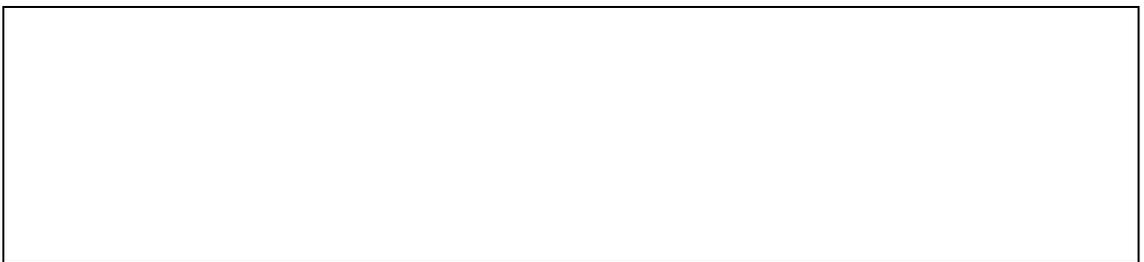


ECDC HIV Estimates Accuracy Tool User Manual

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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

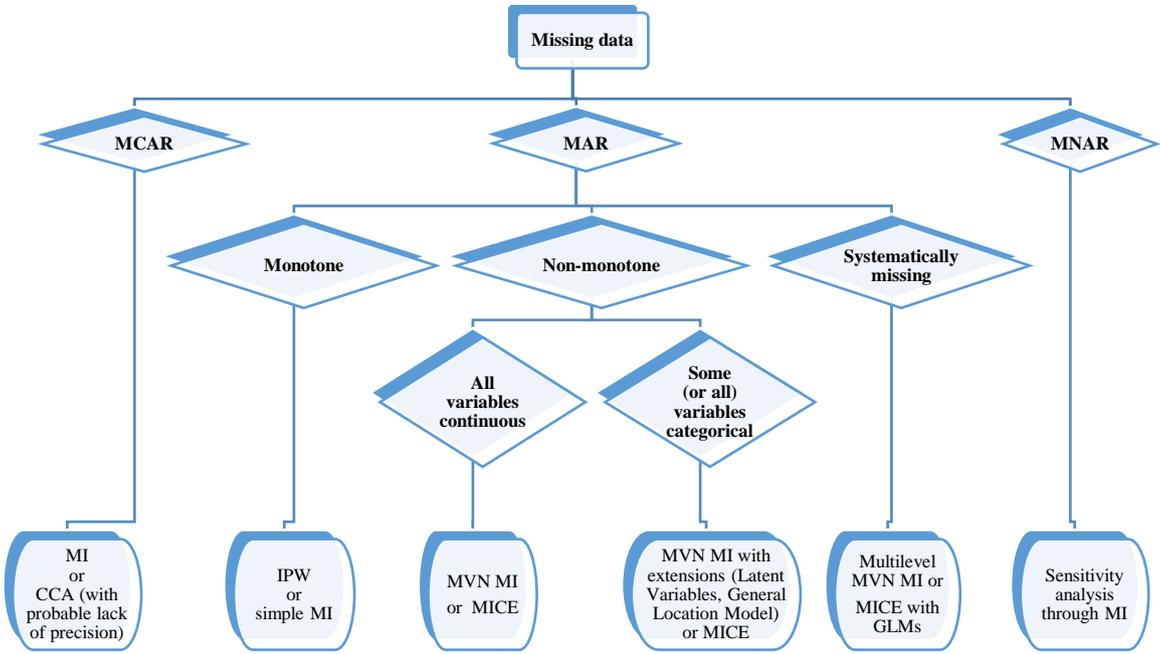
an imputation model

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

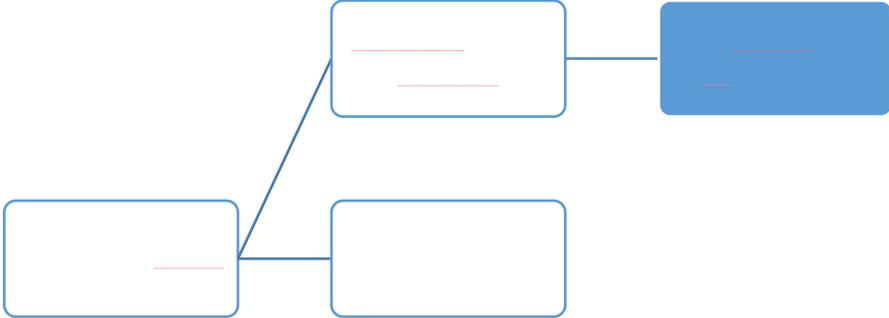


Acceptable levels of missingness

1.2.

