



# **Euro-Peristat Meeting**

**April 9<sup>th</sup> and 10<sup>th</sup>**

**Abdij Rolduc Abbey, Kerkrade, the Netherlands**

**Jennifer Zeitlin**



**Institut national  
de la santé et de la recherche médicale**

# Welcome back...



## Paris 2016

# Introductions

## EURO-PERISTAT COUNTRY TEAMS

Austria



Belgium



Bulgaria



Croatia



Cyprus



Czech Rep.



Denmark



Estonia



Finland



France



Germany



Greece



Hungary



Iceland



Ireland



Italy



Latvia



Lithuania



Luxembourg



Malta



Netherlands



Norway



Poland



Portugal



Romania



Slovakia



Slovenia



Spain



Sweden



Switzerland



UK



## Other participants

- Peter Achterberg, National Institute for Public Health and the Environment (RIVM)
- Petronille Bogaert, EU Joint Action on Health Information, InfAct, Scientific Institute of Public Health, Belgium
- Nolwenn Regnault, EU Joint Action on Health Information, InfAct, French Public Health Institute
- Johanna Walz, European Foundation for the Care of Newborn Infants EFCNI
- Ingvild Hersoug Nedberg, University of Tromsø – The Arctic University of Norway (Georgian Birth Registry)

# Thank you

- Dutch team for funding for the hotel and meeting costs (Jan Nijhuis, Peter Achterberg, PERINED)
- Lucy Smith and the U of Leicester for contributing funds to the meeting and helping to organize the workshop on Tuesday (with Béatrice Blondel)
- Inserm for funding for the travel
- Marie and Mélanie for organizing everything (hotel and data!)
- The executive board members for the presentations
- All of you for being available and responsive

# Two main objectives of this meeting

- Review the data collected on core and two recommended indicators and develop plans for a report
  - *The strength and innovation of Euro-Peristat is not just collecting data, but collectively analysing data*
- Present and plan for the Joint Action on health information (InfAct), following up on BRIDGE Health
  - *Aim is to ensure sustainability for Euro-Peristat's work within a European health information system*

# Monday April 9th 8:30 to 17:30

8:30-9:30

## **Welcome and update**

Welcome, J Nijhuis

Introductions

Update on work since our last meeting, J Zeitlin

Update on data collection and data validation, M Durox

9:30-10:30

## **Indicators of perinatal health in Europe (15 min per theme)**

Number of live births: comparisons with Eurostat

Stillbirths and fetal deaths (C1), J Zeitlin

Neonatal and Infant Mortality (C2-C3), A Macfarlane

Maternal mortality (C6), S Alexander

10:30-11:00

Coffee break

11:00-12:00

## **Indicators of perinatal health in Europe in 2015, continued**

Preterm birth (C5), M Delnord

Low birthweight (C4) K Szamotulska

Multiple birth (C7) M Gissler

Maternal age and Parity (C8/C9) B Blonde

12:00-13:00

**Lunch**

# Monday April 9th 8:30 to 17:30

13:00-15:00

## **Indicators of perinatal health in Europe in 2015, continued**

Cesarean section (C10), H Barros

New indicator – the Robson classification, B Blondel

New approach - Microdata analyses, J Zeitlin

Two recommended indicators – Smoking and BMI – J Zeitlin

Next steps for producing the report

➤ **Presentation by EFCNI**

15:00-15:30

Coffee break

15:30-17:30

## **The InfAct Joint Action**

Results of BRIDGE Health, presentation of InfAct, P Bogaert

Presentation of Work Package 9 N Regnault

Euro-Peristat within the Joint Action, J Zeitlin

Marie Curie IF on use of health information, M Delnord

Euro-Peristat indicators and the ECHI list, M Delnord

Discussion: Euro-Peristat within a European system

➤ **Group Picture**

19:00

Dinner



# Tuesday April 10th 8:30 to 13:00

8:30-10:30

## **Workshop on registration of births and deaths**

(L Smith and B Blondel)

This workshop will investigate persisting differences across Europe in the registration of deaths and births that should be considered when comparing perinatal mortality rates.

10:30-11:00

Coffee Break

11:00-13:00

## ***Next steps***

Topics for further analysis and writing groups on core indicators

Improving indicators of maternal and neonatal morbidity

Data collection initiatives – use of IPD/micro data

Governance and structure

Integration into existing platforms

Website and Newsletter

13:00-14:00

Lunch

**End of meeting**

**Transport organized back to Brussels and Dusseldorf airports**



**Update since our last meeting**

# Accomplishments



- Participation in the BRIDGE Health project
  - Going to meetings, participating in discussions, including for regarding Euro-Peristat's role in new joint action InfAct
- Participation in WP7 on maternal and child health
- Responsible for report on horizontal theme on health inequality

# Communication: website newsletters

## EURO-PERISTAT NEWSLETTER ARCHIVES

Here you will find our latest newsletter and past issues. Through these updates our aim is to share data and analyses about the health and care of pregnant women and babies in Europe and to encourage discussion and debate about these results.

