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Jennifer Zeitlin, Ashna Mohangoo, Marina Cuttini and the EUROPERISTAT Report Writing Committee\*

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# The European Perinatal Health Report: comparing the health and care of pregnant women and newborn babies in Europe

Jennifer Zeitlin,<sup>1</sup> Ashna Mohangoo,<sup>2</sup> Marina Cuttini<sup>3</sup>, and the EUROPERISTAT Report Writing Committee\*

In December 2008, the EURO-PERISTAT project launched the first European Perinatal Health Report. This presents and comments on indicators of perinatal health and care derived from routine statistical data in 25 EU member states and Norway.<sup>1</sup> The report is part of the EU Health Programme for health surveillance and reporting. It also includes chapters from three other European projects with perinatal data: Surveillance of Cerebral Palsy in Europe (SCPE), European Surveillance of Congenital Anomalies (Eurocat) and European Neonatal Information System (Euroneostat).

Maternal and infant mortality have reached historic lows in Europe, but pregnancy and delivery still represent significant risks for women and their babies. Mortality during birth and the first month is higher than in any other period of life excluding old age. Over the years, stillbirth rates have decreased to a lesser extent than neonatal and infant mortality, and their causes remain largely unknown.<sup>2</sup> Maternal deaths are rare but tragic events, particularly because a significant proportion of these deaths are associated with substandard care.<sup>3</sup>

Preterm birth and low birthweight form a stable if not increasing proportion of all births, and the scope for prevention has lagged behind developments in care.<sup>4</sup> Their adverse effects extend from increased mortality to long-term physical, neurological and cognitive impairment,

representing significant burdens for the children and their families, and a challenge for health and social services.<sup>5</sup> Even in the absence of overt impairments, there is growing evidence that health in the perinatal period affects adult health. Babies born too small because of fetal growth restriction are more likely to develop metabolic syndrome as adults.<sup>6</sup> Other connections between perinatal and adult health are being explored, and this life course approach to epidemiology requires good data on pregnancy and infancy.

While medical and technological innovations have contributed to declines in maternal and perinatal mortality, they have also raised new risks and ethical issues. Babies born alive at 24 and 25 weeks of gestation now have a 50% or greater chance of survival, but with high rates of impairments.<sup>5</sup> Medical procedures have made it possible for more couples to conceive, but the use of these procedures can increase the rate of multiple births and adverse pregnancy outcomes.<sup>7</sup> European health professionals are faced with the task of using new technologies while minimising their negative effects, and avoiding inappropriate medicalisation for the vast majority of women who have uncomplicated pregnancies and deliveries.

A final reason to monitor perinatal health is its sensitivity as a measure of overall population well-being and quality of health care. Many European countries provide universal health care and enjoy similarly high standards of living. Within countries, however, poverty and low socio-economic status are associated with worse pregnancy outcomes.<sup>8</sup> Welfare regulations and access to health services may change over time, and monitoring perinatal health will provide an instrument for the timely detection of adverse consequences.

The European Perinatal Health Report builds on several years of work by the EURO-PERISTAT group, which has identified appropriate indicators for perinatal

health and standardised definitions and reporting rules to improve comparability and facilitate interpretation of differences.<sup>9 10</sup> Ten core and 24 recommended indicators were agreed upon. Most of them are not currently included in the existing international databases such as EUROSTAT, World Health Organization (WHO) Regional Office for Europe's Health for All, and Organization for Economic Co-operation and Development (OECD) health data. Of the recommended indicators, 10 require further development before implementation.

Implementing the indicators was a challenging task in the participating countries. Only neonatal mortality was available in every country, and no country could meet the requirements for all indicators. Sometimes, differences in definitions or data quality were insurmountable, and these are described in the report. Indicators of fetal and neonatal mortality are sensitive to the way the data are collected, for instance, in some countries terminations of pregnancy at or after 22 weeks of gestation are reported as fetal deaths, whereas elsewhere they are recorded in separate systems or not recorded at all. Thresholds for the inclusion of fetal deaths and live births in routine databases vary across Europe, and this has implications for the counting of cases at borderline viability.<sup>11</sup> These methodological shortcomings cannot always be solved without changes to birth and death registration legislation or processes. Data on maternal mortality illustrate this difficulty most acutely. Many countries with high or moderately high levels of maternal mortality are those where enhanced ascertainment procedures exist.

