

# Maternal mortality: A reduction in deaths from haemorrhage

December 2 2013

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The new report, "Maternal Mortality in France," coordinated by Inserm Unit U953, Epidemiological Research Unit on Perinatal Health and Women's and Children's Health, announces a reduction in the rate of mortality due to postpartum haemorrhage—the leading cause of maternal mortality in France—for the 2007-2009 data compared to 2004-2006.

Twenty recommendations have been formulated by the French National Expert Committee on Maternal Mortality with the aim of raising awareness among health professionals and prospective parents, in consultation with the French National College of Obstetricians and Gynaecologists and the French Society of Anaesthetists/Obstetric Anaesthesia Club.

The epidemiological results of these studies are published in the November 2013 issue of *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*.

Maternal death has become a very rare event, but remains a recognised and fundamental health indicator for a country, and a signal for [health professionals](#) and decision-makers of possible dysfunction in the care system. Maternal death is the death of a woman while pregnant or within 42 days, or one year, of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

From 2007 to 2009, 254 maternal deaths were identified, representing deaths of 85 women per year in France, from a cause related to pregnancy, childbirth or their aftermath, giving a maternal death rate of 10.3 per 100,000 live births. France has a rate comparable to that of neighbouring European countries that have an enhanced surveillance system, and compares favourably to the Netherlands and the United States, where the rate is growing.

A new, encouraging finding is that maternal death from postpartum haemorrhage—the leading cause of maternal mortality in France—decreased during the 2007-2009 period compared with 2004-2006.

According to the improved methodology for measurement, which must be put on a permanent footing, the rate of maternal mortality is generally stable. It seems possible to reduce it even further, since progress has been made, i.e. a reduction in deaths associated with haemorrhage and a decrease in suboptimal care.

"These results need to be examined in the light of the substantial mobilisation in the last ten years of researchers and clinicians, whose attention was drawn to the initial results of this survey in order to evaluate and improve care in relation to obstetric haemorrhage. However, the improvement must be pursued, since approximately 50% of these deaths were considered "avoidable" in France under current conditions, and given the widespread access of pregnant women to antenatal surveillance and quality care," comments Marie-Hélène Bouvier-Colle, Emeritus Research Director at Inserm Unit U953, Epidemiological Research Unit on Perinatal Health and Women's and Children's Health.

## **Maternal risk factors**

Maternal age and nationality, and the region where death occurs are the main individual factors identified as being associated with maternal mortality.

Age is a key factor in maternal mortality: over 50% of deaths involve women aged between 30 and 39 years, which can be explained by the fact that pregnancy is generally occurring at an increasingly higher age, and by the distinctly elevated risk of maternal death after 35 years.

Significant differences are observed between nationalities: women of Sub-Saharan nationality have the highest maternal mortality rate, at 22.4 per 100,000, i.e. twice as high as that of French women.

Rates vary for the different regions in France—the rate of maternal mortality is higher than the national average in the overseas departments (32.2 per 100,000) and in Ile de France (12.5).

Other risk factors for maternal death are obesity and multiple pregnancies.

## **Obstetric causes of death**

The leading direct causes of [maternal mortality](#) are obstetric haemorrhage, which represents 18% of deaths, and, something relatively new, pulmonary embolism (11%), and complications of hypertension (9%).

The big change concerns the percentage of postpartum haemorrhage, which has declined by half since the last report (8%, or 1.9/100,000, compared with 16%, or 2.5/100,000, in 2004-2006). This encouraging result is probably due to the mobilisation of professionals for the last few years.

## Adequacy of care and avoidability

Care was judged "suboptimal," i.e. non-compliant with current recommended practice and knowledge, for 60% of deaths reviewed, compared with 72% between 1990 and 2000, which represents a significant decrease. Deaths from haemorrhage show the largest proportion of suboptimal care (81%).

Maternal deaths were judged "avoidable" in 54% of cases, i.e. a modification in the patient's care or attitude in terms of medical opinion could have changed the fatal outcome (error or delay in diagnosis, delay or inappropriate first aid, inadequate treatment, delay in treatment or in intervention, and neglect of the patient). This rate, stable over time, is still mainly due to inadequate or delayed treatment, which implies that there is room for improvement.

These results have enabled the authors of the report to make 20 recommendations, among which we can mention:

- the importance of involvement of care-givers in the reporting and review of [maternal deaths](#), in order to ensure a better knowledge of the national profile of these cases.
- risk assessment prior to conception and at the start of pregnancy, through prevention: vaccination against influenza for women who are pregnant or may become pregnant, risk assessment for a pregnancy where there is a preexisting pathology,
- medical examination of the pregnant woman outside the obstetric arena (examination of the heart, for example),
- maintaining vigilance after delivery when the mother returns home, i.e. informing her of the signs of venous thromboembolic events and arterial ischaemic stroke. A measure the importance of which is emphasised by Gérard Lévy, President of the National Expert Committee, especially given that women are

returning home sooner and sooner after delivery.

- the importance of post-mortem examinations in cases of maternal death,
- other messages concern the medical management of obstetric haemorrhage, infection, hypertensive diseases, amniotic embolism, and venous thromboembolism.

**More information:** [www.sciencedirect.com/science/ ...  
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Provided by Institut National de la Sante et de la Recherche Medicale

Citation: Maternal mortality: A reduction in deaths from haemorrhage (2013, December 2)  
retrieved 27 April 2024 from

<https://medicalxpress.com/news/2013-12-maternal-mortality-reduction-deaths-haemorrhage.html>

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