

# IeDEA Harmonist Quality Metrics Report

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## Report Description

### Example Quality Metrics Report

Report created on 2020-08-17

The **Harmonist Quality Metrics Report** provides a visual summary in the form of color-coded heat map(s) of several data quality metrics for each variable in a dataset. The numbers in each cell of the heat map range from 0-100 to indicate the percentage of records satisfying each of three quality metrics for the current variable:

1. **Compliant** *What percentage of the records in this table have entries of this variable that are compliant with the IeDEA Data Exchange Standard (DES)?* DES compliance requires valid codes for coded variables, valid formats for dates and numeric variables, unique records (no duplicates), valid patient ID’s in each table. Variables flagged as “Required” in the IeDEA DES should not be blank.
2. **Logical** *What percentage of the completed (non-blank, non-missing) entries for this variable are logically consistent with other data in the dataset?* For example, all patients should have an enrollment date after their birthdate.
3. **Complete** *What percentage of the entries of this variable in the table are non-blank, non-missing?* In some cases, a subset of the table is used to calculate Completeness. Some variables should only be complete in records for which a second variable satisfies a condition. For example, DEATH\_D should only be complete in records for which DEATH\_Y is 1 (Yes), so Completeness for DEATH\_D is calculated only using the records with DEATH\_Y equal to 1. Similarly, ART\_RS (reason for ending treatment) should only be complete for records with non-blank entry for ART\_ED (date treatment ended).

In the **Compliant** and **Logical** columns, heat map colors range from Green (100%) to Red (0%) to quickly highlight items of concern.

In the **Complete** column, heat map colors range from Dark Blue (100%) to Light Blue (0%), more appropriate because incomplete values are not necessarily a concern. For example, ART\_ED (end date) will be blank if a patient has not ended treatment.

N/A indicates that there were no records available to calculate that metric. A red “0” in the Compliant or Logic column indicates that all records had errors in that category for that variable.

**Note:** This is a draft version of a new Harmonist report and its content is under development. Please email [Judy Lewis](#) with feedback.

## Table tblBAS

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=594)			Hufflepuff (n=11763)			Muggleton (n=5248)		
PATIENT	100	100	100	100	100	100	100	100	100
PROGRAM	100	100	100	100	100	100	100	100	100
BIRTH_D	100	100	100	100	100	100	100	100	100
BIRTH_D_A	100	100	100	100	100	100	100	100	100
ENROL_D	100	99	100	100	100	100	100	100	100
ENROL_D_A	100	100	100	100	100	100	100	100	100
GENDER	100	100	100	100	100	100	100	100	100
MODE	100	100	100	100	100	100	100	100	100
NAIVE_Y	100	100	100	100	100	100	100	100	100
PROPH_Y	100	100	100	100	100	100	100	100	100
RECart_Y	100	100	90	100	100	98	100	100	83
RECart_D	100	100	100	100	100	100	100	100	100
RECart_D_A	100	100	100	100	100	100	100	100	100
HAART_D	100	100	88	100	100	98	100	100	81
HAART_D_A	100	100	100	100	100	100	100	100	100
AIDS_Y	100	100	100	100	100	100	100	100	100
AIDS_D	100	100	100	100	100	100	100	100	100
AIDS_D_A	100	100	100	100	100	100	100	100	100
CENTER	100	100	100	100	100	100	100	100	100
	Potterburg (n=3208)			Ravenclaw (n=1079)			Slytherin (n=458)		
PATIENT	100	100	100	100	100	100	100	100	100
PROGRAM	100	100	100	100	100	100	100	100	100
BIRTH_D	100	100	100	100	100	100	100	100	100
BIRTH_D_A	100	100	100	100	100	100	100	100	100
ENROL_D	100	100	100	100	100	100	100	100	100
ENROL_D_A	100	100	100	100	100	100	100	100	100
GENDER	100	100	100	100	100	100	100	100	100
MODE	100	100	100	100	100	100	100	100	100
NAIVE_Y	100	100	100	100	100	100	100	100	100
PROPH_Y	100	100	100	100	100	100	100	100	100
RECart_Y	100	100	84	100	100	83	100	100	93
RECart_D	100	100	100	100	100	100	100	100	100
RECart_D_A	100	100	100	100	100	100	100	100	100
HAART_D	100	100	83	100	100	81	100	100	89
HAART_D_A	100	100	100	100	100	100	100	100	100
AIDS_Y	100	100	100	100	100	100	100	100	100
AIDS_D	100	100	100	100	100	100	100	100	100
AIDS_D_A	100	100	100	100	100	100	100	100	100
CENTER	100	100	100	100	100	100	100	100	100
	SnapeTown (n=4099)			Wizardville (n=1640)					
PATIENT	100	100	100	100	100	100			
PROGRAM	100	100	100	100	100	100			
BIRTH_D	100	100	100	100	100	100			
BIRTH_D_A	100	100	100	100	100	100			
ENROL_D	100	100	100	100	100	100			
ENROL_D_A	100	100	100	100	100	100			
GENDER	100	100	100	100	100	100			
MODE	100	100	100	100	100	100			
NAIVE_Y	100	100	100	100	100	100			
PROPH_Y	100	100	100	100	100	100			
RECart_Y	100	100	92	100	100	92			
RECart_D	100	100	100	100	100	100			
RECart_D_A	100	100	100	100	100	100			
HAART_D	100	100	85	100	100	91			
HAART_D_A	100	100	100	100	100	100			
AIDS_Y	100	100	100	100	100	100			
AIDS_D	100	100	100	100	100	100			
AIDS_D_A	100	100	100	100	100	100			
CENTER	100	100	100	100	100	100			

