

ECDC HIV Estimates Accuracy Tool User Manual

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1. Introduction



1.1. Missing values

a) data missing completely at random MCAR

b) data missing at random (MAR)

c) data missing not at random (MNAR)

monotone missingness pattern

multiple imputations (MI)

Rubin's rules

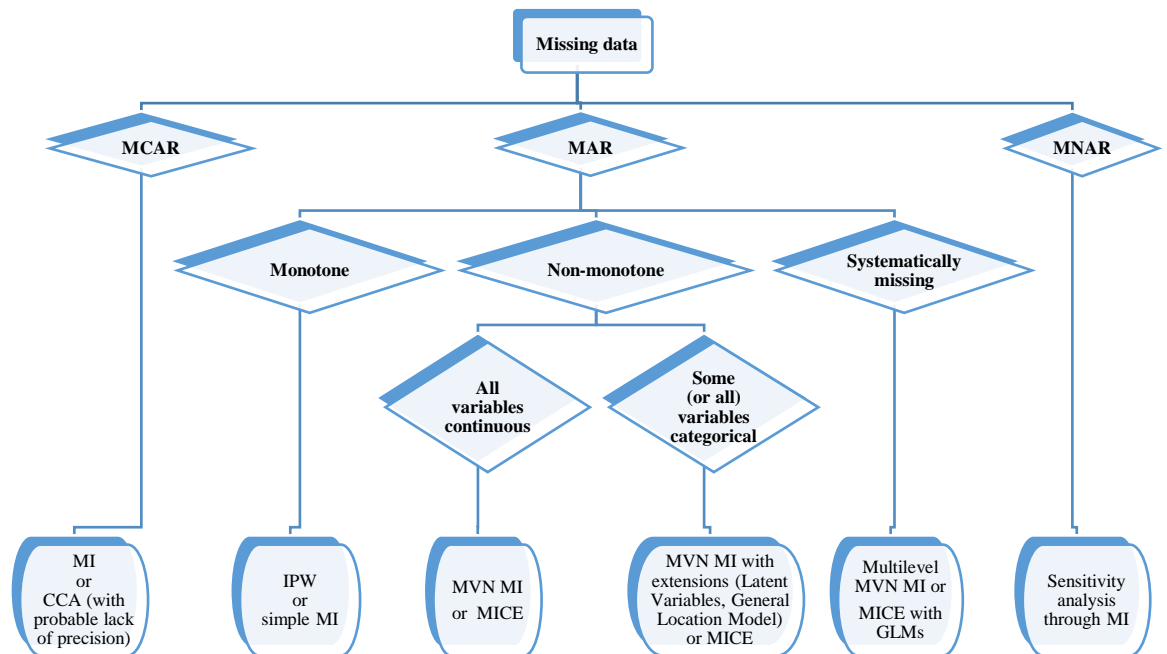
an imputation model

The multivariate normal imputation

full conditional specification method (MI by
chained equations, MICE)

multilevel multiple imputation

Figure 1. Appropriate methods to deal with missing data depending on the characteristics of the missing data

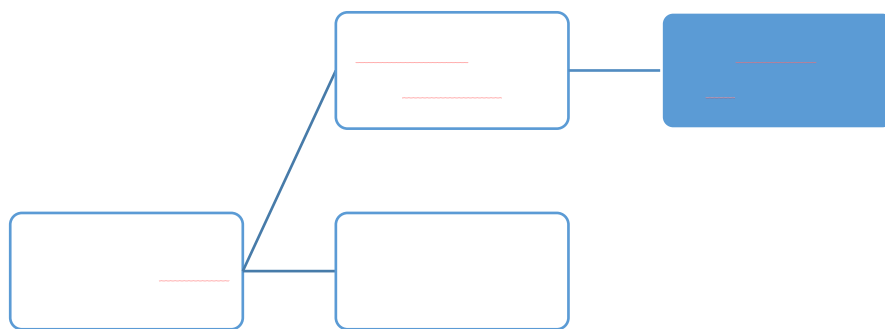


Acceptable levels of missingness

1.2.