**> 2000  
stakeholders**



Issue 1 - march 2016

Issue 2 - july 2016

Issue 3 - december 2016

Issue 4 - june 2017

We also updated our section on National Perinatal Health Reports which is a valuable resource for perinatal health professionals: <http://www.europeristat.com/reports/national-perinatal-health-reports.html>

# Presentations

## **European Public Health Association - EUPHA**

- Milan 2015 (2 workshops), Vienna 2016 (2 workshops), Stockholm 2017 (1 workshop)

## **Other Conferences**

- European Congress on Perinatal Medicine, European Association of Perinatal Medicine (EAPM)
- UENPS (Union of European Neonatal and Perinatal Societies)
- EBCOG (European Board & College of Obstetricians & Gynecologists)
- 19th European Health Forum Gastein EHFG

# Publications

Siddiqui A et al . Can the Apgar Score be Used for International Comparisons of Newborn Health? Paediatr Perinat Epidemiol. 2017

Delnord M et al. International variations in the gestational age distribution of births: an ecological study in 34 high-income countries. Eur J Public Health

Blondel B et al. How do late terminations of pregnancy affect comparisons of stillbirth rates in Europe? Analyses of aggregated routine data from the Euro-Peristat Project. BJOG. 2017

Macfarlane et al. Wide differences in mode of delivery within Europe: risk-stratified analyses of aggregated routine data from the Euro-Peristat study. BJOG. 2016

Delnord M et al. Variations in very preterm birth rates in 30 high-income countries: are valid international comparisons possible using routine data? BJOG. 2016

Blondel B et al. Variations in rates of severe perineal tears and episiotomies in 20 European countries: a study based on routine national data in Euro-Peristat Project. Acta Obstet Gynecol Scand. 2016

Heino A et al. Committee.Variations in Multiple BirthRates and Impact on Perinatal Outcomes in Europe. PLoS One. 2016 Mar

Zeitlin J et al Socioeconomic inequalities in stillbirth rates in Europe: measuring the gap using routine data from the Euro-Peristat Project. BMC Pregnancy Childbirth. 2016

Delnord M et al. Linking databases on perinatal health: a review of the literature and current practices in Europe. The European Journal of Public Health 2016

# Publications – letters to the editor

Delnord M, Zeitlin J. Authors' reply re: Variations in very preterm birth rates in 30 high-income countries: are valid international comparisons possible using routine data? BJOG. 2017

Macfarlane AJ, Blondel B, Mohangoo AD, Cuttini M, Nijhuis J, Novak Z, Ólafsdóttir HS, Zeitlin J; Euro-Peristat Scientific Committee. Authors' reply re: Wide differences in mode of delivery within Europe: risk-stratified analyses of aggregated routine data from the Euro-Peristat study. BJOG. 2016

Alexander S, Zeitlin J. Stillbirths and fetal deaths-Better definitions to monitor practice and policy across countries. BJOG. 2017

