This Month...

**Birth Defects**
- Birth prevalence of Congenital Talipes Equinovarus in Low and Middle Income Countries: A Systematic Review and Meta-analysis
- Systematic Review and Meta-analysis of the Birth Prevalence of Orofacial Clefts in Low- and Middle-Income Countries

**Newborn**
- Strategies for improving health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review and meta-analysis
- Reducing neonatal mortality associated with preterm birth: gaps in knowledge of the impact of antenatal corticosteroids on preterm birth outcomes in low-middle income countries

**Media centre**

Ted Talk:
What is epigenetics?

Identical twins originate from the same DNA ... so how can they turn out so different — even in traits that have a significant genetic component?

Carlos Guerrero-Bosagna in an engaging video explains that while nature versus nurture has a lot to do with it, a deeper, related answer can be found within something called epigenetics.

**Feedback Survey – NBBD e-Blast/e-Newsletter**

Reminder
The survey on SEAR-NBBD (South East Asia Region-New-born and Birth Defects) is still open. If you haven't already done so, please click here to complete this online Survey. It only takes 5 minutes.
Birth prevalence of Congenital Talipes Equinovarus in Low and Middle Income Countries: A Systematic Review and Meta-analysis

Tracey Smythe, Hannah Kuper, David Macleod, Allen Foster, Christopher Lavy

Abstract
OBJECTIVE:
Congenital talipes equinovarus (CTEV), or clubfoot, is a structural malformation that develops early in gestation. Birth prevalence of clubfoot is reported to vary both between and within low and middle-income countries (LMICs) and this information is needed in order to plan treatment services. This systematic review aims to understand the birth prevalence of clubfoot in LMIC settings.

METHODS:
Six databases were searched for studies that reported birth prevalence of clubfoot in LMICs. Results were screened and assessed for eligibility using pre-defined criteria. Data on birth prevalence were extracted and weighted pooled estimates were calculated for different regions. Wilcoxon rank-sum test was used to examine changes in birth prevalence over time. Included studies were appraised for their methodological quality, and a narrative synthesis of findings was conducted.

RESULTS:
48 studies provided data from 13,962,989 children in 20 countries over 55 years (1960 – 2015). The pooled estimate for clubfoot birth prevalence in LMICs within the Africa region is 1.11 (0.96, 1.26); in the Americas 1.74 (1.69, 1.80); in South East Asia (excluding India) 1.21 (0.73, 1.68); in India 1.19 (0.96, 1.42); in Turkey (Europe Region) 2.03 (1.54, 2.53); in Eastern Mediterranean region 1.19 (0.98, 1.40); in West Pacific (excludes China) 0.94 (0.64, 1.24) and in China 0.51 (0.50, 0.53).

CONCLUSIONS:
Birth prevalence of clubfoot varies between 0.51 and 2.03/1,000 live births in LMICs. A standardised approach to the study of the epidemiology of clubfoot is required to better understand the variations of clubfoot birth prevalence and identify possible risk factors.

Systematic Review and Meta-analysis of the Birth Prevalence of Orofacial Clefts in Low- and Middle-Income Countries

Kadir A, Mossey PA, Blencowe H, Moorthie S, Lawn JE, Mastroiacovo P, Modell B.

Abstract
BACKGROUND:
In the last comprehensive review of the literature published in 2002, little information on the prevalence of orofacial clefts was available from low- and middle-income countries (LMICs).

OBJECTIVE:
To analyze published data on the birth prevalence of cleft lip and/or palate (CL/P) from (LMIC).

DESIGN:
Systematic review of the literature and meta-analysis of data from original papers on the birth prevalence of cleft lip and/or cleft palate (CL/P) in LMICs between 1990 and 2014. Secondary inclusion criteria were developed to analyze lower-quality studies from countries with scarce data.

MAIN OUTCOME MEASURE:
Birth prevalence of undifferentiated CL/P (with or without associated syndrome or other anomaly).

