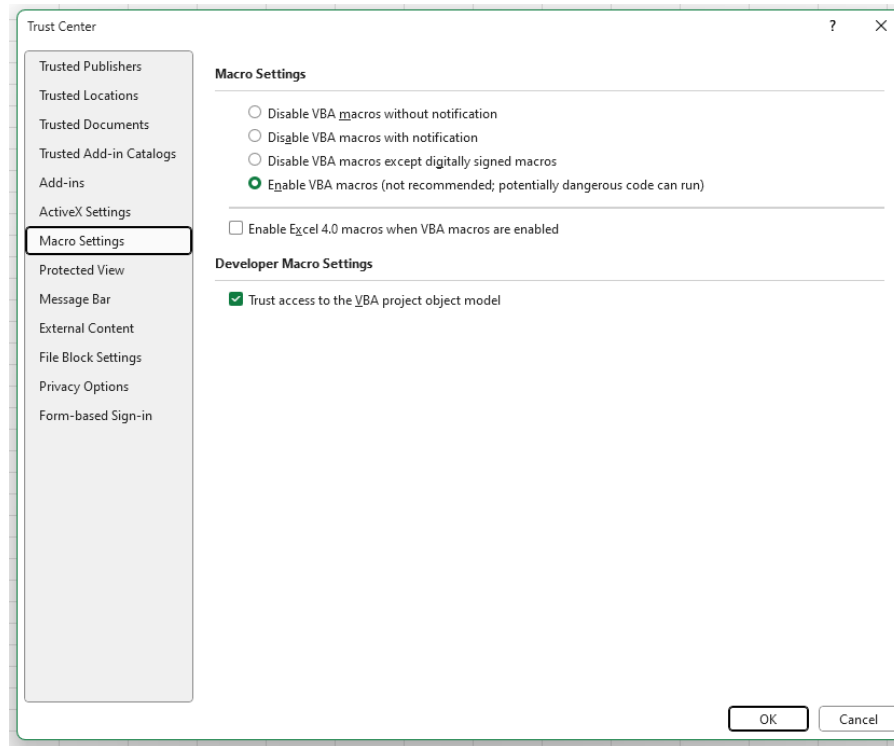
Exercises

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.

! 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.xlsx`. 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.xlsx`. 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 controls 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.

i Note

*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 rows, 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.

i Note

*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.