- Lucy Smith's publication on stillbirth limits, under review at Lancet




# Paediatric and Perinatal Epidemiology

338

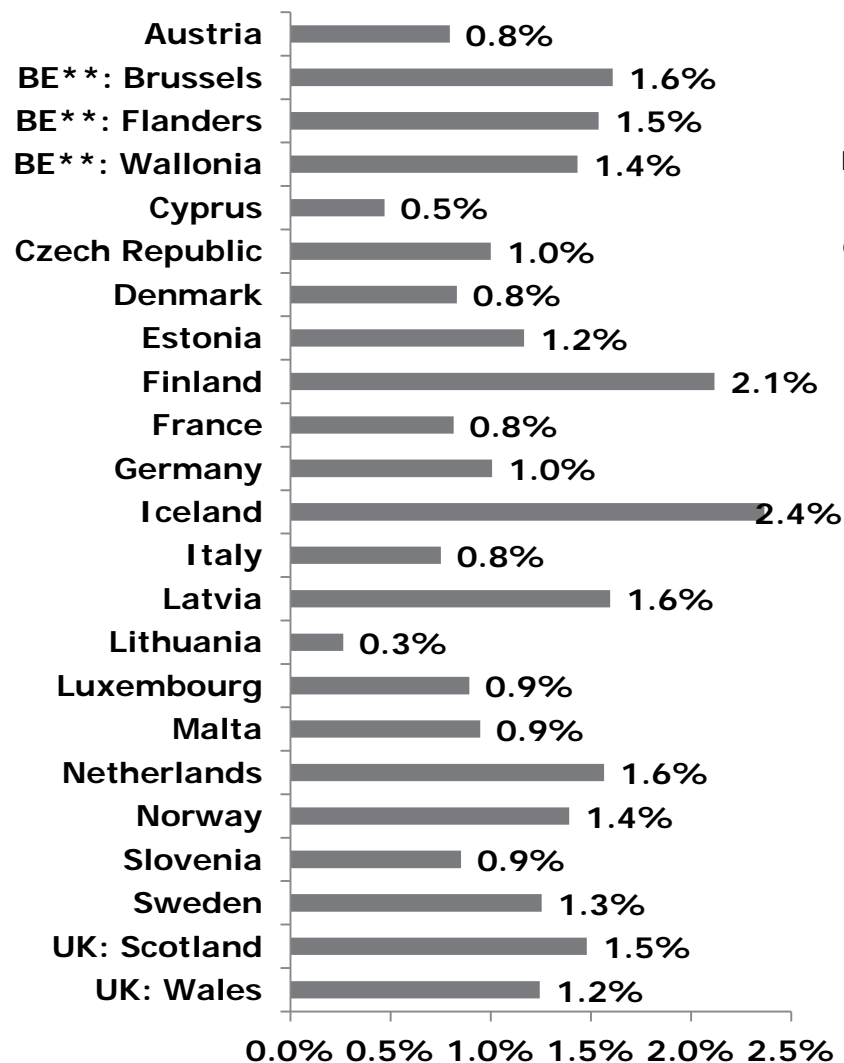
doi: 10.1111/ppe.12368

## Can the Apgar Score be Used for International Comparisons of Newborn Health?

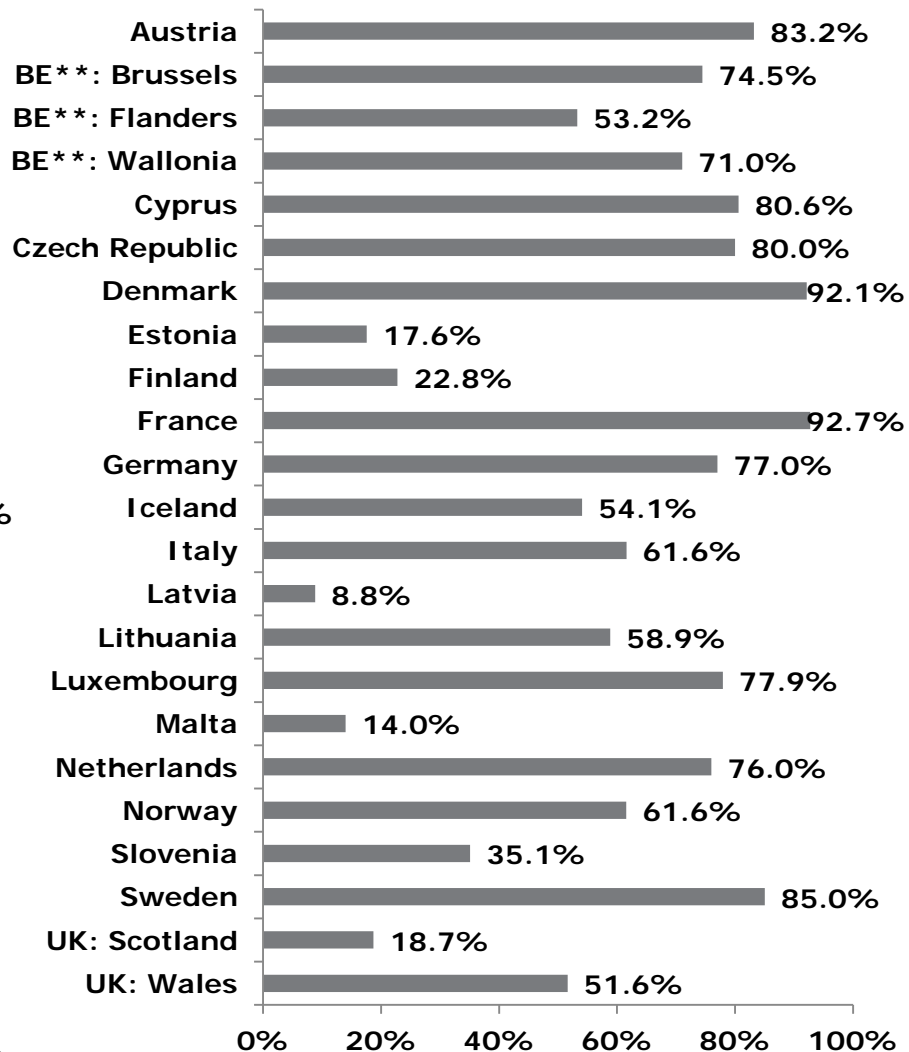
Ayesha Siddiqui,<sup>a</sup>  Marina Cuttini,<sup>b</sup> Rachel Wood,<sup>c</sup> Petr Velebil,<sup>d</sup> Marie Delnord,<sup>a</sup> Irisa Zile,<sup>e</sup> Henrique Barros,<sup>f</sup> Mika Gissler,<sup>g</sup>  
Ashna D Hindori-Mohangoo,<sup>h,i</sup> Béatrice Blondel,<sup>a</sup> Jennifer Zeitlin<sup>a</sup> for the Euro-Peristat Scientific Committee<sup>1</sup>