**Compliant:** % records compliant with DES    **Logical:** % of complete entries that are logically consistent    **Complete:** % records that are not blank

**Table tblLTFU**

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=594)			Hufflepuff (n=11763)			Muggleton (n=5248)		
PATIENT	100	100	100	100	100	100	100	100	100
DROP_Y	100	100	83	100	100	92	100	100	91
DROP_D	100	100	100	100	100	100	100	100	100
DROP_D_A	100	100	14	100	100	100	100	100	97
DROP_RS	100	100	100	100	100	100	100	100	100
DEATH_Y	100	100	100	100	100	100	100	100	100
DEATH_D	100	100	100	100	100	100	100	99	100
DEATH_D_A	100	100	6	100	100	100	100	100	100
L_ALIVE_D	100	99	100	100	100	100	100	100	100
L_ALIVE_D_A	100	100	13	100	100	97	100	100	99
	Potterburg (n=3208)			Ravenclaw (n=1079)			Slytherin (n=458)		
PATIENT	100	100	100	100	100	100	100	100	100
DROP_Y	100	100	93	100	100	98	100	100	83
DROP_D	100	100	100	100	100	100	100	100	100
DROP_D_A	100	100	99	100	100	100	100	100	17
DROP_RS	100	100	28	100	100	100	100	100	100
DEATH_Y	100	100	100	100	100	100	100	100	100
DEATH_D	100	100	100	100	100	100	100	100	100
DEATH_D_A	100	100	99	100	100	100	100	100	10
L_ALIVE_D	100	100	100	100	100	100	100	100	100
L_ALIVE_D_A	100	100	99	99	100	100	100	100	11
	Snape town (n=4099)			Wizardville (n=1640)					
PATIENT	100	100	100	100	100	100			
DROP_Y	100	100	88	100	100	95			
DROP_D	100	100	100	100	100	100			
DROP_D_A	100	100	100	100	100	100			
DROP_RS	100	100	100	100	100	100			
DEATH_Y	100	100	100	100	100	100			
DEATH_D	100	100	100	100	100	100			
DEATH_D_A	100	100	100	100	100	100			
L_ALIVE_D	100	100	100	100	100	100			
L_ALIVE_D_A	100	100	99	100	100	97			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank

**Table tblIVIS**

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=21033)			Hufflepuff (n=495919)			Muggleton (n=200560)		
PATIENT	100	100	100	100	100	100	100	100	100
CENTER	100	100	100	100	100	100	100	100	100
VIS_D	100	100	100	100	100	100	100	100	100
VIS_D_A	100	100	100	100	100	100	100	N/A	0
CDC_STAGE	100	100	100	100	N/A	0	100	N/A	0
WHO_STAGE	100	N/A	0	100	100	13	100	100	2
PREG_Y	100	100	100	100	100	100	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Potterburg (n=29231)			Ravenclaw (n=0)			Slytherin (n=5077)		
PATIENT	100	100	100	N/A	N/A	N/A	100	100	100
CENTER	100	100	100	N/A	N/A	N/A	100	100	100
VIS_D	100	100	100	N/A	N/A	N/A	100	100	100
VIS_D_A	100	100	100	N/A	N/A	N/A	100	100	100
CDC_STAGE	100	100	70	N/A	N/A	N/A	100	100	100
WHO_STAGE	100	N/A	0	N/A	N/A	N/A	100	N/A	0
PREG_Y	100	100	100	N/A	N/A	N/A	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete			
	Snapetown (n=307834)			Wizardville (n=24583)					
PATIENT	100	100	100	100	100	100			
CENTER	100	100	100	100	100	100			
VIS_D	100	100	100	100	100	100			
VIS_D_A	100	100	100	100	N/A	0			
CDC_STAGE	100	100	100	100	100	23			
WHO_STAGE	100	N/A	0	100	100	2			
PREG_Y	100	100	100	100	100	100			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank

**Table tblLAB\_CD4**

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=5303)			Hufflepuff (n=40618)			Muggleton (n=38775)		
PATIENT	100	100	100	100	100	100	100	100	100
CD4_D	100	100	100	100	100	100	100	100	100
CD4_D_A	100	100	100	100	100	100	100	100	100
CD4_V	100	100	100	100	100	100	100	100	100
CD4_U	100	100	100	100	100	100	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Potterburg (n=31502)			Ravenclaw (n=25401)			Slytherin (n=2147)		
PATIENT	100	100	100	100	100	100	100	100	100
CD4_D	100	100	100	100	100	100	100	100	100
CD4_D_A	100	100	100	100	100	100	100	100	100
CD4_V	100	100	100	100	100	100	100	100	100
CD4_U	100	100	100	100	100	100	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete			
	Snapetown (n=112679)			Wizardville (n=41616)					
PATIENT	100	100	100	100	100	100			
CD4_D	100	100	100	100	100	100			
CD4_D_A	100	100	100	100	100	100			
CD4_V	100	100	100	100	100	100			
CD4_U	100	100	100	100	100	100			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank

Table tblLAB\_RNA

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=3140)			Hufflepuff (n=290)			Muggleton (n=36540)		
PATIENT	100	100	100	99	100	100	100	100	100
RNA_D	100	100	100	100	100	100	100	100	100
RNA_D_A	100	100	1	100	100	100	100	100	100
RNA_V	100	100	100	100	100	100	100	100	100
	Potterburg (n=19739)			Ravenclaw (n=12689)			Slytherin (n=1719)		
PATIENT	100	100	100	100	100	100	100	100	100
RNA_D	100	100	100	100	100	100	100	100	100
RNA_D_A	100	N/A	0	100	100	100	100	100	1
RNA_V	100	100	100	100	100	100	100	100	100
	Snapestown (n=64178)			Wizardville (n=20939)					
PATIENT	100	100	100	100	100	100			
RNA_D	100	100	100	100	100	100			
RNA_D_A	100	100	100	100	100	100			
RNA_V	100	100	100	100	100	100			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank

Table tblART

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=3719)			Hufflepuff (n=46148)			Muggleton (n=23683)		
PATIENT	100	100	100	100	100	100	100	100	100
ART_ID	100	100	100	100	100	100	100	100	100
ART_SD	100	100	100	100	100	100	100	100	100
ART_SD_A	100	100	100	100	100	100	100	100	100
ART_ED	100	100	70	100	100	31	100	100	47
ART_ED_A	100	100	100	100	100	100	100	100	100
	Potterburg (n=16945)			Ravenclaw (n=6117)			Slytherin (n=2256)		
PATIENT	100	100	100	100	100	100	100	100	100
ART_ID	100	100	100	100	100	100	100	100	100
ART_SD	100	100	100	100	100	100	100	100	100
ART_SD_A	100	100	100	100	100	100	100	100	100
ART_ED	100	100	54	100	100	53	100	100	56
ART_ED_A	100	100	100	100	100	100	100	100	100
	Snapetown (n=32780)			Wizardville (n=8787)					
PATIENT	100	100	100	99	100	100			
ART_ID	100	100	100	99	100	99			
ART_SD	100	100	100	100	100	100			
ART_SD_A	100	100	100	100	100	100			
ART_ED	100	100	71	100	100	47			
ART_ED_A	100	100	100	100	100	100			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank

**Table tblDIS**

	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Hogwarts (n=36)			Hufflepuff (n=2121)			Muggleton (n=772)		
PATIENT	100	100	100	100	100	100	100	100	100
DIS_ID	100	100	100	100	100	100	100	100	100
DIS_D	100	100	100	100	100	100	100	100	100
DIS_D_A	100	100	100	100	100	100	100	100	100
DIS_ED	100	100	100	100	100	100	100	100	100
DIS_ED_A	100	N/A	0	100	N/A	0	100	N/A	0
DIS_OUTCOME	100	100	100	100	100	100	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete	Compliant	Logical	Complete
	Potterburg (n=93)			Ravenclaw (n=0)			Slytherin (n=38)		
PATIENT	100	100	100	N/A	N/A	N/A	100	100	100
DIS_ID	100	100	100	N/A	N/A	N/A	100	100	100
DIS_D	100	100	100	N/A	N/A	N/A	100	100	100
DIS_D_A	100	100	100	N/A	N/A	N/A	100	100	100
DIS_ED	100	100	100	N/A	N/A	N/A	100	100	100
DIS_ED_A	100	N/A	0	N/A	N/A	N/A	100	N/A	0
DIS_OUTCOME	100	100	100	N/A	N/A	N/A	100	100	100
	Compliant	Logical	Complete	Compliant	Logical	Complete			
	Snapetown (n=490)			Wizardville (n=200)					
PATIENT	100	100	100	100	100	100			
DIS_ID	100	100	100	100	100	100			
DIS_D	100	100	100	100	100	100			
DIS_D_A	100	100	100	100	100	100			
DIS_ED	100	100	100	100	100	100			
DIS_ED_A	100	N/A	0	100	N/A	0			
DIS_OUTCOME	100	100	100	100	100	100			

**Compliant:** % records compliant with DES **Logical:** % of complete entries that are logically consistent **Complete:** % records that are not blank



## Coded Variables: Useful Information

This additional table is provided for investigators interested in not just the completeness of datasets but also the amount of *useful information*. Since the code lists for many variables include a code for “Unknown”, a variable might appear to be 100% complete but contain the code for “Unknown” in most records. For every coded variable in the dataset, the heat map below summarizes the percent of records that are not blank, not invalid codes, and not coded “Unknown”.

	Hogwarts	Hufflepuff	Muggleton	Potterburg	Ravenclaw	Slytherin	Snapetown	Wizardville
tbIBAS: GENDER	100	100	100	100	100	100	100	100
tbIBAS: MODE	62	4	99	99	50	79	86	93
tbIBAS: NAIVE_Y	100	100	100	100	100	100	100	100
tbIBAS: PROPH_Y	100	100	100	100	100	100	100	100
tbIBAS: RECARD_Y	90	98	83	84	83	93	92	92
tbIBAS: AIDS_Y	100	100	100	100	100	100	100	100
tbILTFU: DROP_Y	83	92	91	93	98	83	88	95
tbILTFU: DEATH_Y	100	100	100	100	100	100	100	100
tbIVIS: CDC_STAGE	100	0	0	70	N/A	100	100	23
tbIVIS: WHO_STAGE	0	13	2	0	N/A	0	0	2
tbIVIS: PREG_Y	0	0	0	0	N/A	0	0	0
tbILAB_CD4: CD4_U	100	100	100	100	100	100	100	100
tbIART: ART_ID	100	100	100	100	100	100	100	99
tbDIS: DIS_ID	100	100	100	100	N/A	100	100	100
tbDIS: DIS_OUTCOME	0	0	0	0	N/A	0	0	0