batch reporting

Figure 2. Appropriate methods to deal with reporting delays



2. Methods used in the HIV Estimates Accuracy Tool

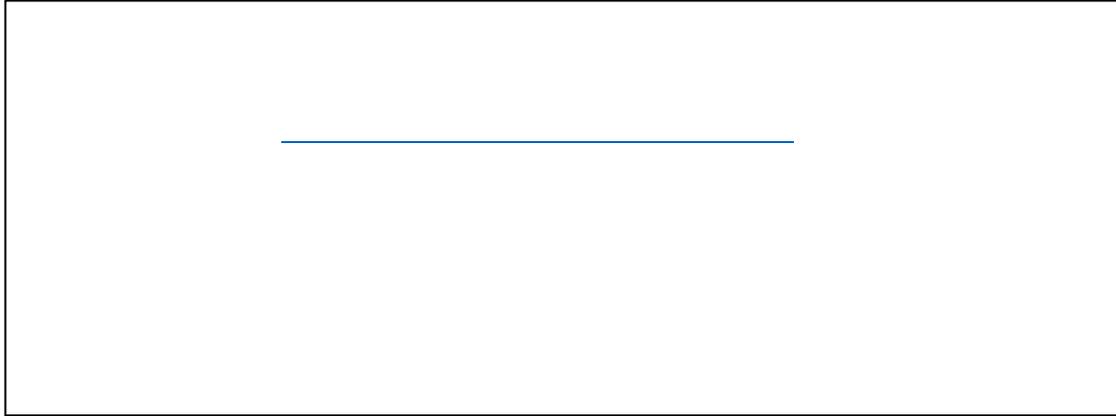
2.1. Methods used for missing data

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

			∞
			∞
			∞

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)))
```



4.3. Update

4.4. Support

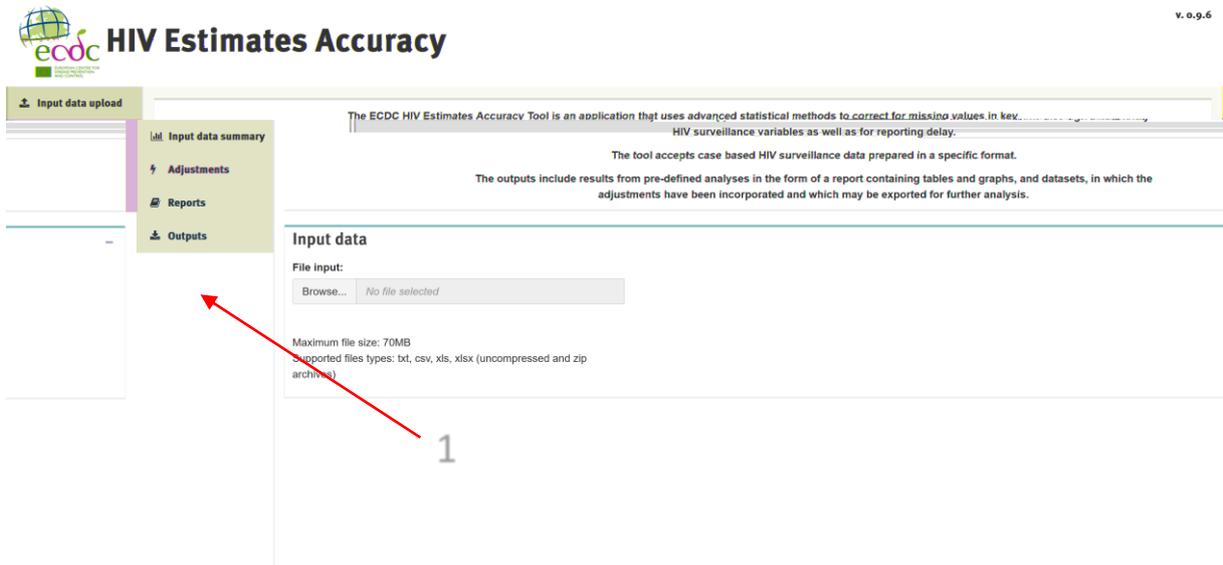
For technical support and reporting problems please contact [.....](#)

5. Using the tool

hivEstimatesAccuracy::RunApp()

-
-
-
-
-

5.1. Data upload



"Attribute"

Attributes mapping widow
column
column "Input Data"

"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	

✓ Assignment of input data columns to attributes is valid.

✓ Input data values are valid.

3

5.2. Input data summary

Summary input data window