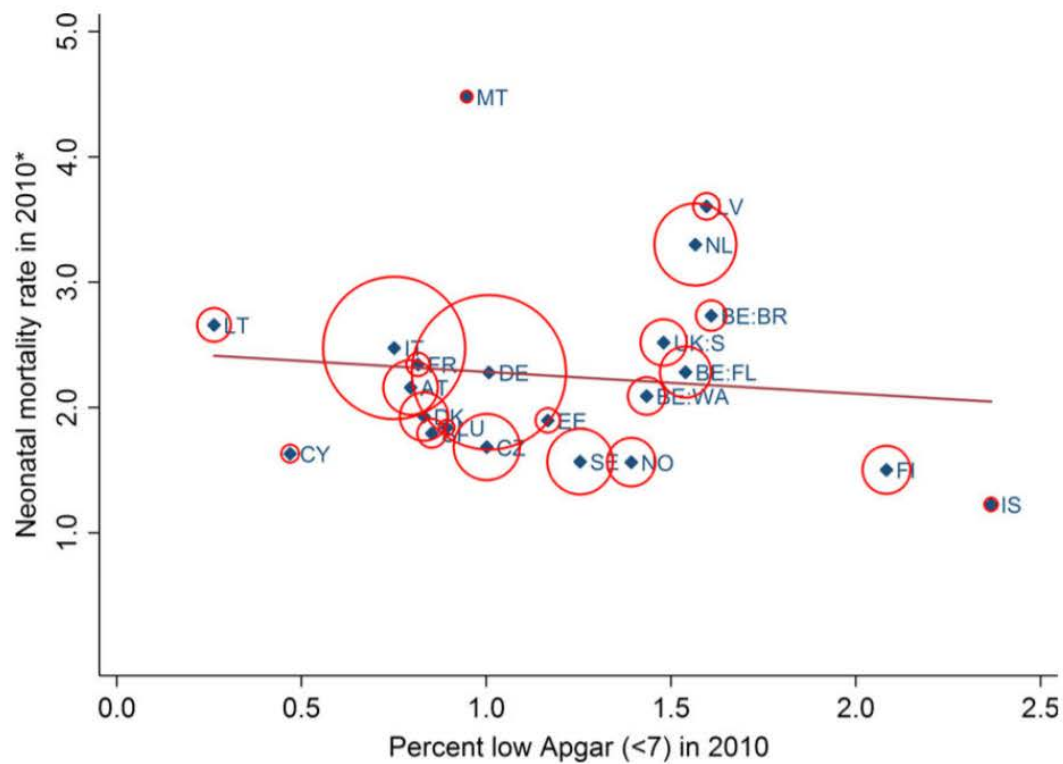


**% Apgar <7 (2010)**



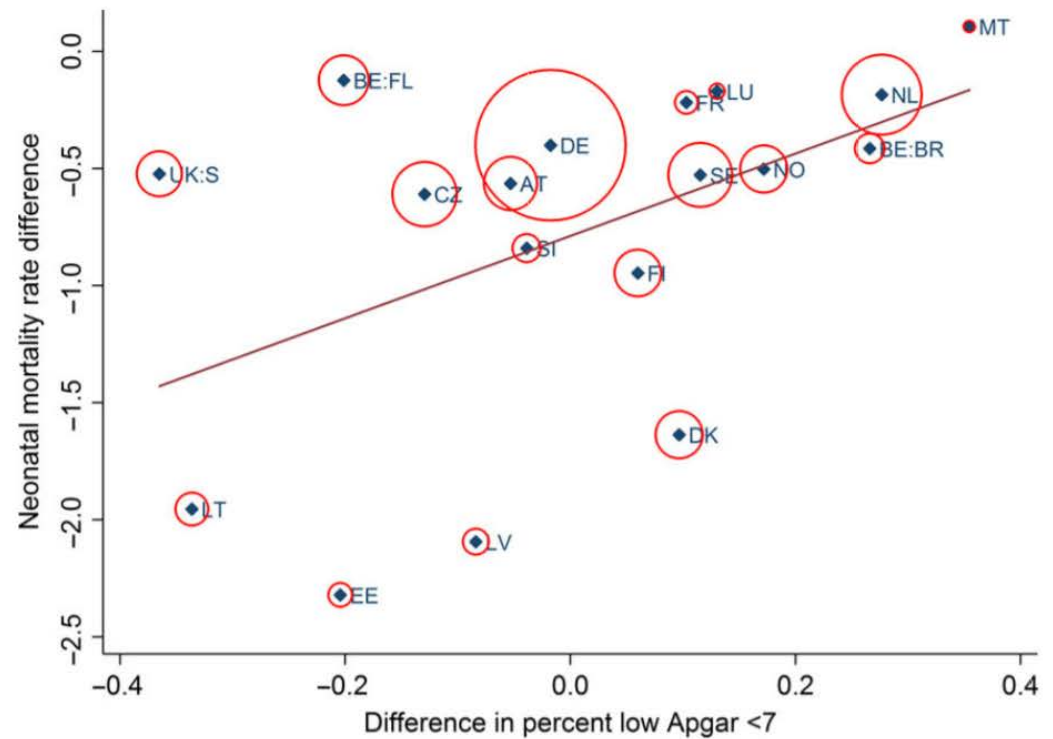
**% Apgar =10 (2010)**





**Figure 2.** Correlation of Neonatal Mortality Rates with Proportions of Apgar Scores <7 in 2010. NOTES: \*Neonatal deaths per 1,000 live births; red circles proportional to annual number of births within each country; Spearman's rho:  $-0.06$  ( $p=0.78$ ),  $N=22$ .

**Figure 3.** Correlation of Neonatal Mortality Rate Differences with Differences in Percent of Apgar Scores <7 in 2010 and 2004. NOTES: red circles proportional to annual number of births within each country; Spearman's rho: 0.56 ( $p=0.02$ ),  $N=19$ .





# BJOG

An International Journal of  
Obstetrics and Gynaecology

DOI: 10.1111/1471-0528.14767

[www.bjog.org](http://www.bjog.org)

**Epidemiology & Public health – From data to prevention**

## **How do late terminations of pregnancy affect comparisons of stillbirth rates in Europe? Analyses of aggregated routine data from the Euro-Peristat Project**

B Blondel,<sup>a</sup> M Cuttini,<sup>b</sup> AD Hindori-Mohangoo,<sup>c,d</sup> M Gissler,<sup>e</sup> M Loghi,<sup>f</sup> C Prunet,<sup>a</sup> A Heino,<sup>e</sup>  
L Smith,<sup>g</sup> K van der Pal-de Bruin,<sup>c</sup> A Macfarlane,<sup>h</sup> J Zeitlin,<sup>a</sup> the Euro-Peristat Scientific Committee<sup>†</sup>

