

# Data collection and data validation

Mélanie Durox

---

Euro-Peristat Meeting

April 9<sup>th</sup> and 10<sup>th</sup> 2018, Kerkrade, Netherlands



# 2015 Core indicators collection

## Ten core indicators

Category	Core
Neonatal Health	C1: Fetal mortality
	C2: Neonatal mortality
	C3: Infant mortality
	C4: Distribution of birth weight
	C5: Distribution of gestational age
Maternal Health	C6: Maternal mortality
Population characteristics or risk factors	C7: Multiple birth rate
	C8: Distribution of maternal age
	C9: Distribution of parity
Health care services	C10: Mode of delivery New item: Robson categories

## New pilot protocol

- **Data collection based on multivariable aggregate tables**
  - Improving collection and reporting of Euro-Peristat core indicators

# 2015 Core indicators collection

## Two ways to provide data

- **Multivariable tables (MVT)**

- 1 file on babies : 12 variables (gestational age, birthweight, type of pregnancy, vital status at birth, neonatal mortality, infant mortality, maternal age, parity, mode of delivery, mode of onset, presentation, previous caesarean section)

- 1 file on mothers : 3 variables (maternal age, parity, type of pregnancy)

Babies file

	A	B	C	D	E	F	G	H	I	J	K
1	GA	BW	MULT_B	VITAL	NNM	IM	MATAGE_B	PARITY_B	PRES	PREVCS	MOD
2	20	1	1	3	0	99	3	1	1	99	1
3	21	1	1	4	1	1	5	1	1	1	1
4	21	1	1	4	1	1	5	1	1	2	1
5	21	1	2	4	1	1	3	0	1	2	1
6	21	1	2	4	1	1	3	1	1	2	1
7	21	2	1	3	0	99	3	0	2	99	2
8	21	9999	2	3	0	99	2	0	1	99	1
9	22	1	1	3	0	99	2	1	2	99	1
10	22	1	1	3	0	99	3	1	2	99	2
11	22	1	1	3	0	99	4	0	1	99	1
12	22	1	1	3	0	99	4	0	2	99	1
13	22	1	1	3	0	99	4	1	1	99	1
14	22	1	1	3	0	99	4	1	1	99	1
15	22	1	1	3	0	99	4	1	2	1	34
16	22	1	1	3	0	99	4	1	2	99	1

Mothers file

	A	B	C
1	MULT_M	MATAGE_M	PARITY_M
2	1	1	0
3	1	2	0
4	1	2	1
5	1	2	2
6	1	2	99
7	1	3	0
8	1	3	1
9	1	3	2
10	1	3	3
11	1	3	99
12	1	4	0
13	1	4	1
14	1	4	2
15	1	4	3
16	1	4	4

- **Aggregated tables (AT), using Euro-Peristat data collection instrument**

- Used by everyone for maternal mortality

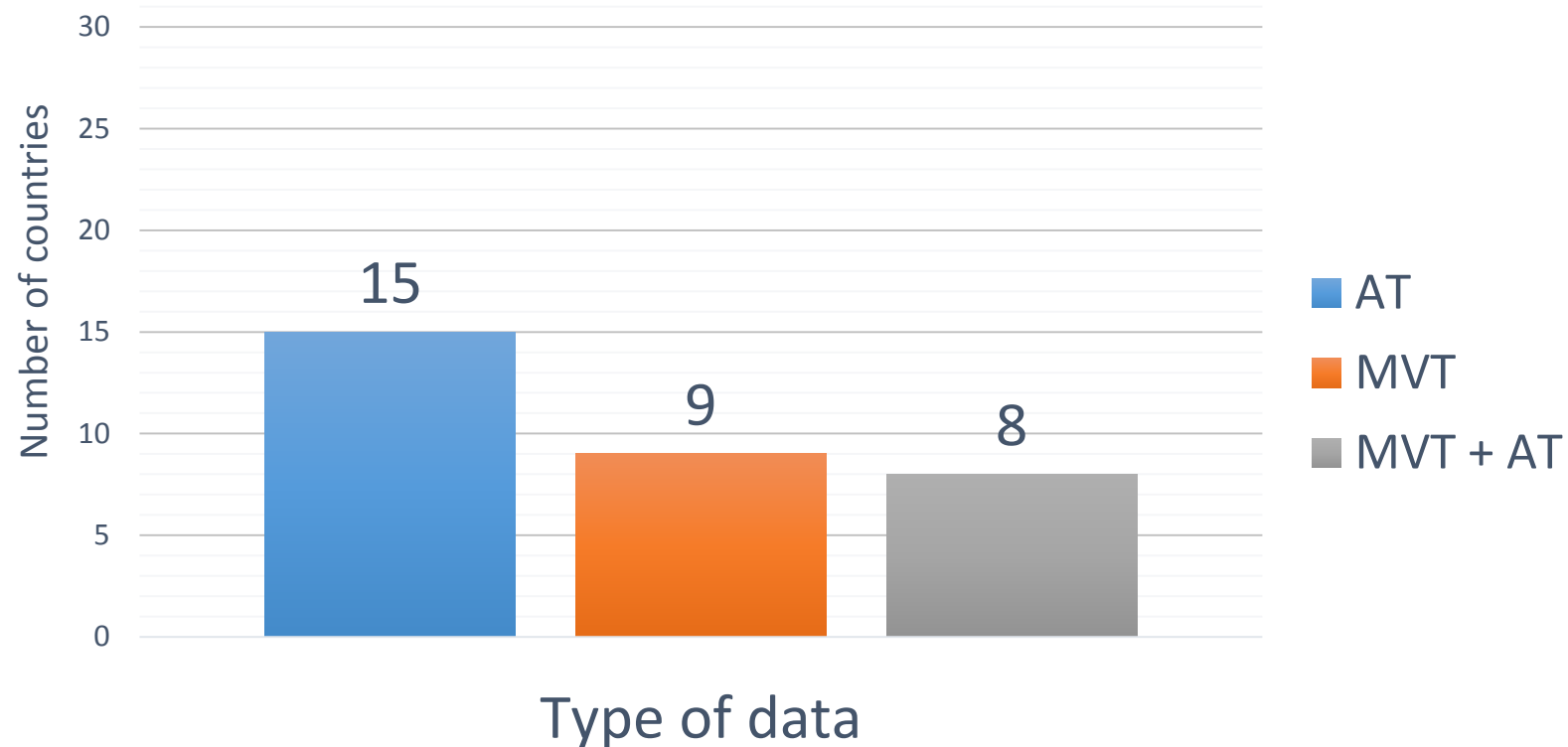
- Used by everyone to provide information on data sources

