

**VII Congresso annuale GdS SIN Neonatologia e
Sviluppo Cure essenziali nei paesi a basse risorse
“In cammino per il mondo: Neonatologia senza Confini”
Firenze 18/19 ottobre 2019**



Condizione di madre e neonato nel mondo

**Alberta Bacci
WHO Collaborating Centre for Maternal & Child Health
Trieste, Italy**

Content

- Binomio madre neonato - Mother and Newborn Health (MNH): cenni storici
- Strategie, documenti guida, manuali, strumenti:
 - Assessment of Quality of MNH in facilities
 - Effective Perinatal Care
 - Perinatal regionalization
 - Maternal and perinatal deaths and complications audit
- Esempi di implementazione in diversi paesi
- Recenti pubblicazioni, banche dati, e indicazioni programmatiche

Lancet 1985 Jul 13;2(8446):83-5.

Maternal mortality--a neglected tragedy.

Where is the *M* in *MCH*?

Allan Rosenfield, Deborah Maine.

The safe motherhood initiative: a call to action

Lancet 1987 Mar 21;1(8534):668-70. Halfdan Mahler

A conference on Safe Motherhood, convened in Nairobi in February 1987 by the World Bank, World Health Organization, and United Nations Fund for Population Activities, has issued a **call to reduce maternal mortality** in developing countries by 50% in 1 decade.

Of the 500,000 maternal deaths that occur each year, 99% are in developing countries.

This has been a **seriously neglected problem**, largely because its victims are those with the least power and influence in society-- they are poor, rural peasants, and female.

The safe motherhood initiative: a call to action.

The roots of much maternal mortality lie in **discrimination against women, in terms of legal status and access to education, financial resources and health care, including family planning.**

It is essential that all women are ensured **access to maternal health and family planning services, especially obstetric care for life-threatening** conditions such as obstructed labor, eclampsia, toxemia, infection, and complications from spontaneous and induced abortion.

The safe motherhood initiative: a call to action.

Halfdan Mahler, **Director-General of WHO**,
outlined a **4-part strategy** to combat maternal mortality:

- 1) adequate **primary health care** and an adequate share of available **food for females** from infancy to adolescence, and **universally available family planning**;
- 2) **good prenatal care**, including nutrition, with **early detection and referral of those at high risk**;
- 3) the assistance of a **trained person at all births**; and
- 4) access to **the essential elements of obstetric care for women at higher risk**.

Healthy mothers and healthy newborns: the vital link.

Tinker A, Ransom E,

Population Reference Bureau and Save the Children, Washington, DC, 2002

The past century witnessed a revolution in health care, yet millions of women still endure the risks of pregnancy and childbirth under conditions virtually unchanged over time.

Maternal complications take a serious toll on women.

Tragically, **millions of stillbirths and newborn deaths result from many of the same preventable causes.**

Healthy mothers and healthy newborns: the vital link.

Tinker A, Ransom E,

Population Reference Bureau and Save the Children, Washington, DC, 2002

Making motherhood safer is critical to saving newborns.

Research shows that **a significant number of stillbirths and neonatal deaths could be prevented if all women were adequately nourished and received good quality care during pregnancy, delivery, and the postpartum period.**

But safe motherhood is only one part of the equation.

Policymakers must ensure that healthcare is available for newborns as well as their mothers.

From the moment of birth, each new-born is a separate individual with needs that may depend not only on the mother, but also **may require special attention.**

Saving Newborn Lives, Save the Children

Healthy mothers and healthy newborns: the vital link.

Tinker A, Ransom E,

Population Reference Bureau and Save the Children, Washington, DC, 2002

To a considerable extent, the well-being of a newborn depends on the health of the mother.

In developing countries, a mother's death in childbirth means almost certain death for her newly born child.

When mothers are malnourished, sickly, or receive inadequate prenatal and delivery care, their babies face a higher risk of disease and premature death.

Saving Newborn Lives, Save the Children

Lancet. 2005; 365

Lawn JE, Cousens S, Zupan J

4 million neonatal deaths: when? Where? Why?

Lancet. 2005; 365: 891-900

Martines J, Paul VK, Bhutta ZA, et al.

Neonatal survival: a call for action.

Lancet. 2005; 365: 1189-1197

A continuum of care to save newborn lives.

Tinker A, Hooper-Bender P, Azfar S, Bustreo F, Bell R

Lancet. 2005; 365: 822-825

**Evidence-based, cost-effective interventions that matter:
how many newborn babies can we save and at what cost?**
Gary L Darmstadt, Zulfiqar A Bhutta, Simon Cousens, Taghreed Adam,
Neff Walker, Luc de Bernis,
Lancet 2005

In this second article of the neonatal survival series, we identify **16 interventions with proven efficacy** (implementation under ideal conditions) for neonatal survival and combine them into packages for scaling up in health systems, according to three service delivery modes (outreach, family-community, and facility-based clinical care).

All the **packages of care are cost effective** compared with single interventions.

Universal (99%) coverage of these interventions could avert an estimated 41–72% of neonatal deaths worldwide.

Neonatal Survival 2

Evidence-based, cost-effective interventions: how many newborn babies can we save?

Gary L Darmstadt, Zulfiqar A Bhutta, Simon Cousens, Taghreed Adam, Neff Walker, Luc de Bernis, for the Lancet Neonatal Survival Steering Team*

	Amount of evidence†	Reduction (%) in all-cause neonatal mortality or morbidity/major risk factor if specified (effect range)
Preconception		
Folic acid supplementation	IV	Incidence of neural tube defects: 72% (42–87%)
Antenatal		
Tetanus toxoid immunisation	V	33–58% Incidence of neonatal tetanus: 88–100%
Syphilis screening and treatment	IV	Prevalence-dependent ¹³
Pre-eclampsia and eclampsia: prevention (calcium supplementation)	IV	Incidence of prematurity: 34% (–1 to 57%) Incidence of low birthweight: 31% (–1 to 53%)
Intermittent presumptive treatment for malaria	IV	32% (–1 to 54%) PMR: 27% (1–47%) (first/second births)
Detection and treatment of asymptomatic bacteriuria	IV	Incidence of prematurity/low birthweight: 40% (20–55%)
Intrapartum		
Antibiotics for preterm premature rupture of membranes	IV	Incidence of infections: 32% (13–47%)
Corticosteroids for preterm labour	IV	40% (25–52%)
Detection and management of breech (caesarian section)	IV	Perinatal/neonatal death: 71% (14–90%)
Labour surveillance (including partograph) for early diagnosis of complications	IV	Early neonatal deaths: 40%
Clean delivery practices	IV	58–78% Incidence of neonatal tetanus: 55–99%
Postnatal		
Resuscitation of newborn baby	IV	6–42%
Breastfeeding	V	55–87%
Prevention and management of hypothermia	IV	18–42% ¹³
Kangaroo mother care (low birthweight infants in health facilities)	IV	Incidence of infections: 51% (7–75%)
Community-based pneumonia case management	V	27% (18–35%)

PNR=perinatal mortality rate. *See webtable 1. †See panel 1 for definitions.

Table 1: Evidence of efficacy for interventions at different time periods*

We assessed studies for size, design, quality, and setting. We used a matrix to summarise the findings of the review, and final categorisation was arrived at by a Delphi process, involving consultation and consensus, as follows:

- I. Evidence of no benefit. Interventions for which evidence exists showing they have no important benefits—either singly or combination with other measures—for perinatal or neonatal health.
- II. No evidence of benefit. Interventions for which evidence for or against an effect was absent.
- III. Uncertain evidence of benefit. Interventions for which there was some evidence of benefit, but contradictory evidence, or issues such as study design, location, or size precluded any firm conclusions. These interventions merit further assessment in low-income and middle-income countries.
- IV. Evidence of efficacy. Interventions effective in reducing perinatal or neonatal mortality, or primary determinants thereof, but there is a lack of data on effectiveness in large-scale programme conditions.
- V. Evidence of efficacy and effectiveness. Interventions of incontrovertible efficacy and which seem feasible for large-scale implementation based on effectiveness trials.

Neonatal Survival 2

Evidence-based, cost-effective interventions: how many newborn babies can we save?

Gary L Darmstadt, Zulfiqar A Bhutta, Simon Cousens, Taghreed Adam, Neff Walker, Luc de Bernis, for the Lancet Neonatal Survival Steering Team*

Panel 2: Interventions not included in evidence-based neonatal health-care packages that are of benefit for infant, child, or maternal health

Infant or child benefit

- Birth spacing
- Maternal zinc supplementation
- Maternal iron and folic acid supplementation
- Maternal iodine supplementation
- Neonatal vitamin A supplementation
- Insecticide-treated bed nets for malaria prevention
- Maternal anthelmintic treatment
- Prevention of maternal-to-child transmission of HIV
- Delayed umbilical cord clamping
- Prevention of ophthalmia neonatorum
- Hepatitis B vaccination and immunoprophylaxis

Maternal benefit

- Birth spacing
- Promotion of smoking cessation in pregnancy
- Antenatal iron and folic acid supplementation
- Antenatal vitamin A supplementation
- Insecticide-treated bed nets for malaria prevention
- Maternal anthelmintic treatment
- Maternal vaginal chlorhexidine cleansing
- Antepartum haemorrhage management
- Emergency transportation

Neonatal Survival 2

Evidence-based, cost-effective interventions: how many newborn babies can we save?

Gary L Darmstadt, Zulfiqar A Bhutta, Simon Cousens, Taghreed Adam, Neff Walker, Luc de Bernis, for the Lancet Neonatal Survival Steering Team*

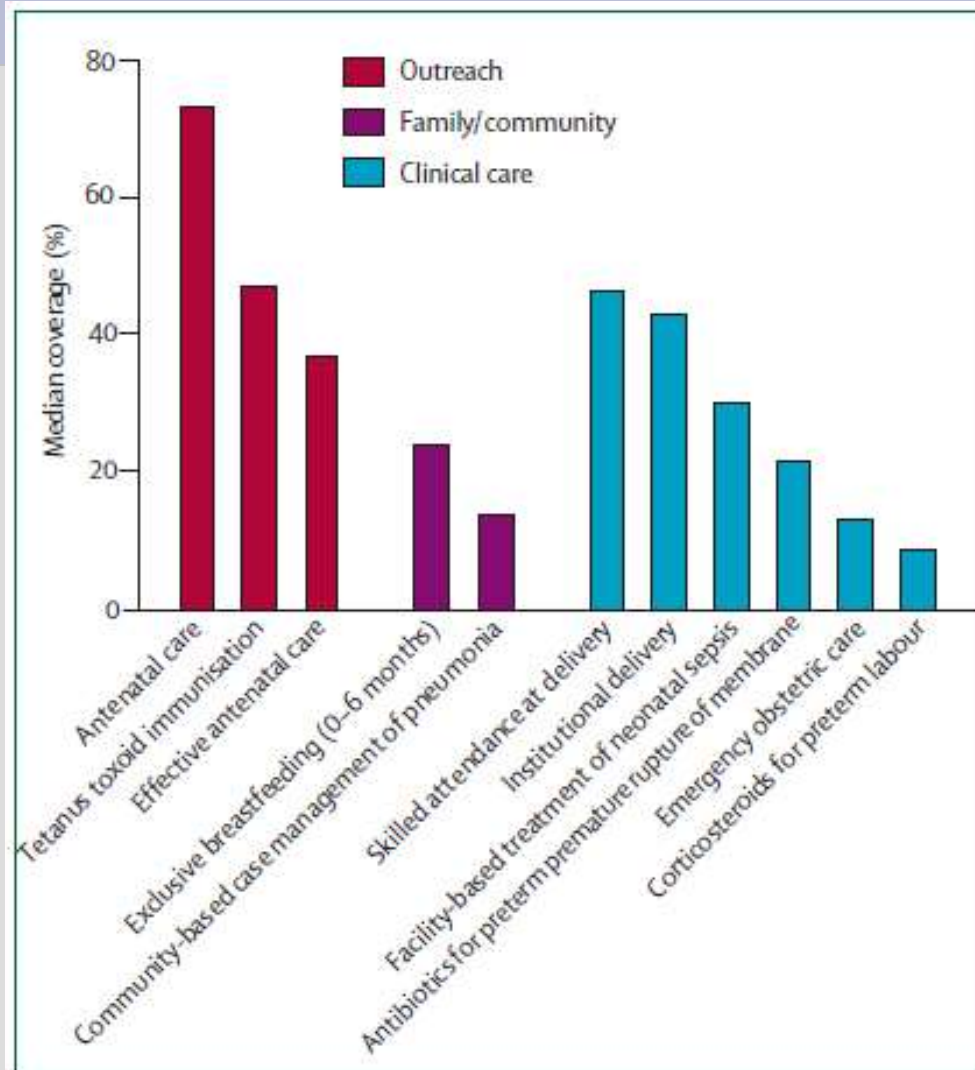


Figure 2: Reported and estimated degrees of current coverage of neonatal interventions in 75 countries, 2000²⁹

See webtable 2 for assumptions.