Despite these limitations, assembling the data currently available in a single volume in this report substantially improves our knowledge about perinatal health outcomes and care in Europe. It also raises important questions about the health care, social and other factors that contribute to differences in outcomes between countries. The proportion of very preterm births (before 32 weeks of gestation) appears rather stable at about 1% of live births in most countries, while that of total preterm births varies more widely from 5.5% to 11.4%. The rate of low birthweight (<2500 g) shows a north to south increasing trend, raising questions on the appropriateness of a single standard in different populations. Fetal mortality, including fetal deaths at 28 weeks of gestation or over, ranges from around 3.5 per 1000 total births in

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Slovakia, Spain and Finland to over 6 per 1000 births in France, the Netherlands, Latvia and Scotland (UK), while neonatal mortality varies from around 2 per 1000 live births in Norway and Sweden to over 4 per 1000 in Latvia, Lithuania, Poland and Estonia. No single country consistently occupies the best ranking position, which illustrates the importance of avoiding comparisons based on single indicators only (the “report card” or “league table” approach).

Health care practices vary widely across countries, revealing the lack of consensus among clinicians about many common procedures such as induction of labour, episiotomy and instrumental delivery. Rates of caesarean delivery most explicitly illustrate this issue. While a few countries (Slovenia, the Netherlands, Norway and the Czech Republic) still have national rates consistent with those suggested by WHO almost 25 years ago,<sup>12</sup> most are in the range of 20–30% and two countries even above that (33% in Portugal and almost 38% in Italy). Variations of this magnitude are unlikely to be explained by different in the characteristics of child-bearing women.

In its future work, the EURO-PERISTAT group will use these data to explore the reasons for the variations in

perinatal health and the consequences of differences in perinatal care. At the same time, we aim to carry on the project, encouraging the development and use of new indicators for longer term outcomes and in other key areas such as maternal morbidity, social inequalities and outcome indicators for women with uncomplicated pregnancies. These efforts are important steps towards a harmonised and ongoing system for monitoring maternal and child health and care in Europe.

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## REFERENCES

1. **EURO-PERISTAT project, with SCPE EUROCAT, EURONEOSTAT.** European Perinatal Health Report 2008: <http://www.europeristat.com>.

2. **Facchinetti F,** Reddy U, Stray-Pedersen B, *et al.* International issues in stillbirth. *J Matern Fetal Neonatal Med* 2008;**21**:425–8.
3. **Bouvier-Colle MH,** Varnoux N, Breart G. Maternal deaths and substandard care: the results of a confidential survey in France. Medical Experts Committee. *Eur J Obstet Gynecol Reprod Biol* 1995;**58**:3–7.
4. **Iams JD,** Romero R, Culhane JF, *et al.* Primary, secondary, and tertiary interventions to reduce the morbidity and mortality of preterm birth. *Lancet* 2008;**371**:164–75.
5. **Saigal S,** Doyle LW. An overview of mortality and sequelae of preterm birth from infancy to adulthood. *Lancet* 2008;**371**:261–9.
6. **Barker DJ.** In utero programming of chronic disease. *Clin Sci (Lond)* 1998;**95**:115–28.
7. **Jackson RA,** Gibson KA, Wu YW, *et al.* Perinatal outcomes in singletons following in vitro fertilization: a meta-analysis. *Obstet Gynecol* 2004;**103**:551–63.
8. **Kramer MS,** Seguin L, Lydon J, *et al.* Socio-economic disparities in pregnancy outcome: why do the poor fare so poorly? *Paediatr Perinat Epidemiol* 2000;**14**:194–210.
9. **Macfarlane A,** Gissler M, Bolumar F, *et al.* The availability of perinatal health indicators in Europe. *Eur J Obstet Gynecol Reprod Biol* 2003;**111**(Suppl 1):S15–32.
10. **Zeitlin J,** Wildman K, Breart G, *et al.* Selecting an indicator set for monitoring and evaluating perinatal health in Europe: criteria, methods and results from the PERISTAT project. *Eur J Obstet Gynecol Reprod Biol* 2003;**111**(Suppl 1):S5–S14.
11. **Graafmans WC,** Richardus JH, Macfarlane A, *et al.* Comparability of published perinatal mortality rates in Western Europe: the quantitative impact of differences in gestational age and birthweight criteria. *Br J Gynaecol* 2001;**108**:1237–45.
12. **World Health Organization.** Appropriate technology for birth. *Lancet* 1985;**2**:436–7.