

The French experience (s) of linkage for maternal mortality

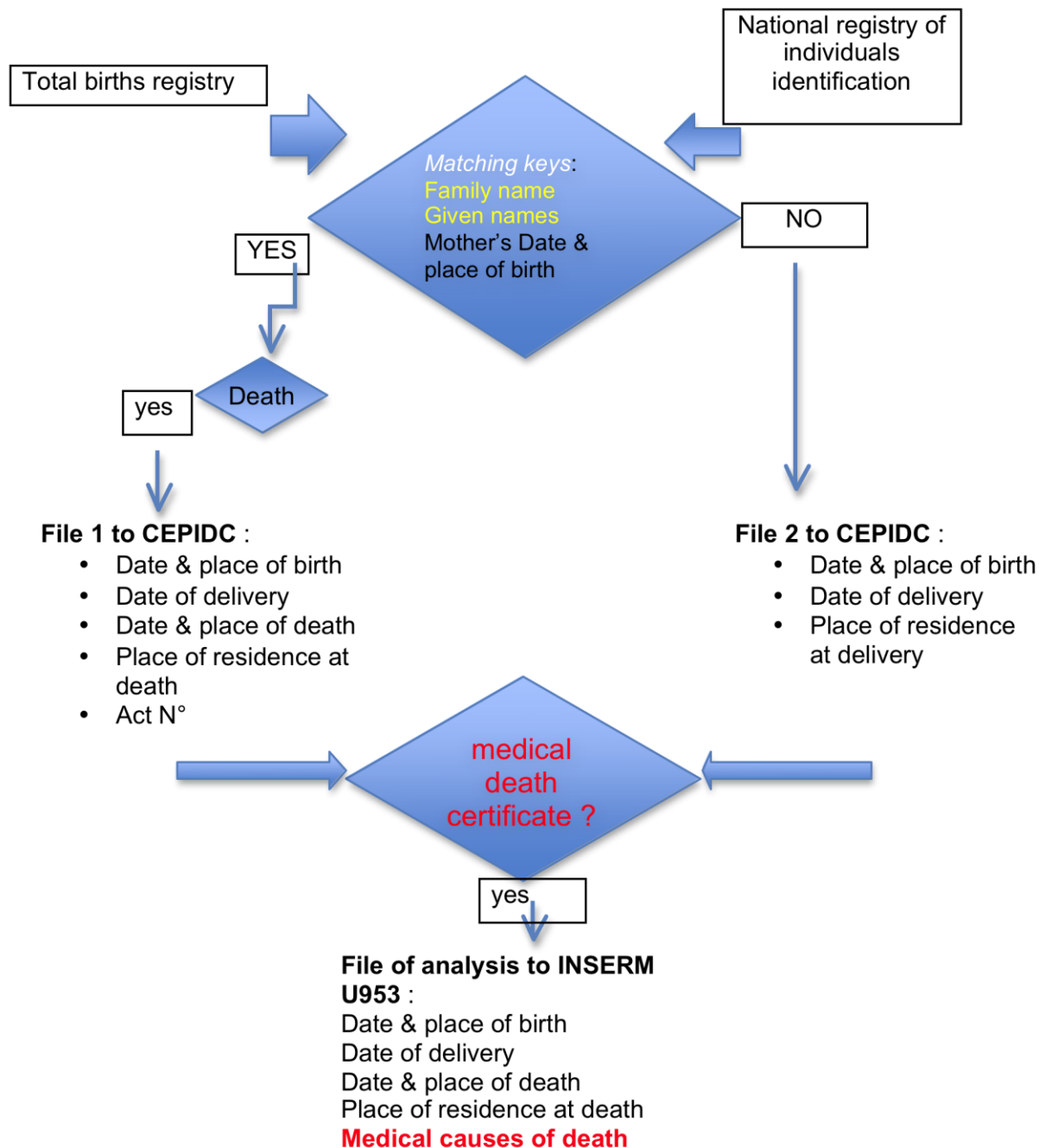
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Recherche épidémiologique en
Santé périnatale et santé des femmes et des enfants
INSERM- Unité 953

Références

Bouvier-Colle MH, Deneux-Tharaux C, Szego E, Couet C, et al. **Nouvelle estimation de la mortalité maternelle en France.** J Gynecol Obstet Biol Reprod, 2004 ; 33 :421-429.

Deneux-Tharaux C, Berg CJ, Bouvier-Colle MH, Gissler M, Harper M, et al. **Underreporting of Pregnancy-Related Mortality in the United States and Europe.** Obstet Gynecol 2005;(106)4:684-692.



An ongoing study for the maternal deaths 2007, 2008, 2009

The same linkages but we are adding the hospital data bases (PMSI files)

Keys of matching :

age

Place and month of delivery in the year

Causes of hospitalisation

Searching the good algorithm

Maternal health in Europe

Assess capacity to develop routine monitoring of maternal health

General context

Health policies during the 1970's and 1980's : more attention on infant than mothers >>> some delay in the outils for surveillance of maternal health

Women generally in excellent condition when pregnant
Maternal morbidity uses to be very rare in our countries

But

1987, general plea launched for safe motherhood worldwide

Greater focus on maternal mortality

Then initiatives taken for maternal morbidity

An analysis of maternal mortality and morbidity in health surveillance systems

Plan

Questions of definition of Severe Maternal Morbidity

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WHO's definition

European surveys

Data Sources ?

