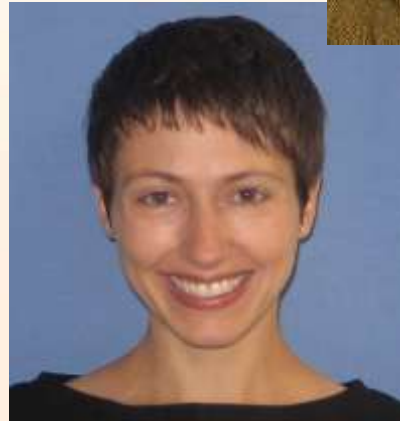


The W's of systematic reviews

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Reproductive Health Research

Training Course in Sexual and Reproductive Health Research
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Who writes systematic reviews



Systematic reviews

- ❑ What is a systematic review? Are all reviews created equally?
- ❑ Who reads them?
- ❑ Why should anyone do this?
- ❑ Where do you start?

What is a (systematic) review

A high-level overview of primary research on a particular research question that tries to identify, select, synthesize and appraise all high quality research evidence relevant to that question in order to answer it

http://en.wikipedia.org/wiki/Systematic_review#cite_note-CEBM_about-0

Cochrane definition

- ❑ a clearly stated set of objectives with pre-defined eligibility criteria for studies;
- ❑ an explicit, reproducible methodology;
- ❑ a systematic search that attempts to identify all studies that would meet the eligibility criteria;
- ❑ an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias; and
- ❑ a systematic presentation, and synthesis, of the characteristics and findings of the included studies.

What is it REALLY????

For the reader: A shortcut

Trends in Maternal Mortality: 1990 to 2008

Estimates developed by WHO, UNICEF, UNFPA and The World Bank



WHO Recommendations for the Prevention of Postpartum Haemorrhage



WHO guidelines for the management of postpartum haemorrhage and retained placenta



Unsafe abortion

Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008

2008

SIXTH EDITION



Articles

National, regional, and worldwide estimates of stillbirth rates in 2009 with trends since 1995: a systematic analysis

Shona Lewin, Hannah Browne, Cynthia Simons, David C. Hay, Jagadeeshwaran Ganesan, Andrew C. Cook, Roger Dwyer, Lorna Forde, Shona Geaghan, Lutz Grange, Jia Luo

Summary
Background: Stillbirths do not occur in routine worldwide data-collecting systems or in the International Development Goals. This use of national stillbirth estimates for 2009 produced similar worldwide totals of 2.3 million and 3.3 million, but more detailed estimates for some countries. We aimed to develop more reliable estimates and a data series from 1995 for 193 countries by increasing input data, using more data, and applying improved modelling approaches.

Methods: For international comparison, stillbirth is defined as fetal death in the third trimester (≥300 g birthweight or ≥28 completed weeks of gestation). Several sources of stillbirth data were identified and assessed against pre-specified inclusion criteria: vital registration data, nationally representative surveys, and published studies identified through systematic literature searches, unpublished studies, and national data identified through a WHO country consultation process. For 2009, national data were used for 60 countries and model-based estimates for 133 countries. A regression model of log-stillbirth rate was developed and used to predict national stillbirth rates from 1995 to 2009. Sensitivity analyses were obtained with a bootstrap approach. The final model included: log-transformed mother's age, parity, education, log10 birthweight ratio (child, stillborn, liveborn), maternal income (purchasing power parity), public, religious, religious age of first union, and duration of stillbirth.

Findings: Vital registration data from 75 countries, 69 nationally representative surveys from 20 countries, and 12 studies from 42 countries met inclusion criteria. The estimated number of global stillbirths was 2.4 million (uncertainty range 2.1–2.8 million) in 2009 compared with 2.0 million (uncertainty range 1.7–2.7 million) in 1995. Worldwide stillbirth rate has declined by 14.5% from 22.3 stillbirths per 1000 live-births in 1995 to 19.1 stillbirths per 1000 live-births in 2009. In 2009, 79.2% of stillbirths occurred in South Asia and sub-Saharan Africa.