Where is maternal and child health now?

Joy E Lawn, Anne Tinker, Stephen P Munjanja, Simon Cousens
Lancet September 28, 2006

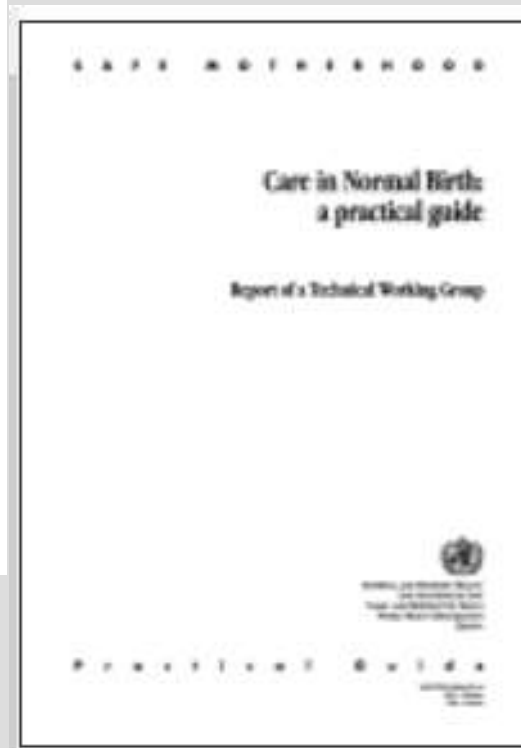
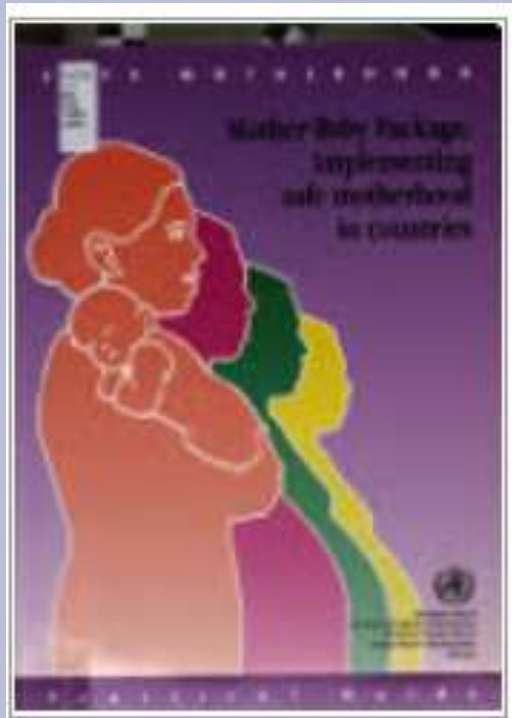
21 years ago, Rosenfield and posed the question “where is the M in MCH?”, conceiving the safe motherhood movement.

What has happened to maternal and child health (MCH) since?
Mothers are the cornerstone of families; their health and wellbeing is fundamental to the health of newborn babies and children, topics which have already been the focus of **series in *The Lancet***.

***The Lancet* now focuses on maternal health**, providing an opportunity to assess progress, to review epidemiology and evidence to guide priority setting, and to analyse programmatic and financing options.

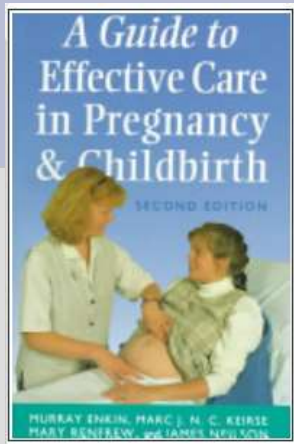
The ultimate goal is to accelerate efforts to save lives. [10](#)

Maternal Health and Safe Motherhood Programme, World Health Organization, 1994-1996



A Guide to Effective Care in Pregnancy and Childbirth

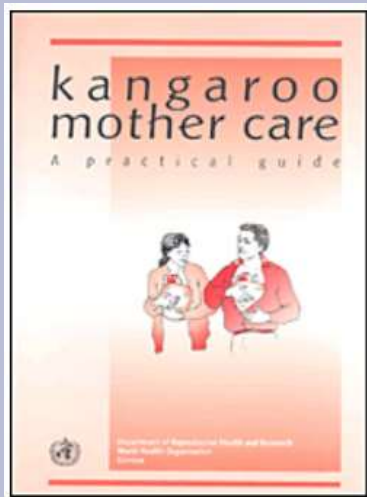
Murray Enkin, Eleanor Enkin
Oxford University Press, 1995



A great deal is now known about the effects of care given and received during pregnancy and childbirth.

In order to best understand and utilize this information, pregnant women and all those involved in caring for them need an accessible, **comprehensive reference to explain the methods and importance of proper care.**

A Guide to Effective Care in Pregnancy and Childbirth, Second Edition fills that need.



Kangaroo mother care: a practical guide World Health Organization, 2003

https://www.who.int/maternal_child_adolescent/documents/9241590351/en/

Its **key features** are:

- early, continuous and prolonged skin-to-skin contact between the mother and the baby; exclusive breastfeeding (ideally);
 - it is initiated in hospital and can be continued at home;
 - small babies can be discharged early;
 - mothers at home require adequate support and follow-up;
- it is a gentle, effective method that avoids the agitation routinely experienced in a busy ward with preterm infants.

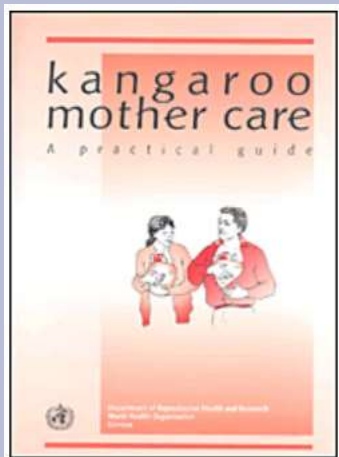
Research and experience show that:

KMC is at least equivalent to conventional care (incubators), in terms of safety and thermal protection, if measured by mortality.

KMC, by **facilitating breastfeeding**, offers noticeable advantages in cases of severe morbidity.

KMC contributes to the **humanization of neonatal care** and to **better bonding between mother and baby** in both low and high-income countries.

KMC is, in this respect, a **modern method of care in any setting**, even where expensive technology and adequate care are available.



The **World Health Organization** recommends **KMC** for the routine care of newborns weighing **2000 grams or less** at birth.

However, country-level adoption and implementation have been limited, and **only a very small proportion of newborns who could benefit from KMC receive it.**

Barriers to KMC implementation include inadequate knowledge and skills for KMC, misperception of KMC as a “second-best” alternative to incubator care, cultural norms that make practice of skin-to-skin care difficult, poor data availability for KMC practice, and inadequate policy and professional commitment to KMC.

<https://www.healthynewbornnetwork.org/issue/kangaroo-mother-care/>

Mother and newborn health: specific challenges in the European region

Policy level:

- Gap in equity
- Lack of access to available services
- Legislative constraints
- Lack of decentralization and integrated network among different levels of care
- No multidisciplinary approach to perinatal care
- Punitive approach

Service provision level:

- Over-medicalization
- Inappropriate use of technology
- Inappropriate use of drugs
- Use of abortion instead than family planning
- Lack of integrated network among different providers
- Punitive approach
- Disrespect of human rights in childbirth

Improving maternal and perinatal health: the European strategic approach for making pregnancy safer

<http://www.euro.who.int/en/what-we-do/health-topics/Life-stages/maternal-and-newborn-health>





**World Health
Organization**
REGIONAL OFFICE FOR
Europe

Hospital care for mothers and newborn babies: quality assessment and improvement tool

A systematic standard based participatory approach

Second Edition (2014)

<http://www.euro.who.int/en/health-topics/Life-stages/maternal-and-newborn-health/publications/2014/hospital-care-for-mothers-and-newborn-babies-quality-assessment-and-improvement-tool>



The WHO hospital QoC assessment includes:

In each hospital:
a visit to inpatient and outpatient services,
delivery room, nursery, intensive care,
direct observation of case management,
examination and discussion of selected
cases and clinical records



The WHO hospital QoC assessment includes:

In each facility:
interviews with
health professionals,
pregnant women and
mothers

The WHO hospital QoC assessment includes:



Observation



Preliminary assessors teams' discussion on main findings

The WHO hospital QoC assessment includes:

a preliminary feedback to the local managers and staff at the end of each hospital's assessment, in order to develop draft plan of action