# Recent publications by others

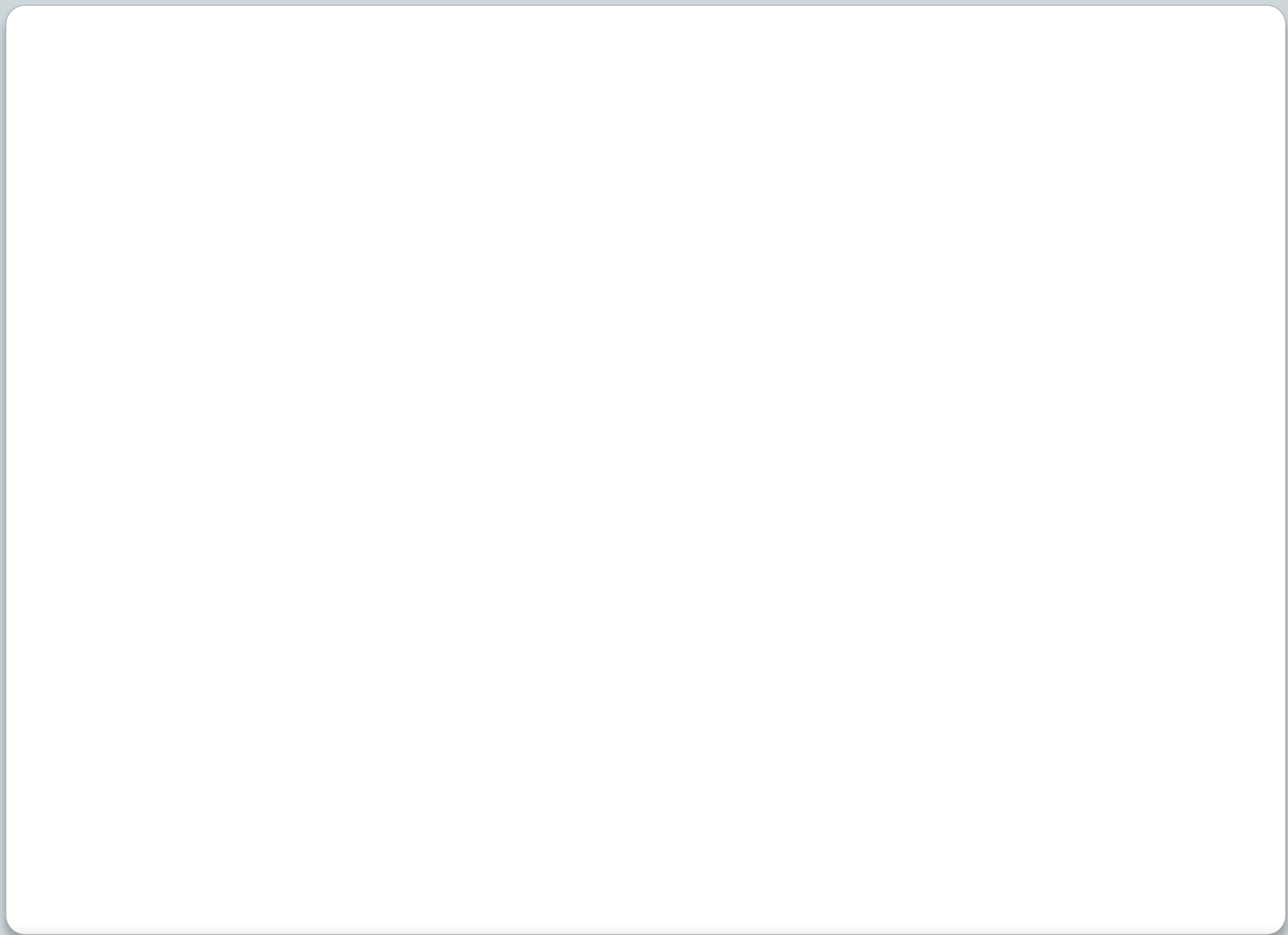
Zylbersztejn A, Gilbert R, Hjern A, Hardelid P. How can we make international comparisons of infant mortality in high income countries based on aggregate data more relevant to policy? BMC Pregnancy Childbirth. 2017

Alice Chen, Emily Oster, Heidi Williams, Why is Infant Mortality Higher in the US than in Europe?, NBER Working Paper No. 20525, August 2015  
<http://www.nber.org/papers/w20525>

Gonzalez, Roberto M. Infant Mortality in Cuba: Myth and Reality, Cuban Studies, Vol.43, July 1, 2015

# **Reinforce capacity and reduce inequalities in data transfer, sharing**

- Design, pretest and implementation of a new protocol for data collection using multivariate aggregate data tables to compile the Euro-Peristat Core Indicators
  - Also use of the standard Euro-peristat collection file
- The next three sessions will be about this work



# Report: A proposal

In two stages

- First produce a report on the 10 core indicators and 2 recommended indicators that have been collected
- Collect the other recommended indicators and issue a separate report
- Data tables on website at a later date



# Questions for Part I

When

- What is a reasonable calendar for part I (before vs. after the summer)
- What format – online or paper

How to:

- Finalizing data correction (all the tables)
- Endorsing the tables and calendar
- Establishing groups for finalizing analysis & writing the report

# Indicators

- 10 Core
- 20 Recommended
- Four categories
  - Fetal/neonatal, child health
  - Maternal health
  - Population characteristics
  - Health services