Interpretation: This study shows evidence for the death of stillbirths due to regions where more stillbirths occur. The estimated need for stillbirth care indicates a need to invest in data for maternal mortality and improve data for decreasing progress in reducing deaths by a million women than 5 years. Improved data and improved use of data are crucial to ensure the stillbirths cause in global and national policy.

Funding: The Bill & Melinda Gates Foundation through the Global Alliance to Prevent Prematurity and Stillbirth, the Bill & Melinda Gates Foundation through the Global Alliance to Prevent Prematurity and Stillbirth, the Department of Reproductive Health and Research, WHO, through the UN Development Programme, UN Population Fund, WHO, and World Bank Special Programme of Research, Development and Research Training in Human Reproduction.

Introduction
In 2000, two sets of stillbirth rate estimates for 180 countries published—first by WHO and one by the Lancet. However, these estimates for “National Morbidity and Mortality Surveys (NMMMS)” were the first published national estimates of stillbirth rates. Both generated similar worldwide totals: 3.3 million and 3.1 million stillbirths in 2004—and in some cases, similar regional totals. These worldwide estimates are similar to the worldwide total of still-increased deaths in 2000 (1.9 million) and are higher than the yearly total of deaths from HIV/AIDS in 2004 (1.8 million). Despite the similarities between the two reports, the national country-specific rates differed substantially for several countries, with differences of a factor of two or three for some countries (figure 1).

We use the WHO-defined definition of stillbirth for international comparison (≥300 g birthweight or ≥28 completed weeks of gestation).^{1,2} We identified several data sets used commonly to develop the previous work and to take into account several advances and adjust to worldwide estimates. We sought to broaden and update the input data, particularly from low-income countries, and to use the increased mortality rate rather than the infant mortality rate as a model predictor, because the increased mortality rate is more closely associated with factors affecting stillbirthing rates during pregnancy and around the time of birth. Both the WHO¹ and the Lancet² estimates (from NMMMS^{3,4}) stillbirth estimates had difficulties with generation of plausible estimates for high-mortality countries, partly because of the poor availability of data of reasonable quality from

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The target audience

- ❑ Who are they?
- ❑ Why are they looking at a systematic review?





What is a systematic review *supposed* to accomplish?

- ❑ Informed evidence base



Where to start?

- **Defining your question**
 - What is the best drug to use for prevention of eclampsia?
 - What policies affect access to care

Why you need to ask this question?

- ❑ Providing background to your study
- ❑ To answer a clinical question
- ❑ To provide guidance/recommendations

How do you plan to answer this question?

- Defining your outcomes of interest



The systematic search

- ❑ **Scope of the search**
 - Pubmed
 - Medline
 - Embase
 - Grey literature
- ❑ **Languages**
- ❑ **transparency**

10000+ references now what?

- ❑ **Cutting through to the substance**
 - Title
 - Abstract
 - Full text
- ❑ **Remembering to manage your references**
- ❑ **transparency**

FLINK

- http://www.ncbi.nlm.nih.gov/Structure/flink/docs/flink_about.html.
- FLink allows PubMed search results to be saved as a CSV, or comma-separated value, file which can be imported into a program like Excel.
- The columns in a CSV file will depend on the database you accessed through FLink. For PubMed, the columns will include:
 - .UID (PMID)
 - Authors
 - PubDate(Year)
 - PubDate(Month)
 - Title of article Summary (which includes the following information in a single cell: Authors, title, journal name, year, month (if applicable), volume, issue, pages)