The WHO hospital QoC assessment

Additional achievements



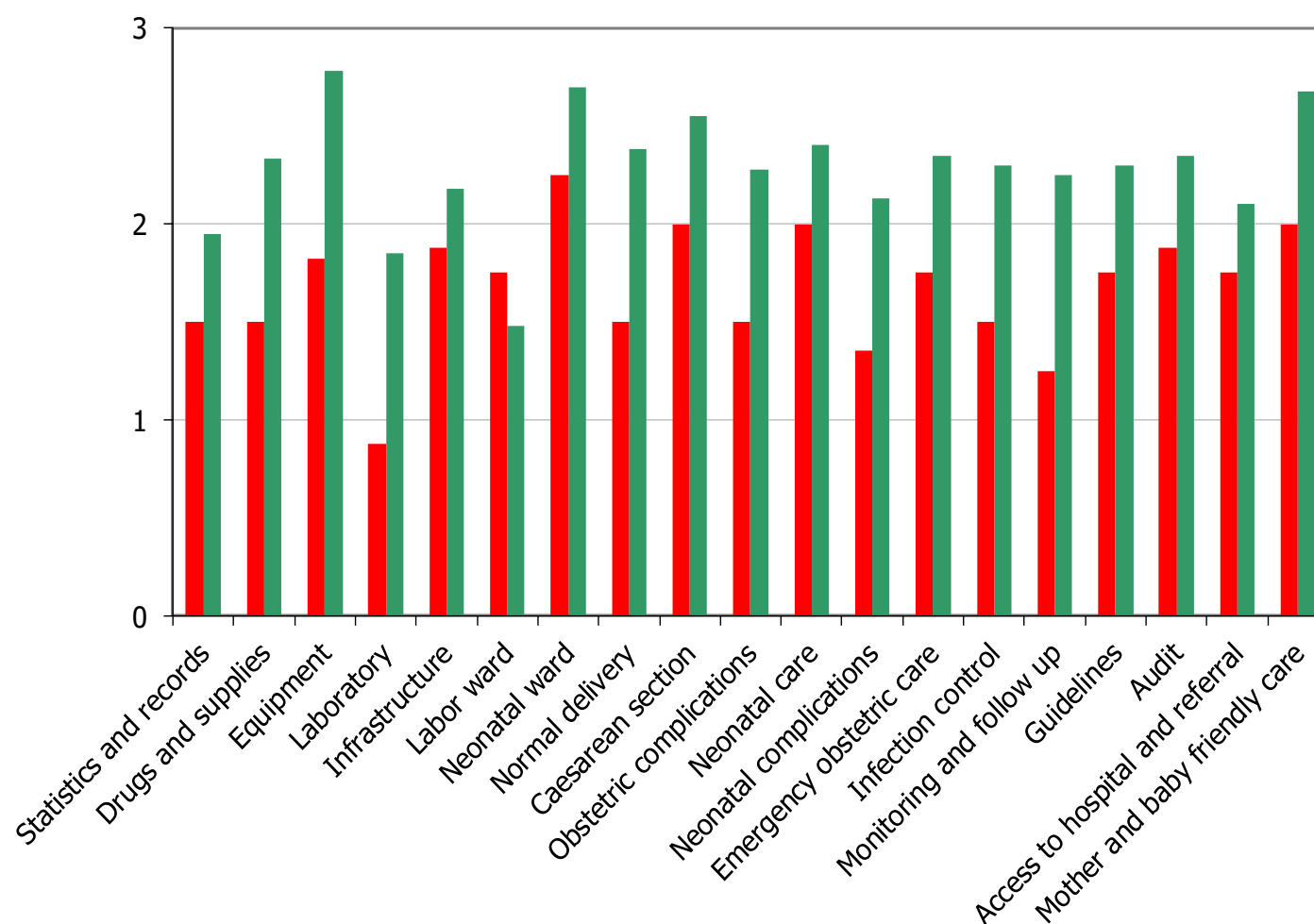
Better understanding of
quality of care
Capacity building of local staff
and national assessors
Empowerment



Improving the Quality of Maternal and Neonatal Care: the Role of Standard Based Participatory Assessments

Giorgio Tamburlini^{1*}, Klara Yadgarova², Asamidin Kamilov³, Alberta Bacci¹, for the The Maternal and Neonatal Care Quality Improvement Working Group[¶]

Uzbekistan 2010-2012



**Measurable
improvements**









Valutazione della qualità delle cure ospedaliere per madre e neonato in 4 ospedali in Africa

CUAMM

- **Original Tool**

Quality of Hospital care for mothers and newborn tool (QoMNC) developed by WHO Europe. Management tool for Continuous Quality Improvement (CQI).

<http://www.euro.who.int/en/health-topics/Life-stages/maternal-and-newborn-health/publications/2014/hospital-care-for-mothers-and-newborn-babies-quality-assessment-and-improvement-tool>

- **Scientific basis**

WHO recommended interventions for improving maternal and newborn health (2009)

- **Scientific Project Partner**

European School for Maternal, Newborn, Child and Adolescent Health, Burlo Garofalo, Trieste, WHO Collaborating Centre, Italy.

- **Scientific Project Advisor**

Giorgio Tamburlini, MD-PhD, WHO consultant and among the authors of the original tool



Valutazione della qualità delle cure ospedaliere per madre e neonato CUAMM

Valutazione della qualità delle cure ospedaliere per madre e neonato CUAMM

Valutazione della qualità delle cure ospedaliere per madre e neonato CUAMM



Valutazione della qualità delle cure ospedaliere per madre e neonato CUAMM

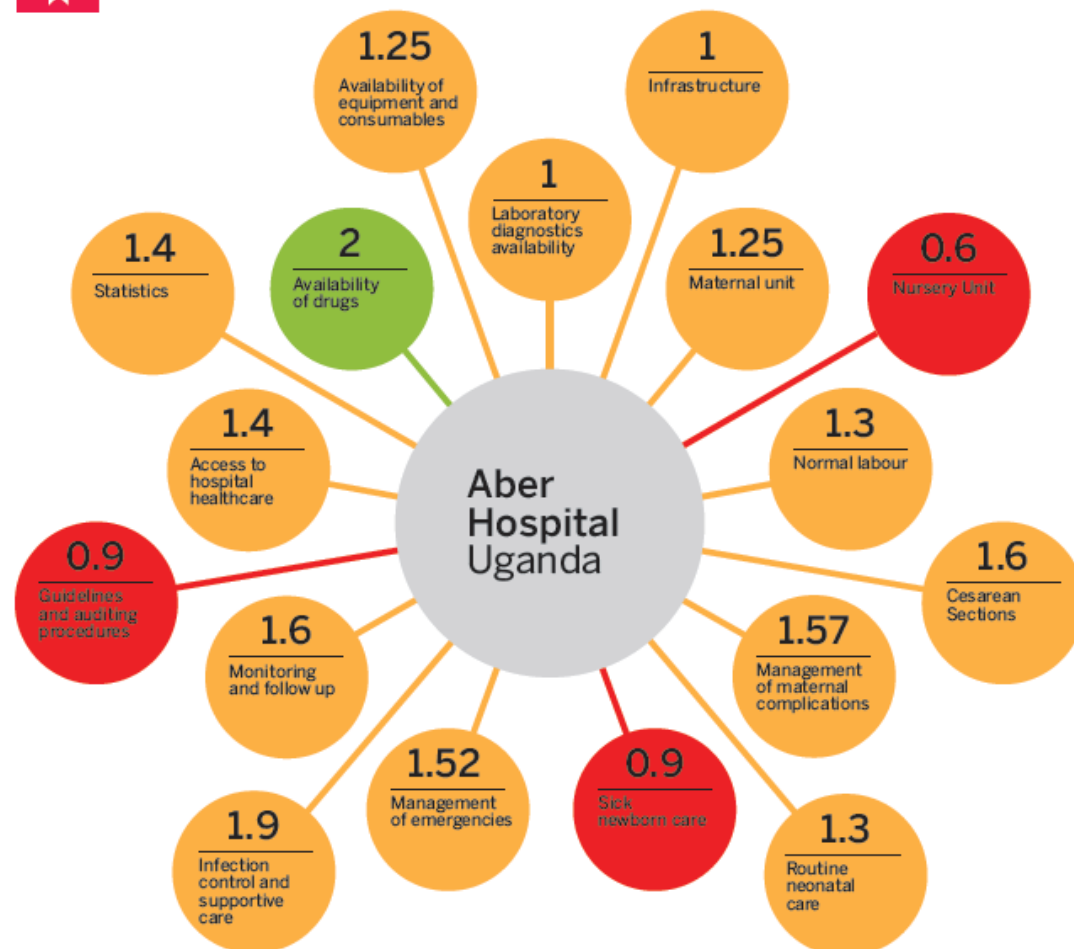


Doctors with Africa Cuamm

Mothers and Children First: the first steps - Uganda



Figure 2. Quality of mother and neonatal healthcare services²



0 - 0.9
Sustantial improvements are needed in order to avoid serious threats to mothers and newborn health.

1 - 1.9
Improvements are necessary in order to avoid risks for women and newborn.

2 - 3
Improvements are needed in order to minimize potential threats to health of mothers and newborns while respecting their dignity and rights.

² Tool used: Assessment tool for the quality of hospital care for mothers, newborn and child, WHO 2009.



Effective Perinatal Care (EPC)
training package
2nd Edition 2015

EPC MANUAL



WHO Effective Perinatal Care Training Package

In 2004, WHO/Europe developed the EPC training package in the framework of the Making Pregnancy Safer strategic approach, which was revised and updated in 2015.

The overall aim of the EPC training course includes both improving the knowledge and skills of health professionals and managers on evidence-based recommendations on perinatal health care, and, most importantly, stimulating critical thinking on existing practices.

The EPC training package is designed for **midwives, obstetrician-gynaecologists, neonatologists, paediatric nurses and policy-makers**. It includes essentials of midwifery, obstetric and neonatal care delivered through theoretical sessions, role plays, group work and several hours of hands-on training to develop practical skills using the newly obtained knowledge.

Effective Perinatal Care: rational drug use

One woman
23 drugs



Effective Perinatal Care: professional one-to-one care

Effective Perinatal Care: companionship in labour

Kurgan-Tube maternity,
Khatlon oblast, **Tajikistan**, 2005
Making Pregnancy Safer
Effective Perinatal Care
training course

WHO

maternal mortality and morbidity audit



Beyond the Numbers Reviewing maternal deaths and complications to make pregnancy safer

https://www.who.int/maternal_child_adolescent/documents/9241591838/en/

Conducting a maternal near-miss case review cycle at hospital level - Manual with practical tools

<http://www.euro.who.int/en/health-topics/Life-stages/maternal-and-newborn-health/publications/2016/conducting-a-maternal-near-miss-case-review-cycle-at-hospital-level-2016>



Audit of maternal and perinatal deaths and severe complications



**Regionalized systems of perinatal care are recommended
(American Academy of Pediatrics, 2004):**

- to ensure that each newborn infant is delivered and cared for in a facility appropriate for his or her health care needs and
- to facilitate the achievement of optimal outcomes

Example of perinatal care regionalization in Lithuania

1991 – Established national Perinatal Committee. Introduced WHO live-birth definitions

1992 – Initiated regionalization of perinatal care

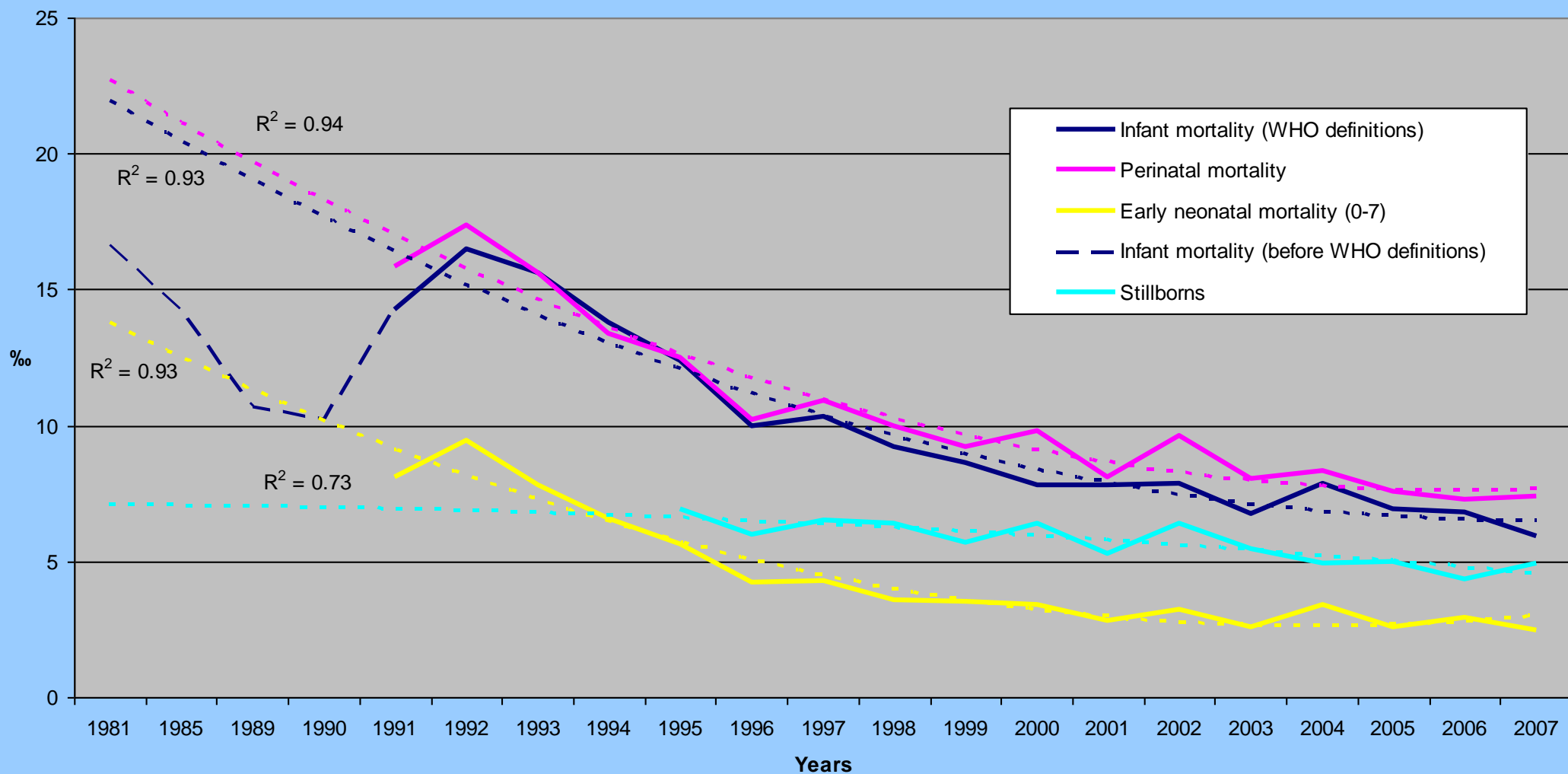
1995 – Introduced first evidence-based national guidelines in perinatology

