

# South-East Asia Networks for Newborn & Birth Defect



**WHO Collaborating Centre for Training and Research in Newborn Care  
Collaborating Centre for Training in Clinical Laboratory Genetics in Developing  
Countries Department of Pediatrics  
AIIMS, New Delhi, India**

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## This Month...

### Birth Defects

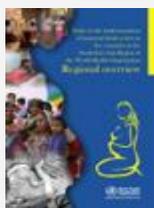
- [Preventable Spina Bifida and Anencephaly in Europe](#)
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### Newborn

- [Cause-specific neonatal mortality: analysis of 3772 neonatal deaths in Nepal, Bangladesh, Malawi and India](#)
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## Publications

### Maternal death review in selected countries in South-East Asia Region of WHO



The maternal mortality ratio universally used to track Millennium Development Goal No. 5 – to reduce maternal mortality and improve material health – is only a quantitative measure and is not sufficient to prevent maternal deaths. To understand the circumstances that lead to, or contribute to these deaths, a maternal death review (MDR) or audit is needed. The World Health Organization guide “ Beyond the numbers: reviewing maternal deaths and complications to make pregnancy safer” (2004) describes the methods of the MDR. Countries of the South-East Asia Region have been implementing MDRs using any combination of these methods to varying extents.

This study on the implementation of MDRs was conducted in five countries in the Region, namely India, Indonesia, Myanmar, Nepal and Sri Lanka. Each study was carried out with the same general aim to ascertain the level of MDR implementation (in any form or by any method) in the country, to strengthen the MDR as necessary, and to assist countries in building on their experiences to move towards maternal death surveillance and response.

While the MDR was being implemented in each of the five countries, the form it took and the magnitude of implementation varied. In general, these studies recommend that the respective countries strengthen the management of the

current MDR programme, and address the weaknesses identified, including strategies to raise the awareness of policy-makers and members of the community on the importance of MDR.

[Read full publication](#)

## Birth Defects

### Preventable Spina Bifida and Anencephaly in Europe.

[Obeid R](#), [Pietrzik K](#), [Oakley GP Jr](#), [Kancherla V](#), [Holzgrevé W](#), [Wieser S](#)

#### [Author information](#)

#### Abstract

##### BACKGROUND:

Promotion of voluntary folic acid supplement use among women of reproductive age has been proven to be ineffective in lowering the risk of neural tube defects in Europe.

##### METHODS:

Using surveillance data from all births covered by the full member countries of the European Surveillance of Congenital Anomalies (EUROCAT), we estimated the total prevalence of spina bifida and anencephaly per 10,000 births between 2000 and 2010. We also estimated additional lifetime direct medical costs among individuals with spina bifida, compared with those without, in Germany for the year 2009.

##### RESULTS:

During the study period, there were 7478 documented cases of spina bifida and anencephaly among the 9,161,189 births, with an estimated average combined prevalence of 8.16 per 10,000 births (95% confidence interval, 7.98 – 8.35). For the 241 spina bifida-affected live births in 2009 in Germany, the estimated additional lifetime direct medical costs compared with non-spina bifida affected births were € 65.5 million. Assuming a 50% reduction in the prevalence if folic acid has been provided to all women before pregnancy, 293 spina bifida cases could have been prevented in Germany in 2009. The estimated lifetime direct medical cost saving for the live births in 2009 was € 32.9 million assuming a 50% reduction, or € 26.1 million assuming a 40% risk reduction.

##### CONCLUSION:

Europe has an epidemic of spina bifida and anencephaly compared with countries with mandatory folic acid fortification policy. Primary prevention through mandatory folic acid fortification would considerably reduce the number of affected pregnancies, and associated additional costs.

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### Birth prevalence of neural tube defects and orofacial clefts in India: a systematic review and meta-analysis.

[Allagh KP](#), [Shamanna BR](#), [Murthy GV](#), [Ness AR](#), [Doyle P](#), [Neogi SB](#), [Pant HB](#),

#### [Author information](#)

#### Abstract

##### BACKGROUND:

In the last two decades, India has witnessed a substantial decrease in infant mortality attributed to

infectious disease and malnutrition. However, the mortality attributed to birth defects remains constant. Studies on the prevalence of birth defects such as neural tube defects and orofacial clefts in India have reported inconsistent results. Therefore, we conducted a systematic review of observational studies to document the birth prevalence of neural tube defects and orofacial clefts.

#### **METHODS:**

A comprehensive literature search for observational studies was conducted in MEDLINE and EMBASE databases using key MeSH terms (neural tube defects OR cleft lip OR cleft palate AND Prevalence AND India). Two reviewers independently reviewed the retrieved studies, and studies satisfying the eligibility were included. The quality of included studies was assessed using selected criteria from STROBE statement.

#### **RESULTS:**

The overall pooled birth prevalence (random effect) of neural tube defects in India is 4.5 per 1000 total births (95% CI 4.2 to 4.9). The overall pooled birth prevalence (random effect) of orofacial clefts is 1.3 per 1000 total births (95% CI 1.1 to 1.5). Subgroup analyses were performed by region, time period, consanguinity, and gender of newborn.

#### **CONCLUSION:**

The overall prevalence of neural tube defects from India is high compared to other regions of the world, while that of orofacial clefts is similar to other countries. The majority of studies included in the review were hospital based. The quality of these studies ranged from low to moderate. Further well-designed, high quality community-based observational studies are needed to accurately estimate the burden of neural tube defects and orofacial clefts in India.