G1 DC decision

A	B	C	D	E	F	G	H	I	J	K	L	M	N
UID	Authors	PubDate (Year)	PubDate (Month)	Title	Summary	DC decision	based on						
17049350	Gurm BK, Stephen J, MacKenzie G, Doll R	2008	Feb	Understanding Canadian Punjabi-speaking South Asian women's experience of breast cancer: a qualitative study.	Gurm BK, Stephen J, MacKenzie G, Doll R, Barroetavens MC, Cadell S. Understanding Canadian Punjabi-speaking South Asian women's experience of breast cancer: a qualitative study. <i>Support Care Cancer</i> . 2008;16(11):3405-12.	exc	title	not COD MM					
17157432	Benhaim Y, Pautier P, Benzaid C, Lhomme C, Hsie-Meder C, Morice P	2008	Feb	Neoadjuvant chemotherapy for advanced stage cervical cancer in a pregnant patient: report of one case with rapid tumor progression.	Benhaim Y, Pautier P, Benzaid C, Lhomme C, Hsie-Meder C, Morice P. Neoadjuvant chemotherapy for advanced stage cervical cancer in a pregnant patient: report of one case with rapid tumor progression. <i>Int J Gynecol Cancer</i> . 2008;18(1):105-8.	exc	title	not COD MM					
17234653	Hosono S, Mugishima H, Fujita H, Hosono A	2008	Jan	Umbilical cord milking reduces the need for red cell transfusions and improves neonatal adaptation in infants born at less than 23 weeks' gestation: a randomized controlled trial.	Hosono S, Mugishima H, Fujita H, Hosono A, Minato M, Okada T, Takahashi S, Harada K. Umbilical cord milking reduces the need for red cell transfusions and improves neonatal adaptation in infants born at less than 23 weeks' gestation: a randomized controlled trial. <i>Am J Obstet Gynecol</i> . 2008;198(1):105-10.	exc	title	not COD MM					
17240436	Tolhurst R, Theobald S, Kayira E, Ntonya C	2008	Mar	'I don't want all my babies to go to the grave': perceptions of preterm birth in Southern Malawi.	Tolhurst R, Theobald S, Kayira E, Ntonya C, Kafufufu G, Nielson J, van den Broek N. 'I don't want all my babies to go to the grave': perceptions of preterm birth in Southern Malawi. <i>Midwifery</i> . 2008;24(3):335-43.	exc	title	not COD MM					
17241719	Cameron J, Taylor J, Greene A	2008	Sep	Representations of rituals and care in perinatal death in British midwifery textbooks 1937-2004.	Cameron J, Taylor J, Greene A. Representations of rituals and care in perinatal death in British midwifery textbooks 1937-2004. <i>Midwifery</i> . 2008;24(3):335-43.	exc	title	not COD MM					
17285322	Bajonowski T, Brinkmann B, Mitchell EA, Vennemann MM, Leukel HW, Larsch KP, Beike J	2008	Jan	Nicotine and cotinine in infants dying from sudden infant death syndrome.	Bajonowski T, Brinkmann B, Mitchell EA, Vennemann MM, Leukel HW, Larsch KP, Beike J. Nicotine and cotinine in infants dying from sudden infant death syndrome. <i>Int J Legal Med</i> . 2008;122(1):1-6.	exc	title	not COD MM					
17299528	Marshall AC	2008	Jan	Gulf war depleted uranium risks.	Marshall AC. Gulf war depleted uranium risks. <i>J Expo Sci Environ Epidemiol</i> . 2008;18(1):35-108.	exc	title	not COD MM					
17318534	Miyashita M, Hirai K, Morita T, Sanjo M, Uchitomi Y	2008	Mar	Barriers to referral to inpatient palliative care units in Japan: a qualitative survey with content analysis.	Miyashita M, Hirai K, Morita T, Sanjo M, Uchitomi Y. Barriers to referral to inpatient palliative care units in Japan: a qualitative survey with content analysis. <i>Support Care Cancer</i> . 2008;16(11):3405-12.	exc	title	not COD MM					
17333271	Ijland MM, Pereira RR, Cornelisse EA	2008	Feb	Incidence of late vitamin K deficiency bleeding in newborns in the Netherlands in 2005: evaluation of the current guideline.	Ijland MM, Pereira RR, Cornelisse EA. Incidence of late vitamin K deficiency bleeding in newborns in the Netherlands in 2005: evaluation of the current guideline. <i>Eur J Pediatr</i> . 2008;184(2):147-50.	exc	title	not COD MM					
17408846	Ily L, Brimscombe M, Apuzio JJ	2008	Jan	The risk of shoulder dystocia related permanent fetal injury in relation to birth weight.	Ily L, Brimscombe M, Apuzio JJ, Varadi V, Portuondo N, Nagy B. The risk of shoulder dystocia related permanent fetal injury in relation to birth weight. <i>Eur J Obstet Gynecol Reprod Biol</i> . 2008;137(1):45-9.	exc	title	not COD MM					
17420158	Lodato F, Cappelli A, Montagnani M, Colecchia A, Festi D, Azzaroli F, Compagnone G, Cecinato R, Goferi P, Mazzella G	2008	May	Transjugular intrahepatic portosystemic shunt: a case report of rescue management of untractable variceal bleeding in a	Lodato F, Cappelli A, Montagnani M, Colecchia A, Festi D, Azzaroli F, Compagnone G, Cecinato R, Goferi P, Mazzella G. Transjugular	exc	title	not COD MM					