Index sheet CORE Indicators			To da
Core Indicator # 0	Recording of births and deaths	Go to indicator	<Unknown>
Core Indicator # 1	Fetal mortality by gestational age	Go to indicator	<Unknown>
Core Indicator # 2	Fetal mortality by birth weight	Go to indicator	<Unknown>
Core Indicator # 3	Neonatal mortality by gestational age (annual)	Go to indicator	<Unknown>
	Neonatal mortality by birth weight (annual)	Go to indicator	<Unknown>
	Neonatal mortality by gestational age (cohort)	Go to indicator	<Unknown>
	Neonatal mortality by birth weight (cohort)	Go to indicator	<Unknown>
Core Indicator # 4	Infant mortality by gestational age (annual)	Go to indicator	<Unknown>
	Infant mortality by birth weight (annual)	Go to indicator	<Unknown>
	Infant mortality by gestational age (cohort)	Go to indicator	<Unknown>
	Infant mortality by birth weight (cohort)	Go to indicator	<Unknown>
Core Indicator # 5	Distribution of birth weight by plurality	Go to indicator	<Unknown>
	Distribution of birth weight by gestational age	Go to indicator	<Unknown>
Core Indicator # 6	Distribution of gestational age by plurality	Go to indicator	<Unknown>
Core Indicator # 7	Maternal mortality by maternal age (routine)	Go to indicator	<Unknown>
	Maternal mortality by maternal age (enhanced)	Go to indicator	<Unknown>
Core Indicator # 8	Multiple maternity rates	Go to indicator	<Unknown>
Core Indicator # 9	Distribution of maternal age	Go to indicator	<Unknown>
Core Indicator # 10	Distribution of parity	Go to indicator	<Unknown>
Core Indicator # 11	Mode of delivery	Go to indicator	<Unknown>
	Mode of delivery by parity	Go to indicator	<Unknown>
	Mode of delivery by previous Caesarean	Go to indicator	<Unknown>
	Mode of delivery by presentation	Go to indicator	<Unknown>
	Mode of delivery by plurality	Go to indicator	<Unknown>
	Mode of delivery by gestational age	Go to indicator	<Unknown>
	Mode of delivery by Robson Categories	Go to indicator	<Unknown>

# 2015 Core indicators collection

## Types of data provided

Among 33 countries, including 3 UK countries



# 2015 Core indicators collection

## Data processing on MVT

### Multivariable Tables received

- Checks on variables and modalities according to the pilot protocol.
- A STATA programme was created that computed the AT tables and outputted them directly in Excel from the individual data files in the correct format.