## FETAL, NEONATAL, AND CHILD HEALTH

- C1: Fetal mortality rate by gestational age, birth weight, and plurality
- C2: Neonatal mortality rate by gestational age, birth weight, and plurality
- C3: Infant mortality rate by gestational age, birth weight, and plurality
- C4: Distribution of birth weight by vital status, gestational age, and plurality
- C5: Distribution of gestational age by vital status and plurality
- R1: Prevalence of selected congenital anomalies
- R2: Distribution of Apgar scores at 5 minutes
- R3: Fetal and neonatal deaths due to congenital anomalies
- R4: Prevalence of cerebral palsy

## MATERNAL HEALTH

- C6: Maternal mortality ratio
- R5: Maternal mortality by cause of death
- R6: Incidence of severe maternal morbidity
- F7: Incidence of tears to the perineum

## POPULATION CHARACTERISTICS/RISK FACTORS

- C7: Multiple birth rate by number of fetuses
- C8: Distribution of maternal age
- C9: Distribution of parity
- R8: Percentage of women who smoked during pregnancy
- R9: Distribution of mothers' educational level
- R10: Distribution of parents' occupational classification
- R11: Distribution of mothers' country of birth
- R12: Distribution of mothers' prepregnancy body mass index (BMI)

## HEALTHCARE SERVICES

- C10: Mode of delivery by parity, plurality, presentation, previous caesarean section, and gestational age
- R13: Percentage of all pregnancies following treatment for subfertility
- R14: Distribution of timing of first antenatal visit
- R15: Distribution of births by mode of onset of labour
- R16: Distribution of place of birth by volume of deliveries
- R17: Percentage of very preterm babies delivered in units without a neonatal intensive care unit (NICU)
- R18: Episiotomy rate
- R19: Births without obstetric intervention
- R20: Percentage of infants breast fed at birth

# Questions for Part II

When

- Reasonable calendar for collection other RECOMMENDED indicators

How to:

- Changes to the recommended indicators before collection
  - Maternal morbidity
  - Others - (Apgar?) – should we review

# Dissemination & communication

Experiences from the last time

Press releases

A scientific publication?

Engagement of stakeholders?  
(presentation from EFCNI)

# **Changes to the recommended indicators**

## **Maternal morbidity**

## R6: Severe maternal morbidity

- Eclampsia
- ICU admission
- Blood transfusion
- Hysterectomy
- Embolization

Country/coverage	Source	Number of women	Rates per 1000 women							
			Eclampsia	ICU admission	3 units or more	5 units or more	Other amount	No units specified	Hysterectomy	Embolisation
Belgium										
Czech Republic	1	114 407	0.2						0.3	
Denmark	1	62 203	0.5							
Germany	1	625 615	0.6	4.9	NA	NA	14.3	NA	1.0	0.0
Estonia	1	15 646	0.3		NA	NA	NA	3.9	1.3	

- Over 50% of missing data
- Only 5 countries were able to provide the complete indicator
- Unrealistically large variability between countries
  - 1 to 9 ratio for eclampsia / 1 to 14 for embolizations / 1 to 227 for transfusions

Iceland	1+4	4834	0.6	0.4					0.2	0.0
Norway	1	61 539	0.5	18.4	NA	NA	NA	18.0	0.3	0.1
Switzerland	3	78 784	0.6	2.3	NA	NA	NA	10.1	0.7	0.4

# EURONET-SAMM project:

## EUROpean NETwork on Severe Acute Maternal Morbidity

- 13 countries



- to develop a valid, reliable, comparable and feasible indicator of SAMM in Europe
- All countries have permanent databases that could be used (hospital discharge databases or perinatal registers, etc...)

# Indicator of SAMM

- Coding of diagnoses
    - ICD-10 international version (8 countries), ICD-10 with German modifications (2 countries), ICD-10 with Danish modifications (1 country) ICD-9 international version (3 countries)
  - Coding of procedures
    - ICD-9-CM (3 countries), ICD-10-PCS (used by 2 countries), NOMESCO (2 countries), OPCS-IV (2 countries), CHOP (1 country), CCAM (1 country)
  - Only 5/13 countries can identify ICU admissions
- **10 different algorithms for the morbidity indicator were developed and analyses are on-going**



## **Eclampsia**

Nothing to modify, propose codes in the 2 principal diagnostic classifications used in Europe

Codes for selecting abstracts related to pregnancy or delivery stay

in ICD 10: codes beginning by O in chapter Oxx.x or equal to Z32.1 – Z33.x – Z34.x – Z35.x – Z37.X – Z39.x/In ICD 9: codes in chapters 63.x, 64.x, 65.x, 66.x, 67.x or equal to V72.42 – V22.x – V23.x – V24.x – V27.x

AND codes for eclampsia :

ICD10 codes: O15.x (meaning all codes beginning with O15; i.e O15.0, O15.1, O15.2, O15.9...)