RESULTS:
Twenty-eight studies met strict inclusion criteria. Among 31,475,278 total births, the pooled birth prevalence of undifferentiated CL/P was 1.38 per 1000 births (95% confidence interval [CI]: 1.20 to 1.56).
Four studies met criteria for secondary analysis, providing data on 75,627 births, with a pooled prevalence of 0.75 CL/P cases per 1000 births (95% CI: 0.56 to 0.95). Comparison of studies was limited by variable definitions of cases and of the reference population and by inconsistent reporting of outcomes. There is significant heterogeneity in the findings.

**CONCLUSIONS:**
In LMICs, approximately 1 in every 730 children is born with CL/P. To optimize comparability across settings, future research should use a standard classification system and standard criteria for data collection and presentation. As clefting is associated with deprivation, understanding the true scale, risks, and preventive measures for orofacial clefts in LMIC is a matter of both scientific and humanitarian importance.

**Newborn**

*Strategies for improving health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review and meta-analysis*


Lassi ZS, Middleton PF, Bhutta ZA, Crowther C

**Abstract**

**BACKGROUND:**
Lack of appropriate health care seeking for ill mothers and neonates contributes to high mortality rates. A major challenge is the appropriate mix of strategies for creating demand as well as provision of services.

**DESIGN:**
Systematic review and meta-analysis of experimental studies (last search: Jan 2015) to assess the impact of different strategies to improve maternal and neonatal health care seeking in low- and middle-income countries (LMIC).

**RESULTS:**
Fifty-eight experimental [randomized controlled trials (RCTs), non-RCTs, and before-after studies] with 310,652 participants met the inclusion criteria. Meta-analyses from 29 RCTs with a range of different interventions (e.g. mobilization, home visitation) indicated significant improvement in health care seeking for neonatal illnesses when compared with standard/no care [risk ratio (RR) 1.40; 95 confidence interval (CI): 1.17-1.68, 9 studies, n=30,572], whereas, no impact was seen on health care seeking for maternal illnesses (RR 1.06; 95% CI: 0.92-1.22, 5 studies, n=15,828). These interventions had a significant impact on reducing stillbirths (RR 0.82; 95% CI: 0.73-0.93, 11 studies, n=176,683), perinatal deaths (RR 0.84; 95% CI: 0.77-0.90, 15 studies, n=279,618), and neonatal mortality (RR 0.80; 95% CI: 0.72-0.89, 20 studies, n=248,848). On GRADE approach, evidence was high quality except for the outcome of maternal health care seeking, which was moderate.

**CONCLUSIONS:**
Community-based interventions integrating strategies such as home visiting and counseling can help to reduce fetal and neonatal mortality in LMIC.

*Reducing neonatal mortality associated with preterm birth: gaps in knowledge of the impact of antenatal corticosteroids on preterm birth outcomes in low-middle income countries*


**Abstract**
The Global Network's Antenatal Corticosteroids Trial (ACT), was a multi-country, cluster-randomized trial to improve appropriate use of antenatal corticosteroids (ACS) in low-resource settings in low-middle income countries (LMIC). ACT substantially increased ACS use in the intervention clusters, but the intervention failed to show benefit in the targeted < 5th percentile birth weight infants and was associated
with increased neonatal mortality and stillbirth in the overall population. In this issue are six papers which are secondary analyses related to ACT that explore potential reasons for the increase in adverse outcomes overall, as well as site differences in outcomes. The African sites appeared to have increased neonatal mortality in the intervention clusters while the Guatemalan site had a significant reduction in neonatal mortality, perhaps related to a combination of ACS and improving obstetric care in the intervention clusters. Maternal and neonatal infections were increased in the intervention clusters across all sites and increased infections are a possible partial explanation for the increase in neonatal mortality and stillbirth in the intervention clusters, especially in the African sites. The analyses presented here provide guidance for future ACS trials in LMIC. These include having accurate gestational age dating of study subjects and having care givers who can diagnose conditions leading to preterm birth and predict which women likely will deliver in the next 7 days. All study subjects should be followed through delivery and the neonatal period, regardless of when they deliver. Clearly defined measures of maternal and neonatal infection should be utilized. Trials in low income country facilities including clinics and those without newborn intensive care seem to be of the highest priority.