Neonatal mortality declined from 17.3 to 8.3 per 1000 live births, maternal mortality ratio – from 44 to 9.1 per 100000 live births (years 1992 and 2004 respectively).

Lithuania:
WHO definitions accepted and regionalization started 1991
First evidence-based guidelines published 1995

WWW.Isic.lt

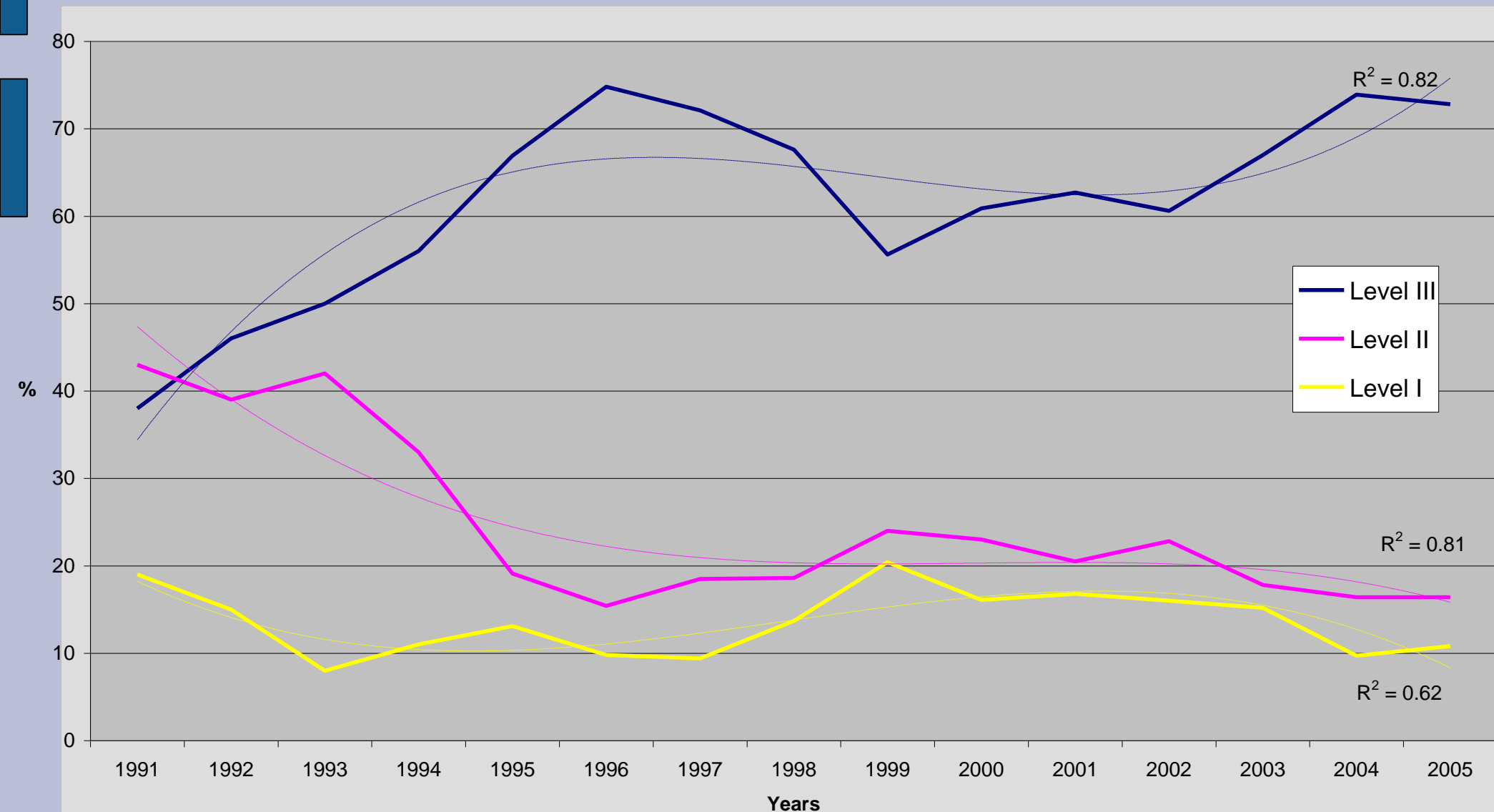
Infant and perinatal mortality



Lithuania:
WHO definitions accepted and regionalization started 1991
First evidence-based guidelines published 1995

WWW.lsic.lt

Proportions of all 22-31 weeks births (N~ 300, cummulative national data) by the level of facility



WHO technical support to development of perinatal referral system, South Kazakhstan oblast (SKO)

First workshop on regionalization of perinatal care in SKO, 28-29/1/2008, Chimkent

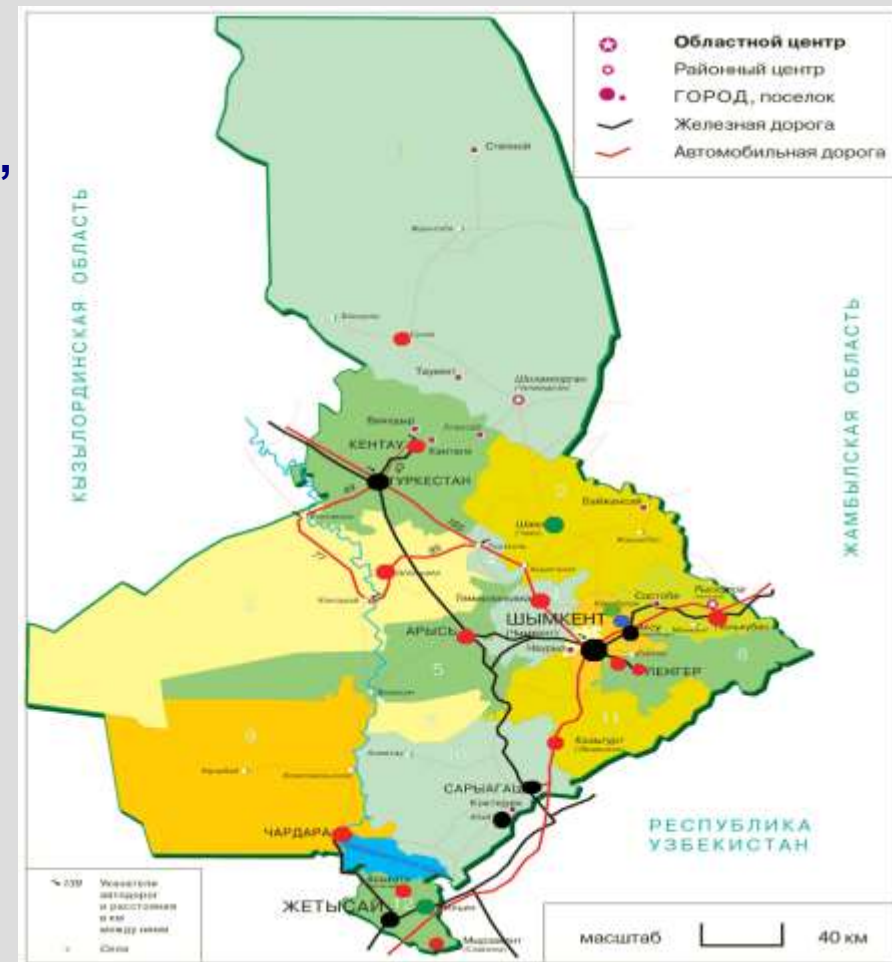
Second workshop on regionalization of perinatal care in SKO, 8-9/8/2008, Chimkent

Managing Complications in Perinatal Care in SKO, 1-6/8/2008, Chimkent

Follow up implementation workshop, 23/11/ 2009, Chimkent

Workshop on development of national guidelines for perinatal care, 26 November 2009, Almaty

National workshop on regionalization of perinatal care in Karagandynskaja oblast, 20-21/8/2010, Karaganda



Setting up perinatal referral system, SKO

Bottom up approach
What? Where? How?

Setting up perinatal referral system, SKO

Participatory process



ISSUES DISCUSSED:

Definition of levels of care, number and location of tertiary and secondary level facilities