	A	B	C	D	E	F	G	H	I	J	K
1	GA	BW	MULT_B	VITAL	NNM	IM	MATAGE_B	PARITY_B	PRES	PREVCS	MOD
2	20	1	1	3	0	99	3	1	1	99	1
3	21	1	1	4	1	1	5	1	1	1	1
4	21	1	1	4	1	1	5	1	1	2	1
5	21	1	2	4	1	1	3	0	1	2	1
6	21	1	2	4	1	1	3	1	1	2	1
7	21	2	1	3	0	99	3	0	2	99	2
8	21	9999	2	3	0	99	2	0	1	99	1
9	22	1	1	3	0	99	2	1	2	99	1
10	22	1	1	3	0	99	3	1	2	99	2
11	22	1	1	3	0	99	4	0	1	99	1
12	22	1	1	3	0	99	4	0	2	99	1
13	22	1	1	3	0	99	4	1	1	99	1
14	22	1	1	3	0	99	4	1	1	99	1
15	22	1	1	3	0	99	4	1	2	1	34
16	22	1	1	3	0	99	4	1	2	99	1



Core indicator #1: Fetal mortality (by gestational age and plurality)

Definition: The number of fetal deaths in a given year per 1000 live and stillbirths in the same year.

Fetal deaths are differentiated by whether they are spontaneous fetal deaths or result from a termination of pregnancy (TOP)

Attention: fetal deaths are presented for all stillborn babies including induced abortions at or after 22 completed weeks of gestation.

Are you able to provide data using this definition?

☐ yes
☐ no

Can you provide data using another definition?

☐ yes
☐ no

Data source: 0

New data source

Please rate the quality of this indicator:

☐ good
☐ some concerns
☐ bad

Comments:

Reset this page

Select one of these options:

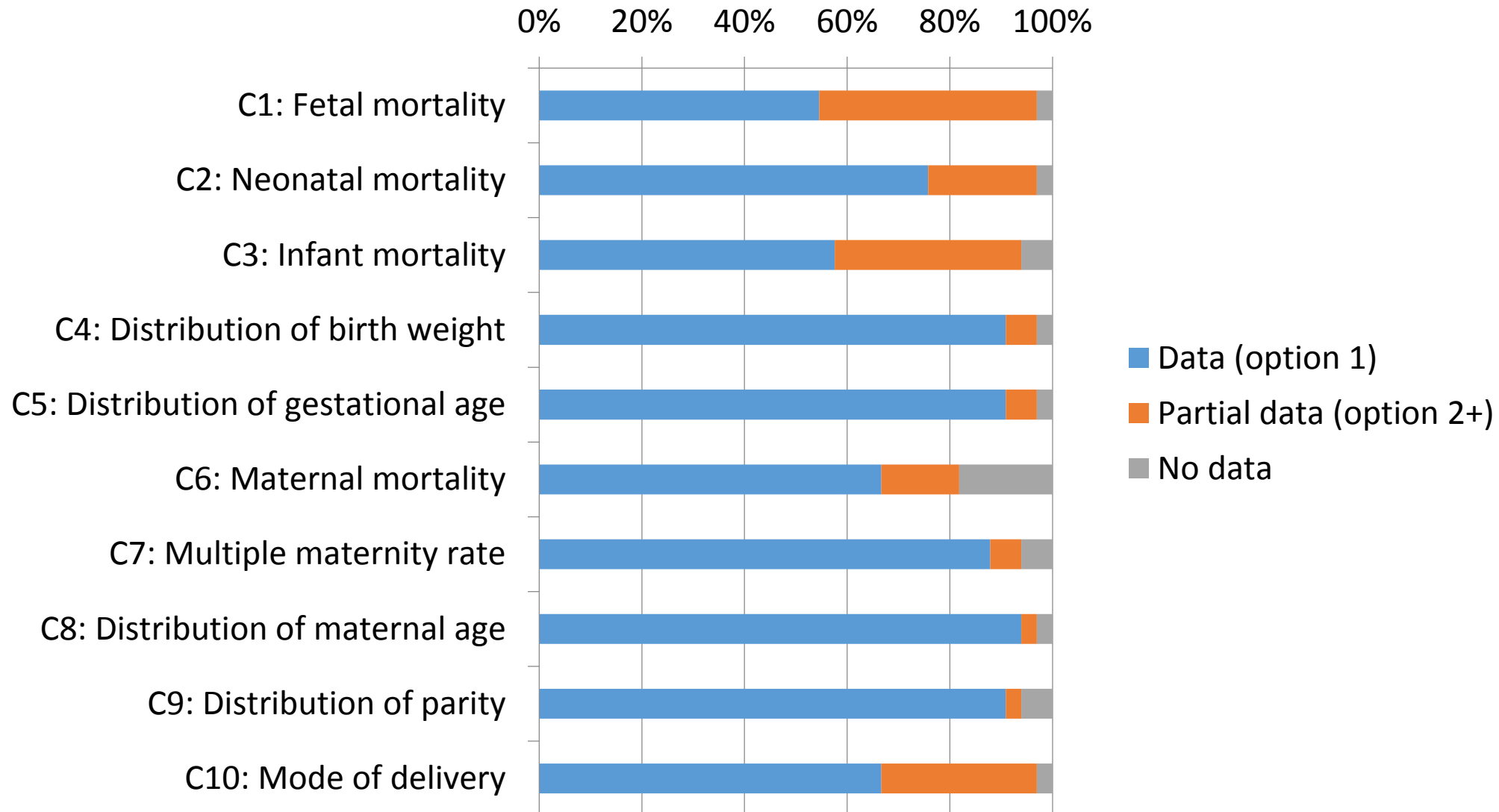
☒ option 1 (preferred)
☐ option 2
☐ option 3
☐ option 4
☐ option 5
☐ none