Data collection

- **Extraction**
 - Pencil and paper
 - Computerized databases



Data extraction

#	Question	Response codes
1	Paper identification number	# _ _ _ _ _
2	Name of data extractor	
STUDY IDENTIFIERS		
3	Date of extraction (dd/mm/yy)	_ _ _ 5_ _ 0_ _ 4_ _ 1_ _ 1_ _ d d m m y y
4	Last name of the first author	Mlyneck
5	Name of country	Slovenia
6	Is the study published?	(1) YES (2) NO
7	Year of publication	2010
8	Language of paper	(1) English (2) French (3) German (4) Chinese (5) Spanish (6) Russian (7) Portuguese (8) Other czech
9	Region or sub-region of the study (for example: Northwest province, etc).	Describe: country

Looking at bias

Schachtel 1989 (Continued)

Item	Authors' judgement	Description
Adequate sequence generation?	Yes	"...computer-generated randomization code..."
Allocation concealment?	Unclear	"...computer-generated randomization code..."
Blinding? All outcomes	Yes	"...double-blinded conditions..."
Incomplete outcome data addressed? All outcomes	Yes	4 women were excluded from the efficacy analysis "...because they had remedicated but had failed to indicate the time of remedication" 4/115 = 3% so unlikely to affect results.
Free of selective reporting?	Unclear	We did not assess the trial protocol.
Free of other bias?	Unclear	Reported as balanced according to: age, height, weight, number of previous episiotomies, parity. No other information, so unclear.

Smith 1975

Methods	RCT. 3 groups (1-paracetamol; 2-paracetamol+propoxyline HCl; 3-placebo).
Participants	Women with moderate to severe episiotomy pain. N = 225.
Interventions	Intervention: paracetamol - 1000 mg (N = 75). Comparison: placebo (N = 75).
Outcomes	<ul style="list-style-type: none"> ● Pain intensity (4 = very severe; 3 = severe; 2 = moderately severe; 1 = slight; 0 = none). ● Pain relief (5 = complete; 4 = more than half gone; 3 = less than half gone; 2 = unchanged; 1 = worse). ● Overall evaluation reflecting investigators impression (excellent; good; fair; no effect). ● Need for additional pain relief (treatment failure).
Notes	Outcomes assessed at 0, 1/2, 1, 2, 3 and 4 hours. For the review we took 4-hour assessment.

Risk of bias

Item	Authors' judgement	Description
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Paracetamol/acetaminophen (single administration) for perineal pain in the early postpartum period (Review)
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Discussion points

- ❑ **What do you want people to take away?**
 - Remember the audience

Implications for practice/policy/research

- ❑ Did you find something that should change standard of care?
- ❑ If so, what needs to be done to make sure people have access?
- ❑ What if the results are conflicting?
 - Closing the research gaps

Don't forget the little people

- ❑ Acknowledgements
- ❑ contributions

LOOK INSIDE!