Criteria for referral to secondary and tertiary levels

-maternal/fetal - neonatological indications

Indicators for functioning referral system



Setting up perinatal referral system, SKO

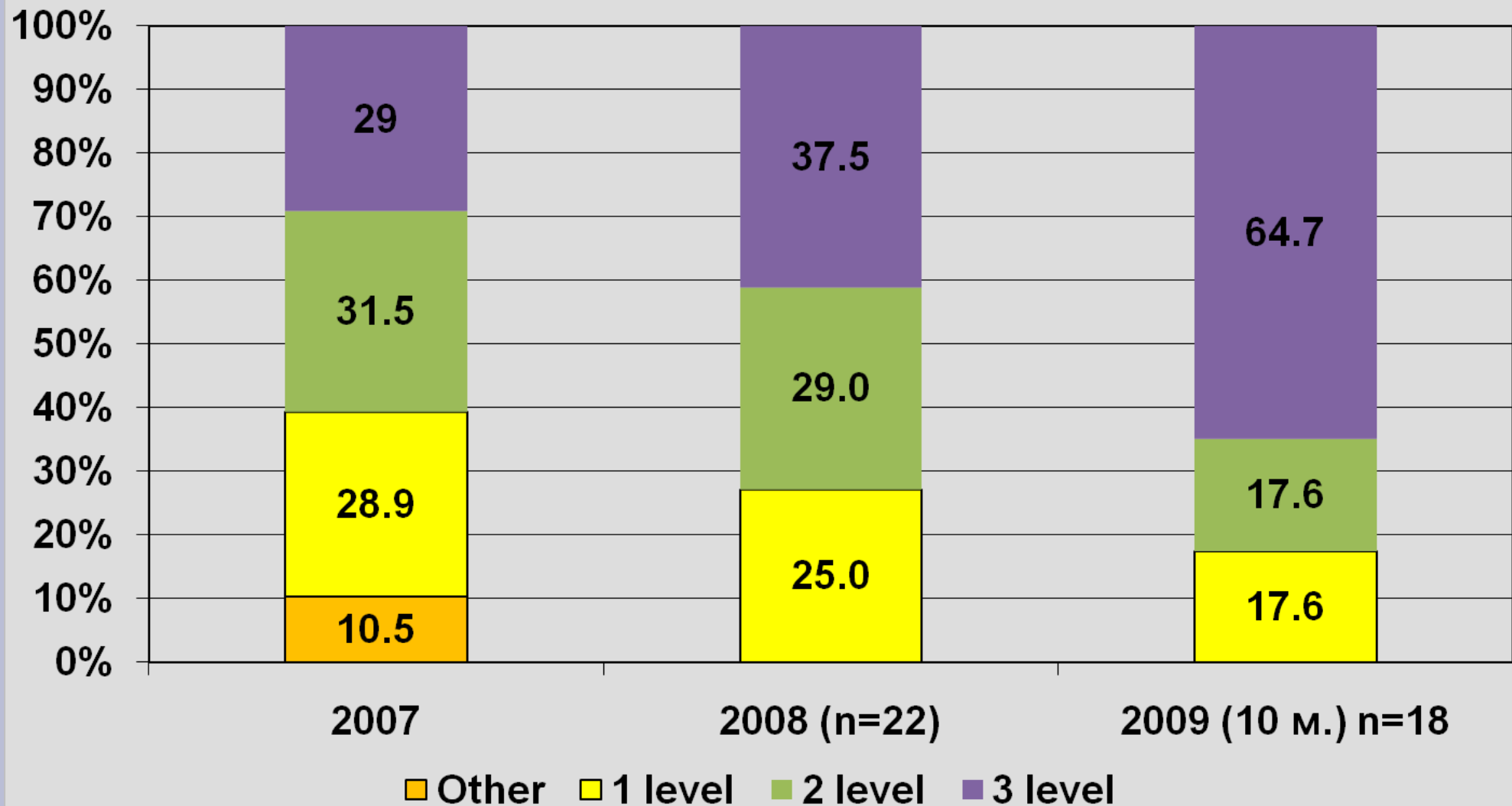


**Final consensus!!!
Committment**

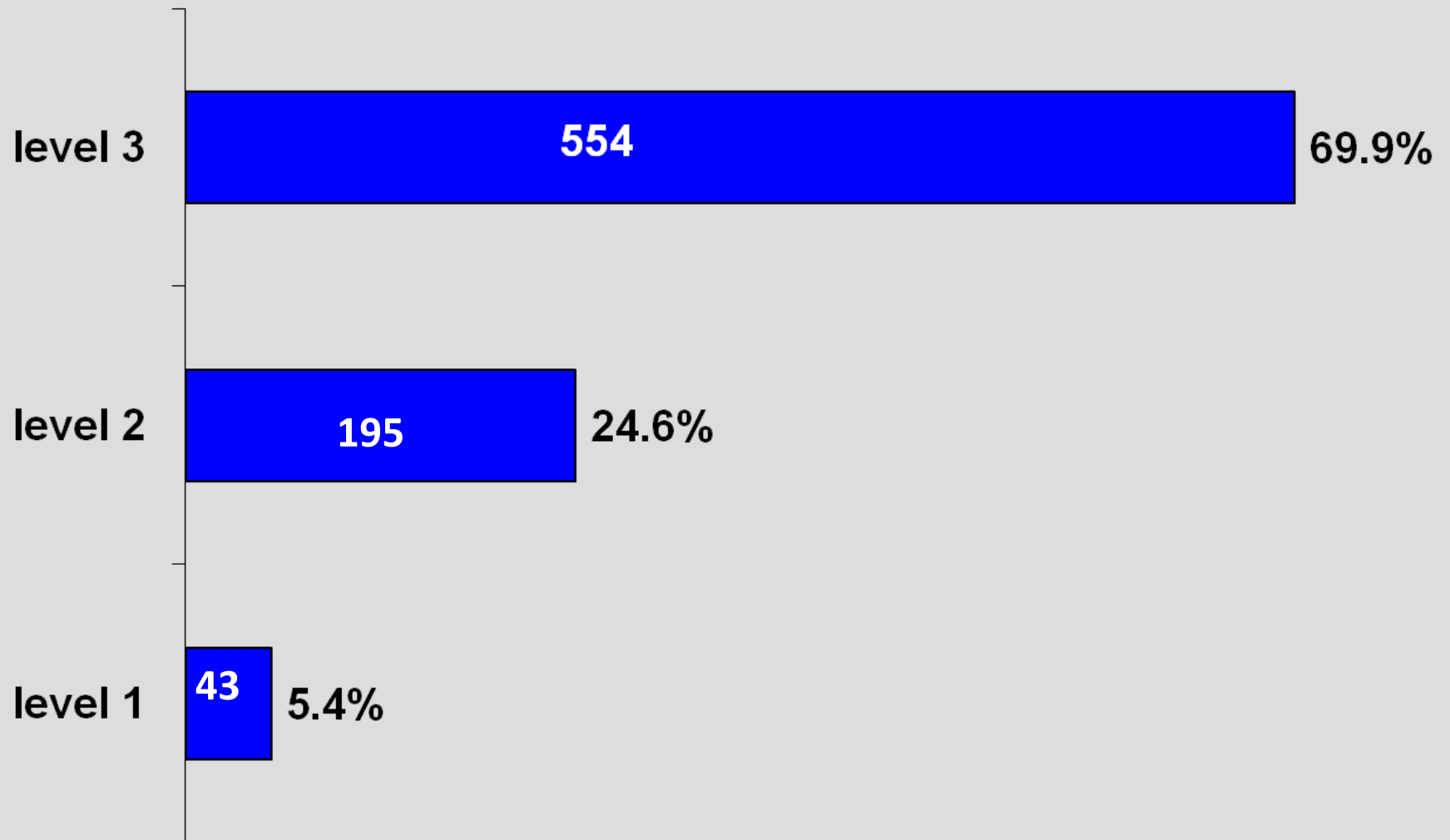
Implementing body –
Perinatal Committee



Maternal mortality in SKO,
according to level of maternities
- concentration of cases at referral level-
2008 - 2009 (10 months)



Maternal “near-misses” in SKO (concentration at level 3) 10 months in 2009



**South Kazakhstan Oblast
outcome of concentration of pregnant and delivering
women in referral centres,
according to criteria agreed during 1st workshop**

After regionalization 14.7% of all SKO preterm babies were born at tertiary level (5.4% in 2007).

The proportion of LBW at OPC (Shymkent) is >20% (both 2008 and 2009), which indicates efficient first steps of regionalization.

Perinatal mortality increased at referral level from 51.2‰ to 105‰ (2008) and 93.5‰ (2009),

Early neonatal mortality increased from 29.3‰ to 66.9‰ (2008) and 55.4‰ (2009, Oblast Perinatal center-OPC),

which is quite logical outcome in-line with similar proportional surge in Kyrgyzstan starting 2005 and Lithuania starting 1991 after implementation of WHO criteria.

Predicted effect of regionalised delivery care on neonatal mortality, utilisation, financial risk, and patient utility in Malawi: an agent-based modelling analysis

Mark G Shrimme, Katherine R Iverson, Rachel Yorlets, Sanam Roder-DeWan, Anna D Gage, Hannah Leslie,
Lancet Glob Health 2019; 7: e932–39

Findings

Scenarios restricting women to give birth in facilities with caesarean section capabilities reduced neonatal mortality by 11·4 deaths per 1000 livebirths (scenario 1; 95% PCI 9·8–13·1) and 11·6 deaths per 1000 livebirths (scenario 2; 10·2–13·1), whereas scenarios restricting women to facilities that provided five or more basic emergency obstetric and neonatal care services did not affect neonatal mortality.

Similarly, the **caesarean section rate** in Malawi, which is **4·6%** under the status quo, was predicted to rise significantly in scenario 1 (14·7%, 95% PCI 14·5–14·9; $p<0\cdot0001$) and scenario 2 (10·4%, 10·2–10·6; $p<0\cdot0001$), but not in scenarios 3 and 4.

Women were required to travel longer distances in scenario 1 (increase of 7·2 km, 95% PCI 4·5–9·9) and in scenario 2 (4·4 km, 1·5–7·2) than in the status quo ($p<0\cdot0001$).

Out-of-pocket costs tripled ($p<0\cdot0001$; status quo vs scenario 1 and scenario 2), and the **risk of catastrophic expenditure** significantly increased from a baseline of 6·4% (95% PCI 6·1–6·6) to 14·7% (14·5–14·9) in scenario 1 and 11·3% (11·0–11·5) in scenario 2. This increase was especially pronounced among the poor ($p<0\cdot0001$; status quo vs scenario 1 and scenario 2).

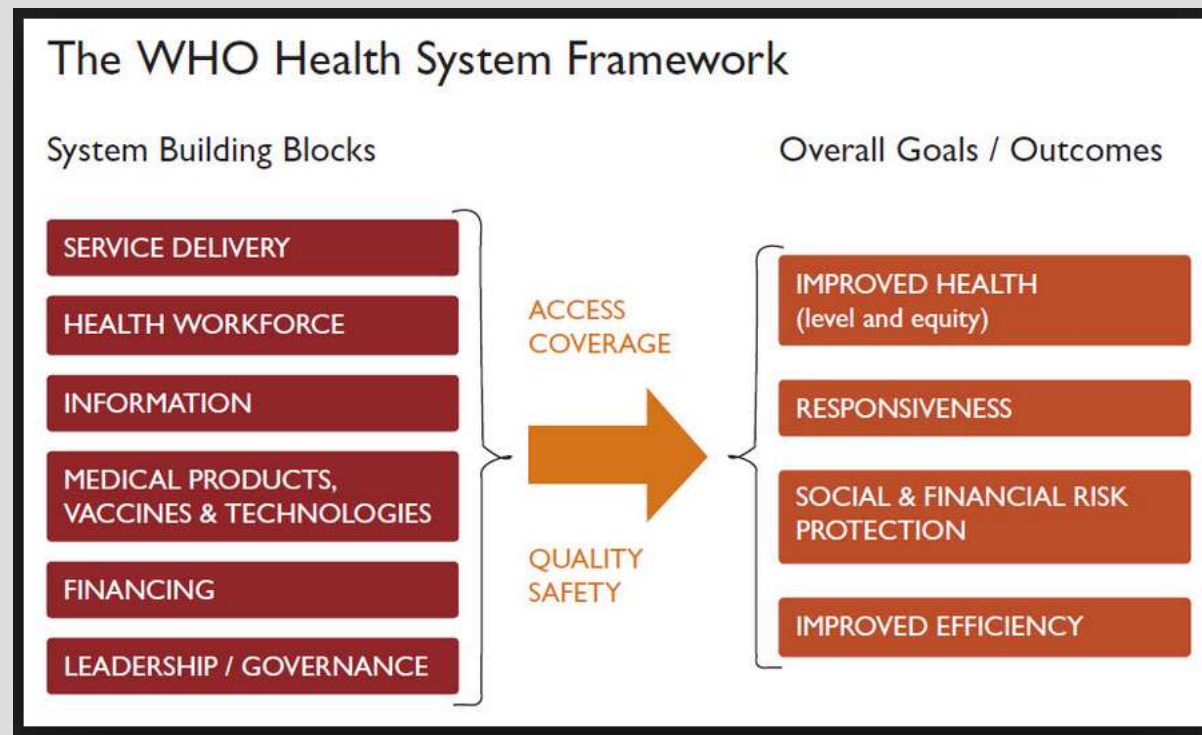
Predicted effect of regionalised delivery care on neonatal mortality, utilisation, financial risk, and patient utility in Malawi: an agent-based modelling analysis

Interpretation

Policies restricting women to give birth in facilities with caesarean section capabilities is likely to result in **significant decreases in neonatal mortality** and might allow Malawi to meet its goal of halving its neonatal mortality by 2030.