batch reporting

Figure 2. Appropriate methods to deal with reporting delays



2. Methods used in the HIV Estimates Accuracy Tool

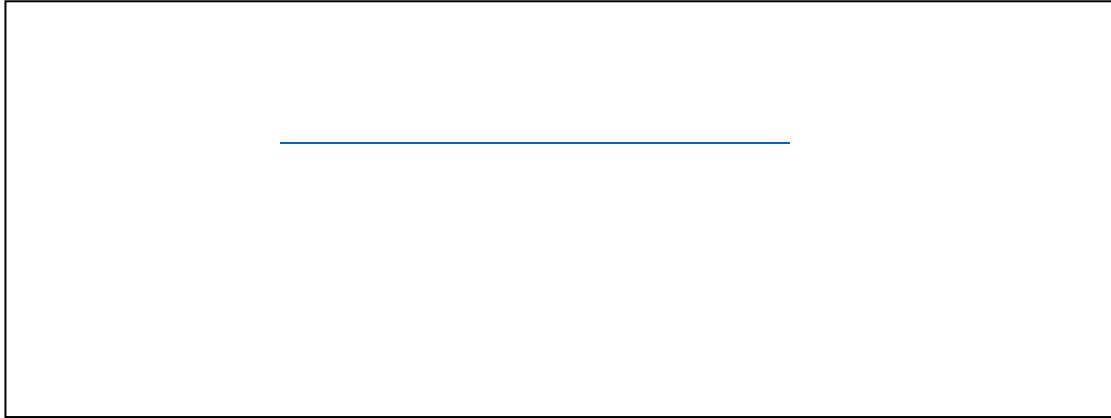
2.1. Methods used for missing data

gender (single imputation

imputation model

cubic spline

burn-in



2.2. Selecting appropriate MI method and parameter values

The number of imputed datasets

The number of burn-in iterations

The number of iteration between the subsequent imputations

2.3. Methods used for reporting delay

time transform

reverse

3. Data preparation

[illegible]

			\geq
			\geq
			\geq

4. Installation and technical details

4.1. Prerequisites

4.2. Installations

```
deployUrl <- "http://nextpagesoft.net/hiv-estimates-accuracy/HIVEstAccur\_deployment\_script.R"  
eval(parse(file = base::url(deployUrl)))
```



Input data upload

Input data summary

Adjustments

Reports

Outputs

The ECDC HIV Estimates Accuracy Tool is an application that uses advanced statistical methods to correct for missing values in key HIV surveillance variables as well as for reporting delay.

The tool accepts case based HIV surveillance data prepared in a specific format.

The outputs include results from pre-defined analyses in the form of a report containing tables and graphs, and datasets, in which the adjustments have been incorporated and which may be exported for further analysis.

Input data

File input:

Browse...

No file selected

Maximum file size: 70MB
Supported files types: txt, csv, xls, xlsx (uncompressed and zip archives)

4.3. Update

4.4. Support

For technical support and reporting problems please contact [.....](#)

5. Using the tool

hivEstimatesAccuracy::RunApp()

-
-
-
-
-

5.1. Data upload

The screenshot shows the 'HIV Estimates Accuracy' tool interface. The left sidebar contains a menu with 'Input data upload' selected. The main content area has a header with the ECDC logo and title. Below the header, there is a section titled 'Input data' with a 'File input:' label and a 'Browse...' button. A red arrow points to the 'Browse...' button, which is labeled with a '1'. Below the 'Browse...' button, there is text indicating the maximum file size (70MB) and supported file types (txt, csv, xls, xlsx, uncompressed and zip archive).

"Attribute" column "Input Data" Attributes mapping widow column

"Default value"

NA

"Apply mapping"

dateofdeathquarter, dateofdeathmonth, dateofdeathweek, dateofdeathday, dateofdeathisodate, dateofdiagnosisquarter, dateofdiagnosismonth, dateofdiagnosisweek, dateofdiagnosisday, dateofdiagnosisisodate

Attributes mapping

Please, provide mapping between attributes used internally by the tool (column "Attribute") and the input data dimensions (column "Input data column").
If "Input data column" is not specified, then value in column "Default value" is used.

Apply mapping 2

Attribute	Input data column	Default value
RecordId	recordid	
ReportingCountry		PL
Age	age	
FirstCD4Count	cd4_num	
FirstCD4DateYear	firstcd4dateyear	
CountryOfBirth	countryofbirth	
CountryOfNationality	countryofnationality	
RegionOfOrigin	regionoforigin	
DateOfAIDSdiagnosisYear	dateofaidsdiagnosisyear	
DateOfDeathYear	dateofdeathyear	
DateOfDiagnosisYear	dateofdiagnosisyear	

3

- ✓ Assignment of input data columns to attributes is valid.
- ✓ Input data values are valid.