summary of missing values



HIV Estimates Accuracy

v. o.p.6



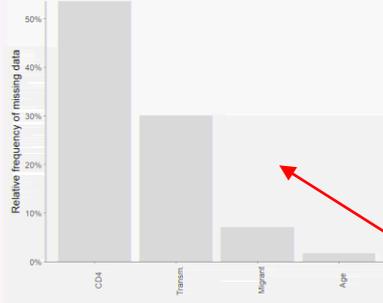
4

Input data summary

- Input data upload
- Input data summary**
- Adjustments
- Reports
- Outputs

1. Missing data summary

1.1. Total plot



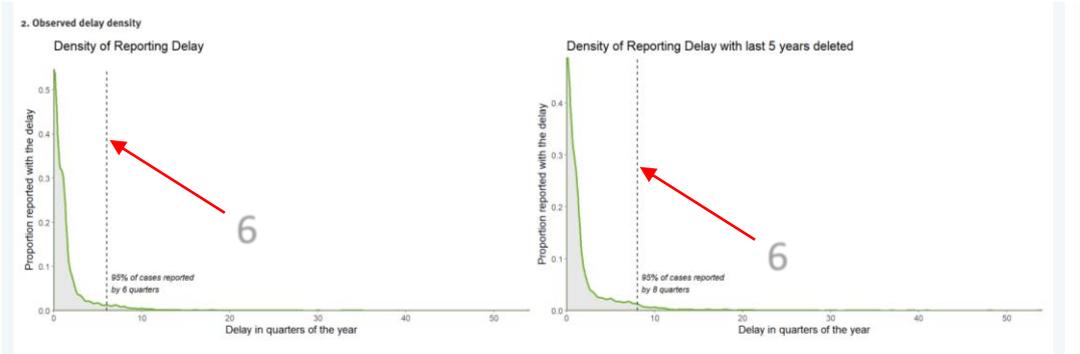
5

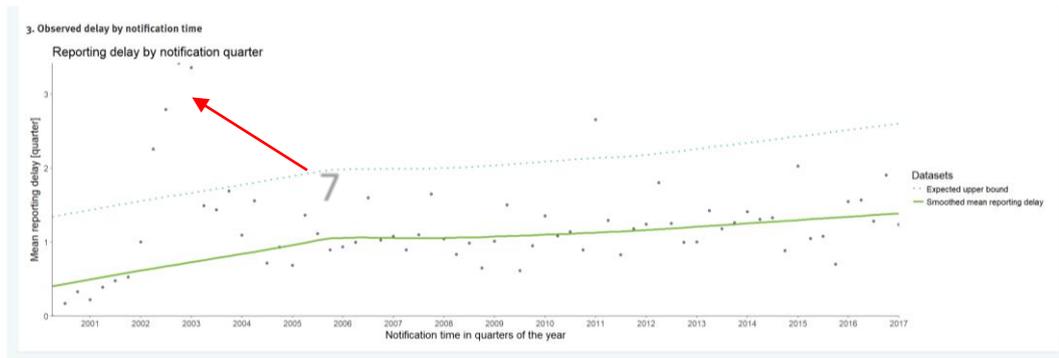
Interpretation

monotone or heterogeneous

not missing completely at random

reporting delay





Interpretation

right truncation

cleaning event

5.3. Making adjustments

Adjustments tab



Run adjustments

Input data upload
Input data summary
Adjustments
Reports
Outputs

Add

Remove Multiple Imputations (jomo) Edit parameters

Run

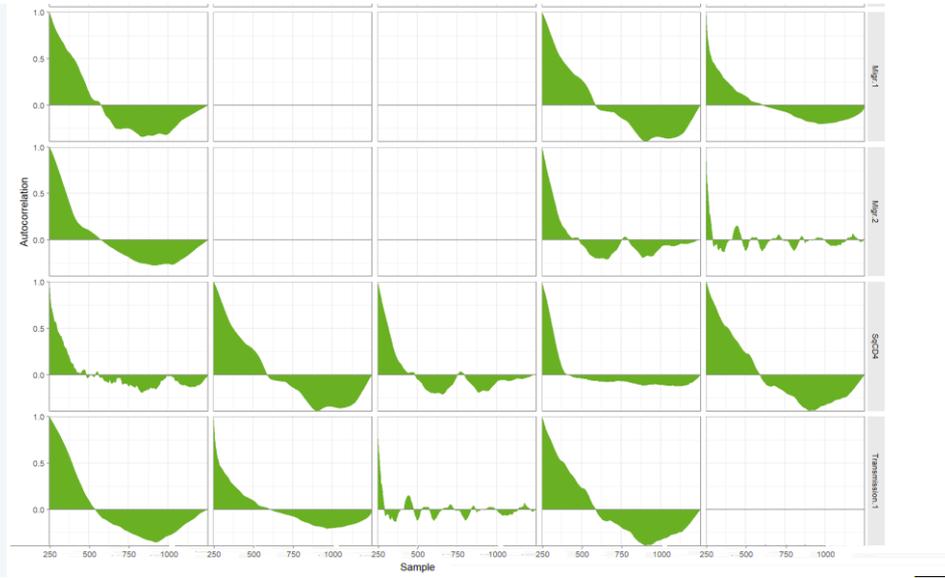
8 9

time needed

diagnostic plots

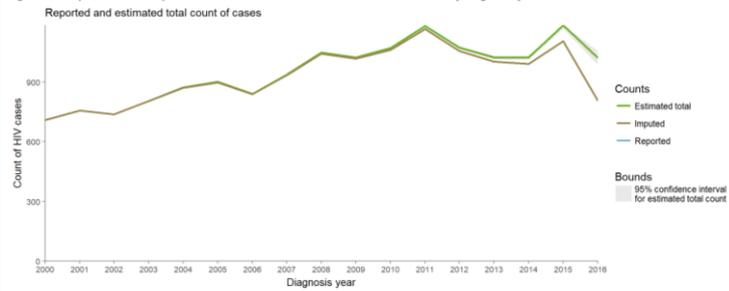
trace plots





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