However, **this improvement comes at the cost of increased distances to care and worsening financial risks among women.**

The WHO Health System Framework



High-quality health systems in the Sustainable Development Goals era: time for a revolution

Margaret E Kruk, Anna D Gage, Catherine Arsenault, Keely Jordan, Hannah H Leslie, Sanam Roder-DeWan, Olusoji Adeyi, Pierre Barker, Bernadette Daelmans, Svetlana V Doubova, Mike English, Ezequiel García Elorrio, Frederico Guanais, Oye Gureje, Lisa R Hirschhorn, Lixin Jiang, Edward Kelley, Ephrem Tekle Lemango, Jerker Liljestrand, Address Malata, Tanya Marchant, Malebona Precious Matsoso, John G Meara, Manoj Mohanan, Yousoupha Ndiaye, Ole F Norheim, K Srinath Reddy, Alexander K Rowe, Joshua A Salomon, Gagan Thapa, Nana A Y Twum-Danso, Muhammad Pate

Lancet Glob Health 2018; 6: e1196–252

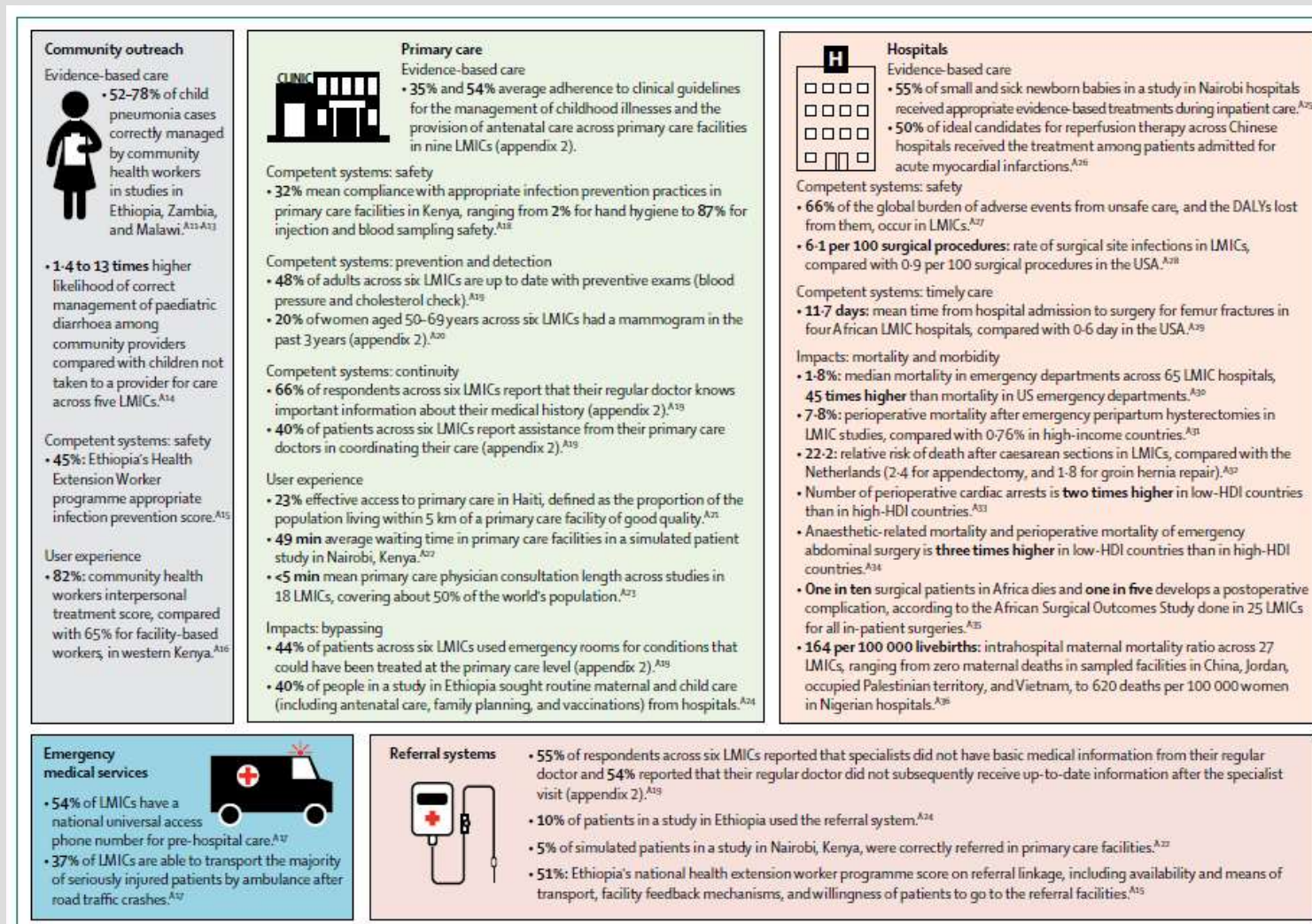


Figure 9: Quality of care across health system platforms in low-income and middle-income countries (LMICs)

DALYs=disability-adjusted life-years. HDI=Human Development Index. References can be found in appendix 1.

Moving beyond essential interventions for reduction of maternal mortality (the WHO Multicountry Survey on Maternal and Newborn Health): a cross-sectional study.

Souza JP¹, Gülmezoglu AM, Vogel J, Carroli G, Lumbiganon P, Qureshi Z, Costa MJ, Fawole B, Mugerwa Y, Nafiou I, Neves I, Wolomby-Molondo JJ, Bang HT, Cheang K, Chuyun K, Jayarathne K, Jayathilaka CA, Mazhar SB, Mori R, Mustafa ML, Pathak LR, Perera D, Rathavy T, Recidoro Z, Roy M, Ruyan P, Shrestha N, Taneepanichsku S, Tien NV, Ganchimeg T, Wehbe M, Yadamsuren B, Yan W, Yunis K, Bataglia V, Cecatti JG, Hernandez-Prado B, Nardin JM, Narváez A, Ortiz-Panoso E, Pérez-Cuevas R, Valladares E, Zavaleta N, Armson A, Crowther C, Hogue C, Lindmark G, Mittal S, Pattinson R, Stanton ME, Campodonico L, Cuesta C, Giordano D, Intarut N, Laopaiboon M, Bahl R, Martines J, Mathai M, Merialdi M, Say L.

Author information

- 1 UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction, WHO, Geneva, Switzerland. souzaj@who.int

High coverage of essential interventions did not imply reduced maternal mortality in the health-care facilities we studied.

If substantial reductions in maternal mortality are to be achieved, **universal coverage of life-saving interventions** need to be matched **with comprehensive emergency care** and overall **improvements in the quality of maternal health care**.

Does facility birth reduce maternal and perinatal mortality in Brong Ahafo, Ghana? A secondary analysis using data on 119 244 pregnancies from two cluster-randomised controlled trials

Lancet Glob Health. 2019 Aug; 7(8): e1074–e1087

Annually, more than 1 million newborn babies die on the day they are born and 1·3 million stillbirths occur during labour and birth, which is also when 46% of maternal deaths occur.

Acknowledging these epidemiological facts has led to the prioritisation of intrapartum care, namely birth with a skilled attendant and in a health facility. However, empirical evidence for the benefits of facility birth is scant, and has only started to emerge, with ambiguous findings. Effect estimates have been largely based on a single before–after study from Bangladesh and on expert opinion.

Moreover, **the extent to which facility birth can translate into mortality decline crucially depends on the quality of care provided.**

A substantial body of evidence is emerging that documents low provider skills and limited facility capability to provide good-quality routine and emergency care at birth.

This evidence might explain the mismatch between high coverage of facility birth and persistently high mortality burdens in many settings.

Does facility birth reduce maternal and perinatal mortality in Brong Ahafo, Ghana? A secondary analysis using data on 119 244 pregnancies from two cluster-randomised controlled trials

Lancet Glob Health. 2019 Aug; 7(8): e1074–e1087

Findings

Higher proportions of facility births in a cluster were not linked to reductions in any of the mortality outcomes.

In women who were wealthier, facility births were much more common than in those who were poorer, but mortality was not lower among them or their babies. Women with higher education had lower mortality risks than less-educated women, except first-day and early neonatal mortality.

A substantially higher proportion of women living in areas closer to childbirth facilities had facility births and caesarean sections than women living further from childbirth facilities, but mortality risks were not lower despite this increased service use. Among women who lived in areas closer to facilities offering comprehensive emergency obstetric care (CEmOC), emergency newborn care, or high-quality routine care, or to facilities that had providers with satisfactory competence, we found a lower risk of intrapartum stillbirth (14·2 per 1000 deliveries at >20 km from a CEmOC facility vs 10·4 per 1000 deliveries at ≤1 km; odds ratio [OR] 1·13, 95% CI 1·06–1·21) and of composite mortality outcomes than among women living in areas where these services were further away.

Does facility birth reduce maternal and perinatal mortality in Brong Ahafo, Ghana? A secondary analysis using data on 119 244 pregnancies from two cluster-randomised controlled trials

Lancet Glob Health. 2019 Aug; 7(8): e1074–e1087

Findings

Protective effects of facility birth were restricted to the two earlier policy periods (from June 1, 2003, to June 30, 2008), whereas there was evidence for higher perinatal mortality with increasing wealth (OR 1.09, 1.03–1.14) and lower perinatal mortality with increasing distance from childbirth facilities (OR 0.93, 0.89–0.98) after free health insurance was introduced in July 1, 2008.

Interpretation

Facility birth does not necessarily convey a survival benefit for women or babies and should only be recommended in facilities capable of providing emergency obstetric and newborn care and capable of safe-guarding uncomplicated births.

Respectful care during childbirth in health facilities globally: a qualitative evidence synthesis

BJOG. 2018 Jul;125(8):932-942. doi: 10.1111/1471-0528.15015. Epub 2017 Dec 8.

Respectful care during childbirth in health facilities globally: a qualitative evidence synthesis.

Shakibazadeh E¹, Namadian M², Bohren MA³, Vogel JP³, Rashidian A^{4,5}, Nogueira Pileggi V^{6,7}, Madeira S⁸, Leathersich S⁹, Tunçalp Ö³, Oladapo OT³, Souza JP³, Gülmezoglu AM³.

This review presents an evidence-based typology of RMC in health facilities globally, and demonstrates that the concept is broader than a reduction of disrespectful care or mistreatment of women during childbirth. Innovative approaches should be developed and tested to integrate RMC as a routine component of quality maternal and newborn care programmes.

E Shakibazadeh
M Namadian
MA Bohren
JP Vogel
A Rashidian
V Nogueira Pileggi
S Madeira
S Leathersich

Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis

[Susan Munabi-Babigumira](#),  [Claire Glenton](#), [Simon Lewin](#), [Atle Fretheim](#), and [Harriet Nabudere](#)

We included 31 studies that explored the views and experiences of different types of SBAs, including doctors, midwives, nurses, auxiliary nurses and their managers. The included studies took place in Africa, Asia, and Latin America.

Many factors influence the care that SBAs are able to provide to mothers during childbirth.

These include **access to training and supervision; staff numbers and workloads; salaries and living conditions;** and access to **well-equipped, well-organised healthcare facilities with water, electricity, and transport.**

Other factors that may play a role include the existence of **teamwork and of trust, collaboration, and communication between health workers and with mothers.**

Quality of care for pregnant women and newborns the WHO vision, May 2015 - 1



Although indirect causes of maternal death are increasing (27.5% of maternal deaths), globally, **over 70% of maternal deaths occur as a result of complications of pregnancy and childbirth** such as haemorrhage, hypertensive disorders, sepsis and abortion.