5.2. Input data summary

Summary input data window

summary of missing values

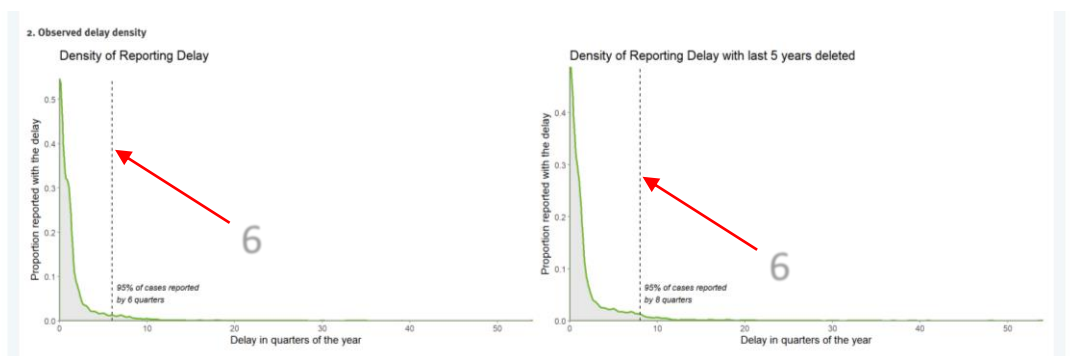


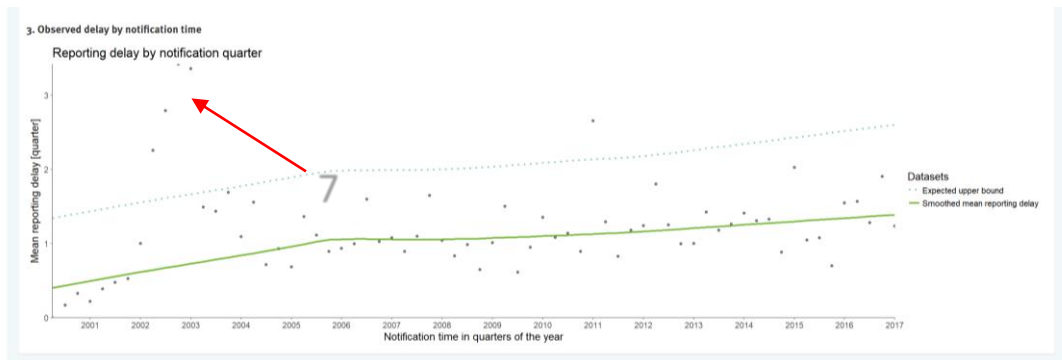
Interpretation

monotone or heterogeneous

not missing completely at random

reporting delay





Interpretation

right truncation

cleaning event

5.3. Making adjustments

Adjustments tab



HIV Estimates Accuracy

v. 0.9.6

Input data upload

Input data summary

Adjustments

Reports

Outputs

Run adjustments

Add

Remove

Multiple Imputations (jomo)