Gestational age	N fetal deaths						Calc. totals
	Singletons Without TOP	Singletons TOP	Multiples Without TOP	Multiples TOP	Plurality Unknown Without TOP	Plurality Unknown TOP	
22+0 - 22+6 wks							0
23+0 - 23+6 wks							0
24+0 - 24+6 wks							0
25+0 - 25+6 wks							0
26+0 - 26+6 wks							0
27+0 - 27+6 wks							0
28+0 - 28+6 wks							0
29+0 - 29+6 wks							0
30+0 - 30+6 wks							0
31+0 - 31+6 wks							0
32+0 - 32+6 wks							0
33+0 - 33+6 wks							0
34+0 - 34+6 wks							0
35+0 - 35+6 wks							0
36+0 - 36+6 wks							0
37+0 - 37+6 wks							0
38+0 - 38+6 wks							0
39+0 - 39+6 wks							0
40+0 - 40+6 wks							0
41+0 - 41+6 wks							0
>= 42+0 wks							0
Unknown							0
Calculated totals	0	0	0	0	0	0	0

SAVE and return to INDEX

To INDEX without saving

# Core indicators provided



# Visual checks

## **Visual checks were performed on AT for all countries**

The aim of each check is to make sure of the provided data's validity:

- Data entry errors
- All fields of the instrument were answered
- That there were not any errors due to differences between indicator data collection in national registries vs. Euro-Peristat (i.e. inclusion criteria)

# Checks on Indicators of Child Health: C0-C5

## **We check:**

- The inclusion criteria countries used for fetal deaths and live births are recorded.
- There are not any discrepancies in the number of deaths provided by gestational age and birth weight.
- It is clearly stated whether TOP are included as fetal deaths.

## **Comments:**

Instead of reporting on live singleton births, many countries have reported on all births. We have had asked for adjusted data.



# Checks on Maternal health and delivery: C6-C10

## We check:

- The years for which the maternal mortality was provided and that they are consecutive.
- The multiple maternity rate, and parity totals and concordance between total deliveries and total births.
- The denominator used for the mode of delivery is the same.
- For indicators C7-C10, we checked that data was provided using the correct denominator whether mothers or babies.

C1-C5: DS1	by GA	by BW
Fetal deaths:	464	464
Annual neonatal deaths:	177	177
Cohort neonatal deaths:		
Annual infant deaths:	261	261
Cohort infant deaths:		
Live births:	115246	115246
Live singleton births:	111844	111844
Total births:	115710	115710

C7-C9: DS1	
Women delivering	113999
singletons	112279
twins	1693
triplets	27
quadruplet+	0
unknown	0
Total births	115746

## Comment:

- The newly added Robson category was not well described and this led to some confusion about whether the classification was exclusive (the correct use) or whether some deliveries could be in several categories at once (the incorrect use). Because of this error, we had to go back to some countries at the data check stage to confirm that they had correctly reported on this indicator.

# Checks on preliminary data tables

## Countries that responded

Austria
Bulgaria
Cyprus
Czech Republic
Germany
Ireland
Latvia
Lithuania
Netherlands
Romania
Slovenia
Switzerland
UK

## Corrections needed:

- Data sources
- Data years for C6 indicator
- Rounding errors
- Additionnal data or data updated provided

## Some errors due to data import:

- MVT C2 and C3 data all in annual instead of cohort
- C2: Currently the column « Live births  $\geq$  24 weeks » includes live births unknown for GA
- C4A, C5A: Currently the column « all stated » includes unknown
- C5A: « all » for total births includes TOPS and « not stated » includes only live births
- Different modalities used on MVT (individual level data) which do not match with groups in summary tables.
- We sent out for C2 cohort data twice instead of annual and cohort data.

# Checks on preliminary data tables

## Points to discuss:

- TOPs are included in C7, C8, C9 (indicators on mothers) and C10 indicators (mode of delivery) in some countries and not others.
- Choice of denominator for calculation of the rates: « all stated » vs « all ».
- Unknown C1-C10 vs missing data in C0.

Thank you!