Complications of preterm birth, birth asphyxia, intrapartum-related neonatal death and neonatal infections together account for more than 85% of newborn mortality.

Quality of care for pregnant women and newborns the WHO vision, May 2015 - 2

Therefore, the **time of childbirth and the period immediately after birth are particularly critical for maternal, fetal and neonatal survival and well-being.**

Effective care to prevent and manage complications during this critical period is likely to have a significant impact on reducing maternal deaths, stillbirths and early neonatal deaths—a triple return on investment.

Within this **critical period, quality of care** improvement efforts would target **essential maternal and newborn care** and **additional care for management of complications** that could achieve the highest impact on maternal, fetal and newborn survival and well-being.

Quality of care for pregnant women and newborns the WHO vision, May 2015 - 3

Based on the current evidence on burden and impact, the following specific thematic areas have been identified as high priority for this vision:

1. Essential childbirth care including labour monitoring and action, and essential newborn care at birth and during the first week;
2. Management of pre-eclampsia, eclampsia and its complications;
3. Management of postpartum haemorrhage;
4. Management of difficult labour by enabling safe and appropriate use of medical technologies during childbirth;
5. Newborn resuscitation;
6. Management of preterm labour, birth and appropriate care for preterm and small babies;
7. Management of maternal and newborn infections.

Quality of care for pregnant women and newborns the WHO vision, May 2015 - 4

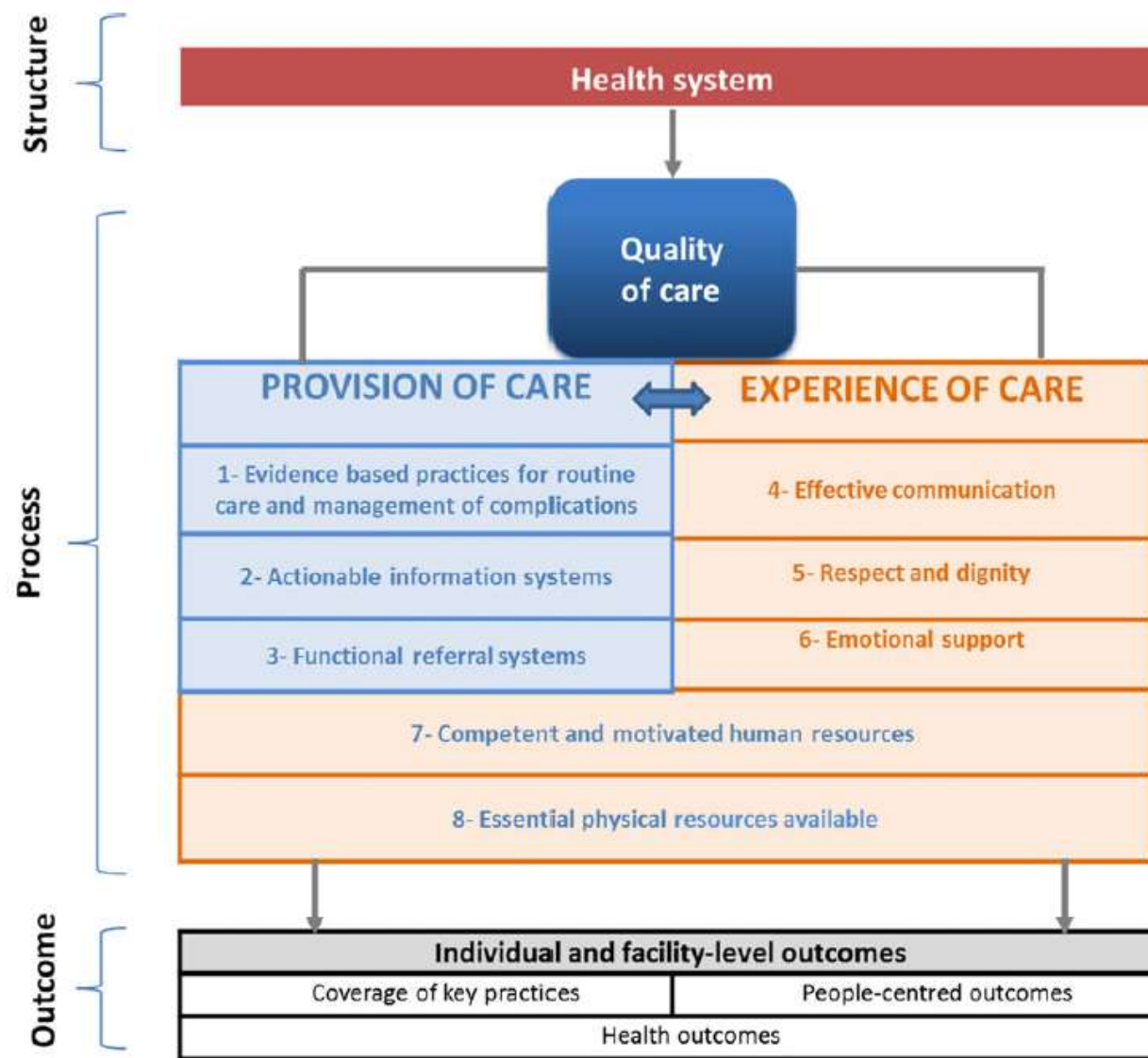
To end preventable maternal and newborn morbidity and mortality, every pregnant woman and newborn need **skilled care at birth** with **evidence-based practices** delivered in a **humane, supportive environment**.

Good quality of care requires appropriate use of **effective clinical and non-clinical interventions**, **strengthened health infrastructure** and **optimum skills and attitude of health providers**, resulting in improved health outcomes and **positive experience of women and providers**.

Moreover, **quality of care** is considered a key component of the **right to health**, and the route to equity and dignity for women and children.

Quality of care for pregnant women and newborns the WHO vision, 2015

WHO Quality of Care Framework for maternal and newborn health

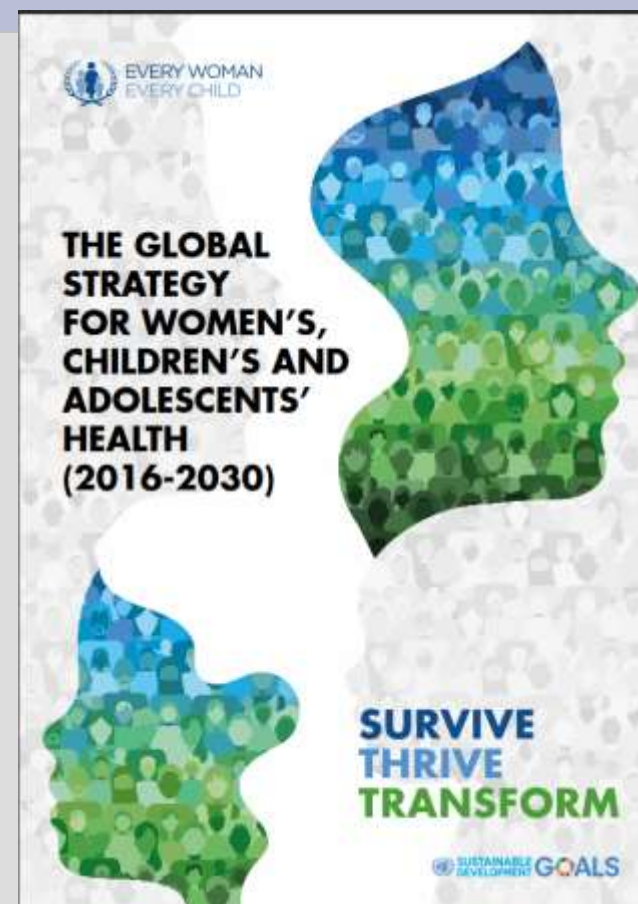


THE GLOBAL STRATEGY FOR WOMEN'S, CHILDREN'S AND ADOLESCENTS' HEALTH (2016-2030)

Women, children and adolescents still face numerous interrelated health challenges, underpinned by poverty, inequality and marginalization.

The previous Global Strategy achieved great things between 2010 and 2015. It galvanized political leadership, attracted billions of dollars in new financial commitments and created Every Woman Every Child, a powerful multi-stakeholder movement for health.

However, for too many women, children and adolescents worldwide still have little or no access to essential, good-quality health services and education, clean air and water, adequate sanitation and good nutrition. They face violence and discrimination, are unable to participate fully in society, and encounter other barriers to realizing their human rights.^{2,4,7} As a result, as the MDG era draws to a close, the annual death toll remains unacceptably high: 289,000 maternal deaths, 2.6 million stillbirths, 5.9 million deaths in children under the age of five—including 2.7 million newborn deaths—and 1.3 million adolescent deaths.^{8,10} Most of these deaths could have been prevented. Many more people suffer illness and disability and fail to reach their full potential, resulting in enormous loss and costs for countries both today and for future generations.



Inequitable risk of maternal and child death across regions

Figure 3:
Inequitable risks of maternal and child death across regions*



THE GLOBAL STRATEGY FOR WOMEN'S, CHILDREN'S AND ADOLESCENTS' HEALTH (2016-2030)

Figure 1:
Examples of evidence-based interventions for women's, children's and adolescents' health*

*See Annex 2.4 for a more detailed list of essential interventions throughout the life course as supported by current evidence. The provision of all interventions depends on the country context, including health needs, supply of related goods and commodities and legal considerations.



THE GLOBAL STRATEGY FOR WOMEN'S, CHILDREN'S AND ADOLESCENTS' HEALTH (2016-2030)

Box 1: Examples of high returns on investments in women's, children's and adolescents' health

The examples below should be read in the context of the need to secure access to all essential interventions and supplies across the life course, to strengthen health systems and to address all major determinants of health (see Annexes 2-6).

HEALTH INTERVENTIONS ACROSS THE LIFE COURSE

MODERN CONTRACEPTION AND GOOD QUALITY OF CARE FOR PREGNANT WOMEN AND NEWBORNS:

If all women who want to avoid a pregnancy used modern contraceptives and all pregnant women and newborns received care at the standards recommended by the World Health Organization (WHO), the benefits would be dramatic. Compared with the situation in 2014, there would be a reduction in unintended pregnancies by 70 per cent; abortions by 67 per cent; maternal deaths by 67 per cent; newborn deaths by 77 per cent; and transmission of HIV from mothers to newborns would be nearly eliminated. The return on investment would be an estimated US\$120 for every US\$1 spent.¹⁶ Population stability would enhance economic sustainability and reduce the risks of climate change.¹⁹

GOOD QUALITY OF CARE AT CHILDBIRTH:

This produces a triple return on investment, saving mothers and newborns and preventing stillbirths. The provision of effective care for all women and babies at the time of birth in facilities could prevent an estimated 112,000 maternal deaths, 527,000 stillbirths and 1.3 million neonatal deaths annually by 2030 at an estimated running cost of US\$4.5 billion per year (US\$0.9 per person).^{16, 20}

IMMUNIZATION:

This is among the most cost-effective of health interventions. Ten vaccines, representing an estimated cost of US\$42 billion between 2017 and 2020, have the potential to avert between 34 and 36 million future deaths as compared with a hypothetical scenario under which these vaccines have zero coverage during this time.²¹

BREASTFEEDING AND NUTRITION:

Promoting and supporting breastfeeding in the first two years of life could avert almost 12 per cent of deaths in children under five, prevent undernutrition and ensure a good start for every child.²² Scaling up nutrition interventions has a benefit-cost ratio of 16.²³ Eliminating undernutrition in Asia and Africa would increase gross domestic product (GDP) by 11 per cent.²⁴