ICD9 codes: 642.6x

## **Fiche Blood-Transfusion**

Modify the title to: Blood-Transfusion in the context of obstetric haemorrhage:

« ~~Blood Transfusion: all acts or processes of transferring blood into the vein, including transfusion of red blood cells, platelets, and fresh frozen plasma~~ » « Blood Transfusion : only red blood cell transfusions (RBC transfusions) in a context of obstetric haemorrhage »

Codes for selecting abstracts related to pregnancy or delivery stay

in ICD 10: codes beginning by O in chapter Oxx.x or equal to Z32.1 – Z33.x – Z34.x – Z35.x – Z37.X – Z39.x/In ICD 9: codes in chapters 63.x, 64.x, 65.x, 66.x, 67.x or equal to V72.42 – V22.x – V23.x – V24.x – V27.x

AND codes for identifying the context of obstetric haemorrhage:

ICD 10: O44.1 - O45.0 - O46.0 - O67.x - O72.x AND RBC transfusion codes

ICD 9: 666.xx – 641.1x – 641.3x – 641.8x – 641.9x AND RBC transfusion codes

## **Hysterectomy 2 distinct sheets**

### **Fiche 1: Hysterectomy in the context of pregnancy or delivery stay**

Hysterectomy : « Surgical remove of the uterus (partial or total, body and/or cervix) for stopping the untreatable post-partum haemorrhage »

Hysterectomy : « Surgical remove of the uterus (partial or total, body and/or cervix) during pregnancy or the delivery stay »

Add codes for selecting abstracts related to pregnancy or delivery stay:

### **Fiche 2: Hysterectomy for obstetric haemorrhage**

Hysterectomy : « Surgical remove of the uterus (partial or total, body and/or cervix) for stopping the untreatable post-partum haemorrhage »

Hysterectomy for obstetric haemorrhage: « Surgical remove of the uterus (partial or total, body and/or cervix) in the context of an obstetric haemorrhage»

Add codes for selecting abstracts related to pregnancy or delivery stay:

AND codes for identifying the context of obstetric haemorrhage:

ICD 10: 044.1 - 045.0 - 046.0 - 067.x - 072.x AND RBC transfusion codes

ICD 9: 666.xx – 641.1x – 641.3x – 641.8x – 641.9x AND RBC transfusion codes

## **Embolisation: remove**

## **Septicemia : Add**

Codes for selecting abstracts related to pregnancy or delivery stay:

in ICD 10: codes beginning by O in chapter Oxx.x or equal to Z32.1 – Z33.x – Z34.x – Z35.x – Z37.X – Z39.x

In ICD 9: codes in chapters 63.x, 64.x, 65.x, 66.x, 67.x or equal to V72.42 – V22.x – V23.x – V24.x – V27.x

AND codes for septicemia:

ICD 10 codes: O85 - O75.3

ICD 9 codes: 670.2x - 659.3x

## **ICU admission : Remove**

Procedure codes harmonized for

- NOMESCO for Nordic countries (Iceland, Finland, Norway, Sweden, Denmark.
- OPCS-IV for the UK
- ICD-9-CM for ICD-9-Clinical modifications for Italy and Portugal
- CHOP for Switzerland
- CCAM for France

<b>Euro-Peristat report</b>	<b>EURONET-SAMM</b>	<b>Proposal future Euro-Peristat</b>
<b>Eclampsia</b>	Eclampsia	Eclampsia
<b>Hysterectomy</b>	Hysterectomy in the context of pregnancy or delivery stay	Hysterectomy in the context of pregnancy or delivery stay
	Hysterectomy for obstetric haemorrhage	Hysterectomy for obstetric haemorrhage
<b>Embolisation</b>		Embolisation
<b>Transfusion</b>	Transfusion dans le contexte d'une hémorragie obstétricale	Transfusion dans le contexte d'une hémorragie obstétricale
<b>Admission to ICU</b>		<del>Admission to ICU</del>
	Septicemia	Septicemia

# **Session on InfAct**

# Euro-Peristat within the JA

- Will participate in WP7, WP8 and WP9. Tasks involve
- Supporting the conceptualisation of domain specific nodes within a future sustainable health information system (WP7)
- Transferring information about indicators, data transfer protocols, quality control and reporting from the Euro-Peristat network (WP8)
- Analysis to develop new indicators of maternal and child health using routine administrative databases (WP9)
- Work to promote sustainable indicators including work to integrate indicators within Eurostat (WP9)
- In order to achieve these tasks, coordination of the Euro-peristat network of 31 member countries will be undertaken (all WP)