### **Newborn**

#### **Cause-specific neonatal mortality: analysis of 3772 neonatal deaths in Nepal, Bangladesh, Malawi and India**

[Fottrell E](#), [Osrin D](#), [Alcock G](#), [Azad K](#), [Bapat U](#), [Beard J](#), [Bondo A](#), [Colbourn T](#), [Das S](#), [King C](#), [Manandhar D](#), [Manandhar S](#), [Morrison J](#), [Mwansambo C](#), [Nair N](#), [Nambiar B](#), [Neuman M](#), [Phiri T](#), [Saville N](#), [Sen A](#), [Seward N](#), [Shah Moore N](#), [Shrestha BP](#), [Singini B](#), [Tumbahangphe KM](#), [Costello A](#), [Prost A](#).

#### **[Author information](#)**

#### **Abstract**

**OBJECTIVE:** Understanding the causes of death is key to tackling the burden of three million annual neonatal deaths. Resource-poor settings lack effective vital registration systems for births, deaths and causes of death. We set out to describe cause-specific neonatal mortality in rural areas of Malawi, Bangladesh, Nepal and rural and urban India using verbal autopsy (VA) data. **DESIGN:** We prospectively recorded births, neonatal deaths and stillbirths in seven population surveillance sites. VAs were carried out to ascertain cause of death. We applied descriptive epidemiological techniques and the InterVA method to characterise the burden, timing and causes of neonatal mortality at each site.

**RESULTS:** Analysis included 3772 neonatal deaths and 3256 stillbirths. Between 63% and 82% of neonatal deaths occurred in the first week of life, and males were more likely to die than females. Prematurity, birth asphyxia and infections accounted for most neonatal deaths, but important subnational and regional differences were observed. More than one-third of deaths in urban India were attributed to asphyxia, making it the leading cause of death in this setting.

**CONCLUSIONS:** Population-based VA methods can fill information gaps on the burden and causes of neonatal mortality in resource-poor and data-poor settings. Local data should be used to inform and monitor the implementation of interventions to improve newborn health. High rates of

home births demand a particular focus on community interventions to improve hygienic delivery and essential newborn care.

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## **In-service training for health professionals to improve care of seriously ill newborns and children in low-income countries.**

[Opiyo N, English M.](#)

### **[Author information](#)**

### **Abstract**

**BACKGROUND:** A variety of in-service emergency care training courses are currently being promoted as a strategy to improve the quality of care provided to seriously ill newborns and children in low-income countries. Most courses have been developed in high-income countries. However, whether these courses improve the ability of health professionals to provide appropriate care in low-income countries remains unclear. This is the first update of the original review.

### **OBJECTIVES:**

To assess the effects of in-service emergency care training on health professionals' treatment of seriously ill newborns and children in low-income countries.

### **SEARCH METHODS:**

For this update, we searched the Cochrane Database of Systematic Reviews, part of The Cochrane Library ([www.cochranelibrary.com](http://www.cochranelibrary.com)); MEDLINE, Ovid SP; EMBASE, Ovid SP; the Cochrane Central Register of Controlled Trials (CENTRAL), part of The Cochrane Library ([www.cochranelibrary.com](http://www.cochranelibrary.com)) (including the Cochrane Effective Practice and Organisation of Care (EPOC) Group Specialised Register); Science Citation Index and Social Sciences Citation Index, Institute for Scientific Information (ISI) Web of Knowledge/Science and eight other databases. We performed database searches in February 2015. We also searched clinical trial registries, websites of relevant organisations and reference lists of related reviews. We applied no date, language or publication status restrictions when conducting the searches.

### **SELECTION CRITERIA:**

Randomised trials, non-randomised trials, controlled before and after studies and interrupted-time-series studies that compared the effects of in-service emergency care training versus usual care were eligible for inclusion. We included only hospital-based studies and excluded community-based studies. Two review authors independently screened and selected studies for inclusion.

### **DATA COLLECTION AND ANALYSIS:**

Two review authors independently extracted data and assessed study risk of bias and confidence in effect estimates (certainty of evidence) for each outcome using GRADE (Grades of Recommendation, Assessment, Development and Evaluation). We described results and presented them in GRADE tables.

### **MAIN RESULTS:**

We identified no new studies in this update. Two randomised trials (which were included in the original review) met the review eligibility criteria. In the first trial, newborn resuscitation training compared with usual care improved provider performance of appropriate resuscitation (trained 66% vs usual care 27%, risk ratio 2.45, 95% confidence interval (CI) 1.75 to 3.42; moderate certainty evidence) and reduced inappropriate resuscitation (trained mean 0.53 vs usual care 0.92, mean difference 0.40, 95% CI 0.13 to 0.66; moderate certainty evidence). Effect on neonatal mortality

was inconclusive (trained 28% vs usual care 25%, risk ratio 0.77, 95% CI 0.40 to 1.48; N = 27 deaths; low certainty evidence). Findings from the second trial suggest that essential newborn care training compared with usual care probably slightly improves delivery room newborn care practices (assessment of breathing, preparedness for resuscitation) (moderate certainty evidence).

**AUTHORS' CONCLUSIONS:**

In-service neonatal emergency care courses probably improve health professionals' treatment of seriously ill babies in the short term. Further multi-centre randomised trials evaluating the effects of in-service emergency care training on long-term outcomes (health professional practice and patient outcomes) are needed.

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