EARLY CHILDHOOD DEVELOPMENT:

Enabling children to develop their physical, cognitive, language and socioemotional potential, particularly in the three first years of life, has rates of return of 7-10 per cent across the life course through better education, health, sociability, economic outcomes and reduced crime.¹⁶

ADOLESCENTS AND YOUNG PEOPLE:

If countries in demographic transition make the right human capital investments and adopt policies that expand opportunities for young people, their combined demographic dividends could be enormous. In sub-Saharan Africa, for example, they would be at least US\$500 billion a year, equal to about one third of the region's current GDP, for as many as 30 years.¹⁷

HEALTH SYSTEM ENABLERS

HEALTH SYSTEM AND WORKFORCE INVESTMENTS:

With enhanced investments to scale up existing and new health interventions—and the systems and people to deliver them—most low-income and lower-middle-income countries could reduce rates of deaths from infectious diseases, as well as child and maternal deaths to levels seen in the best-performing middle-income countries in 2014. A “grand convergence” in health is achievable by 2035.¹⁴

For women's and children's health, health system investments alongside investments in high-impact health interventions for reproductive, maternal, newborn and child health, at a cost of US\$5 per person per year up to 2035 in 74 high-burden countries, could yield up to nine times that value in economic and social benefits. These returns include greater GDP growth through improved productivity and preventing 32 million stillbirths and the deaths of 147 million children and 5 million women by 2035.¹³

The health workforce is a critical area for investment. An ambitious global scale-up would require at least an additional 675,000 nurses, doctors and midwives by 2035, along with at least 544,000 community health workers and other cadres of health professionals.¹² Other key health systems investments include: programme management; human resources; infrastructure, equipment and transport; logistics; health information systems; governance; and health financing.¹⁴

MULTISECTOR ENABLERS

EDUCATION:

Investments to ensure girls complete secondary school yield a high average rate of return (around 10 per cent) in low- and middle-income countries. The health and social benefits include, among others, delayed pregnancies and reduced fertility rates, improved nutrition for pregnant and lactating mothers and their infants, improved infant mortality rates and greater participation in the political process. School curricula should include elements to strengthen the self-esteem of girls and increase respect for girls among boys.²⁵

GENDER EQUALITY:

Closing the gender gap in workforce participation by guaranteeing and protecting women's equal rights to decent, productive work and equal pay for equal work would reduce poverty and increase global GDP by nearly 12 per cent by 2030.²⁴

PREVENTING CHILD MARRIAGE:

A 10 per cent reduction in child marriage could contribute to a 70 per cent reduction in a country's maternal mortality rates and a 3 per cent decrease in infant mortality rates.²¹ High rates of child marriage are linked to lower use of family planning, higher fertility, unwanted pregnancies, higher risk for complications during childbirth, limited educational advancement, and reduced economic earnings potential.

WATER, SANITATION AND HYGIENE:

Investments in these sectors return US\$4 for every US\$1 invested and would result in US\$260 billion being returned to the global economy each year if universal access were achieved.²²

INDOOR AIR POLLUTION:

Globally, more than 3 billion people cook with wood, dung, coal and other solid fuels on open fires or traditional stoves. If 50 per cent of people who use solid fuels indoors gained access to cleaner fuels, health-system cost savings would amount to US\$165 million annually. Gains in health-related productivity would range from 17 to 62 per cent in urban areas and 6 to 15 per cent in rural areas.²³

THE GLOBAL STRATEGY FOR WOMEN'S, CHILDREN'S AND ADOLESCENTS' HEALTH (2016-2030)

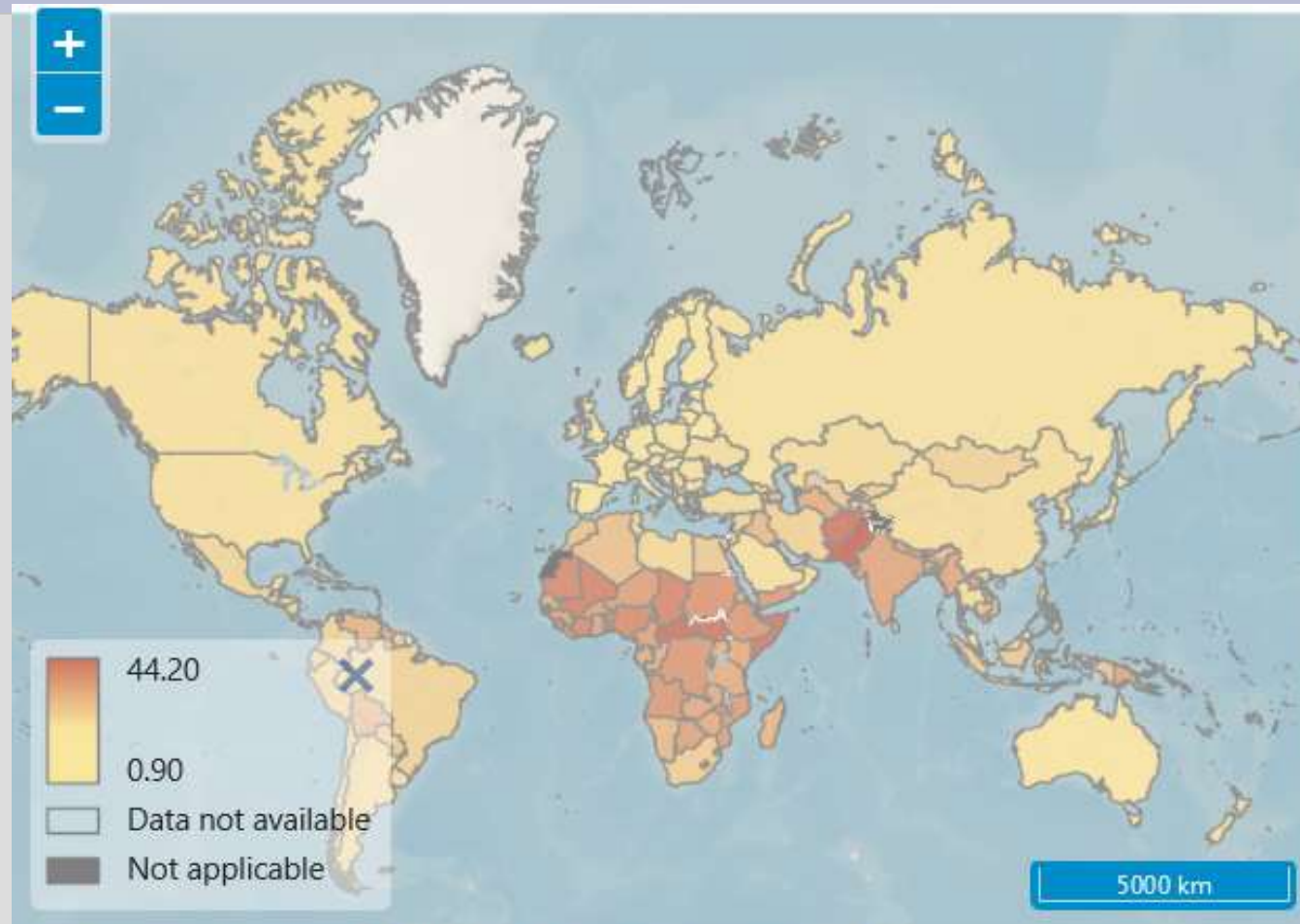
"Gender equality and women's empowerment bring huge economic benefits. Countries with better gender equality have faster-growing, more competitive economies. Gender equality is the right thing to do, but it's also a smart thing to do."

MICHELLE BACHELET
President of Chile



Maternal, newborn, child & adolescent health WHO Data portal

neonatal mortality rate (per 1000 live births), latest data



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

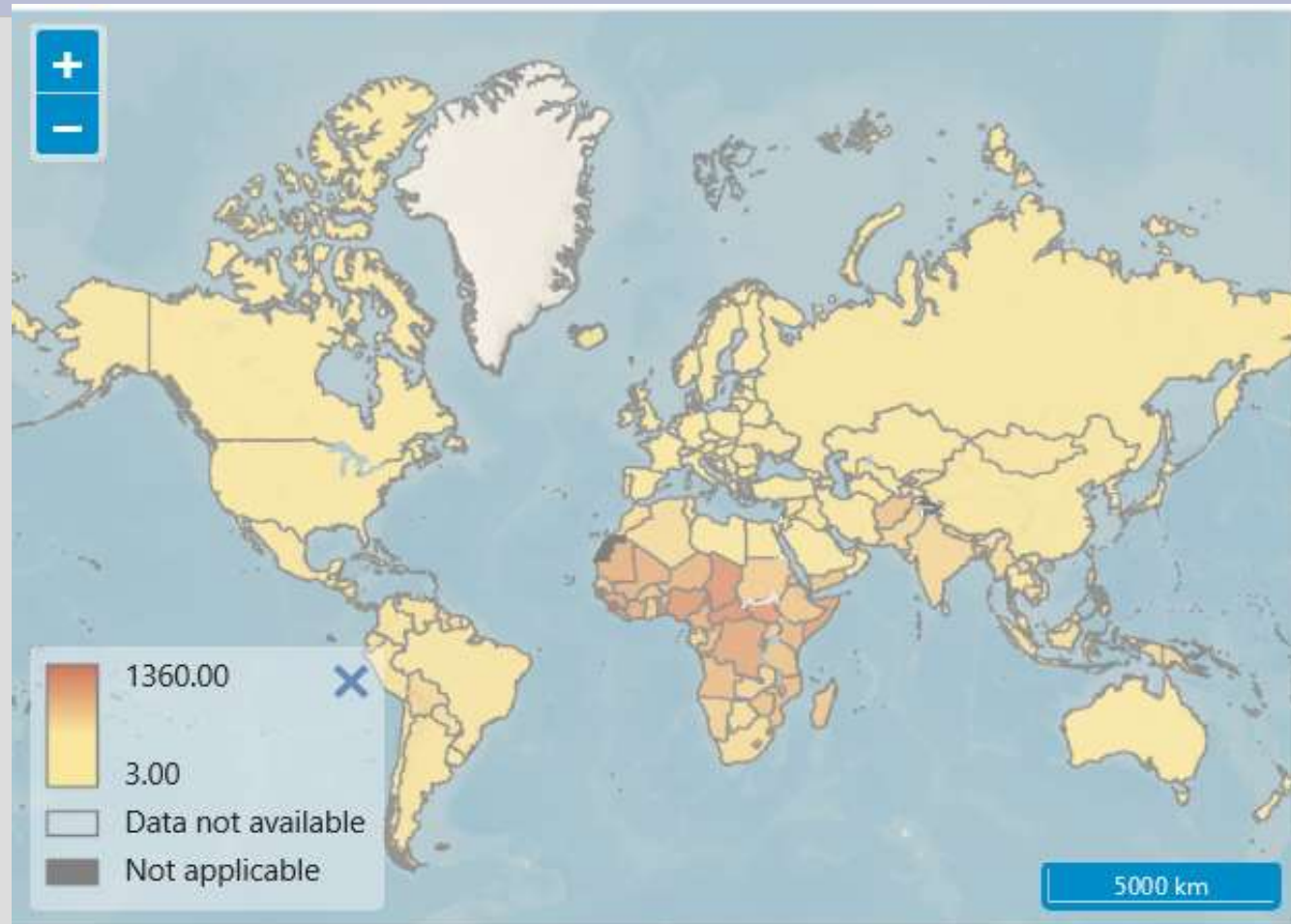


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Maternal, newborn, child & adolescent health WHO Data portal

maternal mortality ratio (per 100 000 live births), latest data



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Father skin-to-skin Kyrgyzstan