Our first results (Euro peristat group)

maternal deaths

hospital data base

Discussion

Questions of definition of SMM

EURO PERISTAT

Alexander (*Eur J Obstet Gynecol Rep Biol* 2004)

Porto definition

WHO's definition

2004

2009

European surveys

- Scottish confidential audit of SMM (*Brace V BJOG* 2004)
- UKOSS focus in turning (*Knight M RCM Midwives* 2005)
- Lemmon, prospective and transversal nationwide population based study in the Netherlands (*Zwart JJ BJOG* 2008)
- Nordic project
- EPIMOMS, French Delphi; prospective population based survey (*ongoing paper*)

EURO PERISTAT 2012, London

Epidemiological studies focusing on specific aspects of severe maternal morbidity

More information, essential complement to routine reporting; usually population based ; giving better estimates of the SMM rates and possibility to analyses determinants

The Scottish confidential audit of SMM is the oldest survey (2003); allows calculation of indicators annually

The United Kingdom Obstetric surveillance system covering (**UKOSS**) the country, ongoing system which focuses in turn on specific types of rare severe maternal disease

Others (**Lemmon**, the Nordic, **EPIMOMS**, Severe maternal morbidity: measurement, determinants and quality of care) project, are transversal,

NOT TO ENABLE ROUTINE FOLLOW UP OVER TIME

The European Perinatal Health Report, 2004

our first results

1) Maternal mortality, two principal indicators
recommended (from 2003)

- Maternal mortality ratio (MMR) by age, mode of delivery
- Causes of maternal death

2) Indices from the hospital discharge data base

- Eclamptic seizures = disease specific ICD codes
- Hysterectomy, embolisation for treating PPH, = combination of management and disease
- Blood transfusion = management based criteria
- ICU > 24 hours = management based criteria

Maternal mortality

The general European profile of stated direct obstetric causes of death shows :

- **obstetric haemorrhages** (majority of PPH by atony) accounted for the highest proportion 13 %
- Amniotic fluid embolism : 11%
- Thromboembolisms : 10 %
- Complications of hypertension : 9%

In **9 countries** that provided data to the Europeristat project, we were able **to check** the completeness for routinely collected data about maternal deaths by **comparing ratios with other published studies** on maternal deaths

Underascertainment is comprised between **20** and **50%**

Often **underestimation is higher** in countries with a **lower official** rate

Maternal morbidity

Not a great success

	Number of women	Eclampsia	ICU admission	Blood transfusion whatever the number of units ²	Hysterectomy	Embolisation
Austria ¹						
Belgium Flanders	59 956	NA	NA	11,5	NA	NA
Cyprus ¹						
Czech Republic	96 771	0,2	NA	NA	0,8	NA
Denmark	63 781	0,3	NA	11,0	0,3	0,0
Estonia	13 879	0,6	NA	NA	0,9	NA
Finland	56 878	0,2	NA	0,1	0,2	0,2
France	774 870	1,1	0,5	2,1	0,3	0,3
Germany- Bavaria	105 490	0,7	3,1	10,7	1,0	0,0
Greece*						
Hungary	93 913	0,5	NA	NA	1,0	0,0
Ireland ¹						
Italy	534 568	1,6	NA	4,6	0,9	0,0
Latvia	20 256	0,4	NA		0,8	NA
Lithuania ¹						
Luxembourg						
Malta	3 838	1,3	NA	5,2	0,5	NA
Netherlands	187 910	0,7	2,2	6,4	0,3	0,3
Norway						
Poland	213 190	0,2	NA	NA	NA	NA
Portugal ¹						
Scotland only	53 342	0,6	NA	NA	0,2	NA
Slovakia ¹						
Slovenia	17 629	1,1	NA	10,6	0,6	NA
Spain- Valencia	38 389	0,3	NA	6,5	0,3	NA
Sweden ¹						
United Kingdom (Wales and Scotland)	82 911	0,67 ³	NA	NA	0.13 ³	NA

Maternal morbidity indices from the hospital discharge data bases

16 countries provided data for at least one of the indicators of SMM, but only 3 provided data about all the categories

2 complications the most often available
hysterectomy
eclampsia

Data for embolisation of uterine arteries available only in 7 countries: 0.0 to 0.3 per 1000

Data for ICU admission generally not available, large differences between country (6 fold)

Blood transfusion data: very wide variations, most like due to differences in inclusion criteria

Discussion

Absence of good data (maternal mortality and morbidity) undermines national and European capacity to monitor maternal health

Calls for greater focus on mothers are still relevant for EU countries

- **Reporting maternal deaths:** two problems
 - complement of ascertainment
 - quality of coding

The very low MM ratios in some countries are incredible

- **Morbidity data ?**
 - No hospital discharge data at the national level ?
 - We did not have the good referent in the Group
 - Not enough involvement ?

Discussion -2

SMM limitations of hospital discharge data

Use of ICD codes from the WHO (although there is sections on direct and indirect obstetrical complications) does not define severity

Variations in the reporting of diagnoses which are not the main diagnoses

No distinction between morbidity associated with pregnancy (temporal association)

From maternal morbidity directly caused by pregnancy (tempo & causal association)

conclusion

Implementing **data linkage** and **confidential enquiries** in European countries would substantially improve the ascertainment of maternal deaths

Given the degree of variation in the MMRs, very essential to **develop valid indicators** of SMM which have higher incidence and have a greater potential to measure trends over time

Future line of research: validate the accuracy of reporting of hospital data bases or discharge summaries

According to a definition of SMM that combines codes and procedures with diagnoses