Edit parameters

Run

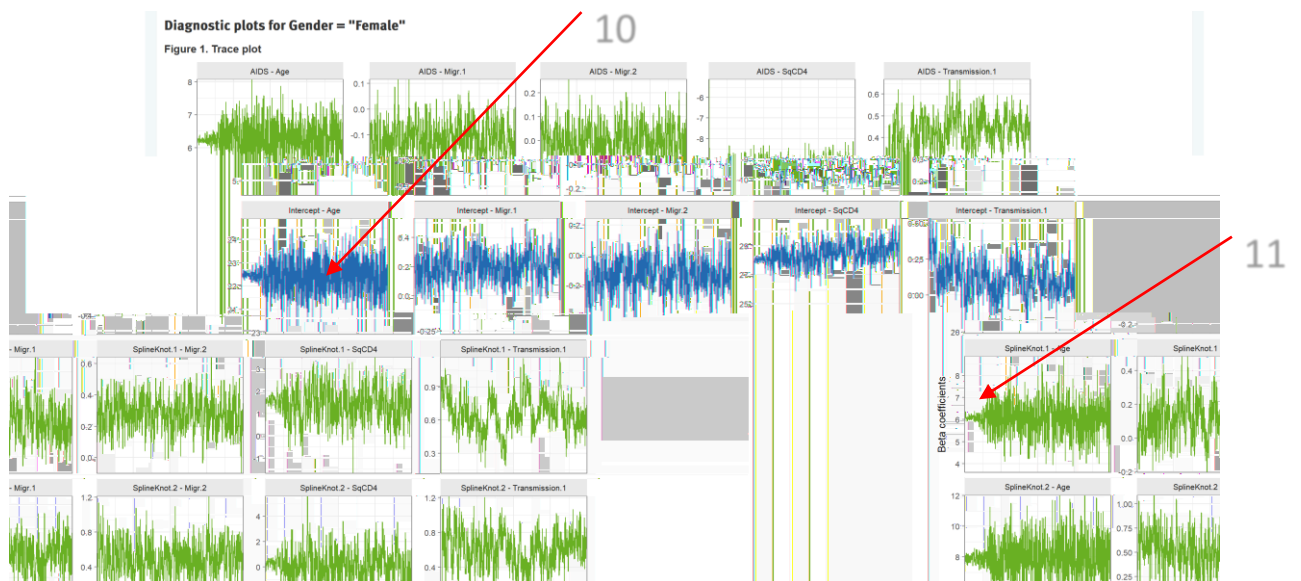
8

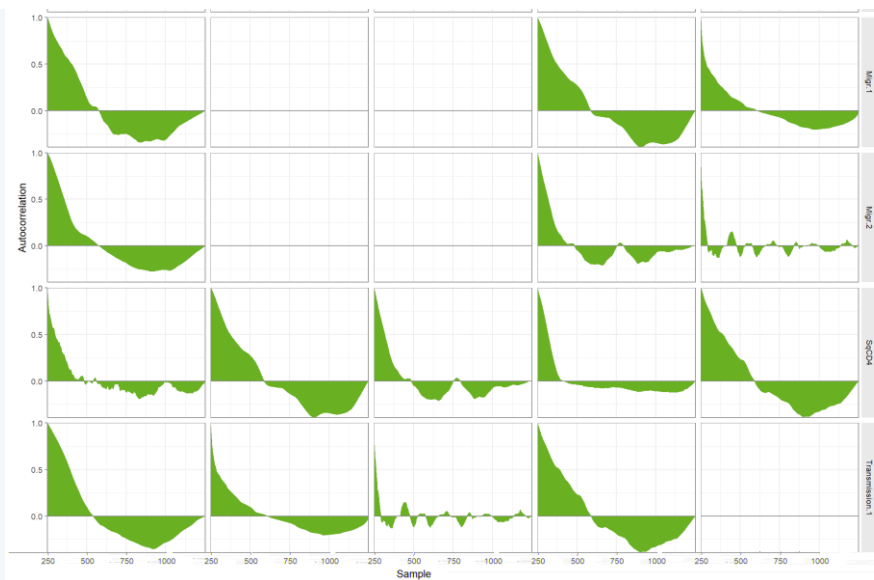
9

time needed

diagnostic plots

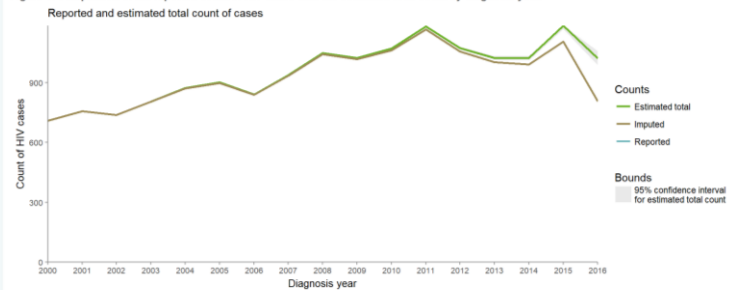
trace plots





2. Reporting Delays

Figure 1. Comparison of the reported count of HIV cases with the estimated total count by diagnosis year.



5.4. Creating reports

Reports tab

parameters

Edit

html, Word or Latex

5.5. Exporting of the data

Outputs tab

6. Tool settings

Annex 1. Country codes

