THE GOLDEN HOUR IN LOW INCOME COUNTRIES

VII Congresso GdS SIN Neonatologia e Sviluppo Cure essenziali nei paesi a basse risorse

"IN CAMMINO PER IL MONDO: NEONATOLOGIA SENZA CONFINI"

18/19 Ottobre 2019 Aula magna Az. Osp. Univ. Meyer/Firenze

FONDAZIONE POLIAMBULANZA Istituto Ospedaliero

PAOLO VILLANI NICU and Neonatology Brescia


URGENT
SONUB
SONUC

The Golden Hour: Scientific Fact or Medical "Urban Legend"?

E. Brooke Lerner, MS, EMT-P, Ronald M. Moscati, MD

THE TERM "golden hour" is ubiquitous in the trauma care literature. The idea is that trauma patients have better outcomes if they are provided definitive care within 60 minutes of the occurrence of their injuries. The golden hour justifies much of the current trauma system. Out-of-hospital care concepts such as scoop and run, aeromedical transport, and trauma center designations with trauma teams in place are, in part, predicated on the idea that time is a critical factor in the management of injured patients. Numerous

The Golden Hour

Improving the Stabilization of the Very Low Birth-Weight Infant

Val Castrodale, MSN, RN, NNP-BC; Shannon Rinehart, RNC-NIC, BSN

Linda Ikuta, RN, MN, CCNS, PHN ○ Section Editor
Foundations in Newborn Care

The phrase "The Golden Hour" is a term borrowed from emergency and cardiovascular medicine and refers to the first hour of an infant's life following delivery.[1] During this time period of an infant's life, there is a profound and critical transition period of adaptation that takes place. Analyses of videotaped resuscitations suggest that management during this period of transition in very low birth-weight infants may impact long-term outcomes, and that care during this time frame should be optimized.[2] A *high-risk neonate* is any neonate who, because of circumstances or conditions associated with the birth process, has an increased risk of mortality or morbidity.[3] The stabilization of these vulnerable infants is complicated even further by other special considerations such as hypothermia, poor energy stores, and surfactant deficiency.

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Golden hour of neonatal life: Need of the hour

Deepak Sharma

Sharma *Maternal Health, Neonatology, and Perinatology* (2017) 3:16
DOI 10.1186/s40748-017-0057-x

port and patient outcome [2, 4]. Reynolds et al. was the first person to implement this concept in the neonatal care [1]. The neonatal management in the first hour of life have an important effect on both immediate and long-term outcomes of all neonates. There are many interventions that needs to be practiced in golden hour for neonatal care so that neonatal complications are minimized [5]. The prime objective of golden hour is to use evidence based interventions and treatment for better neonatal outcome, importantly for extremely low gestational age neonates (ELGAN) [6]. In the golden hour, standard approach is followed derived from the best available evidence with aim of practicing gentle but timely and effective interventions with non-invasive procedures if required [7]. In this review article, we

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Golden hour of neonatal life: Need of the hour

Deepak Sharma

Table 1 Various components of "Golden 60 minutes" project for term and preterm newborn

S. no	Components
1	Antenatal counseling and team briefing
2	Delayed cord clamping
3	Prevention of hypothermia/temperature maintenance
4	Support to respiratory system
5	Support to cardiovascular system
6	Early nutritional care
7	Prevention of hypoglycemia
8	Initiation of breast feeding
9	Infection prevention
10	Starting of therapeutic hypothermia for birth asphyxia
11	Laboratory investigation
12	Monitoring/record
13	Communication with family

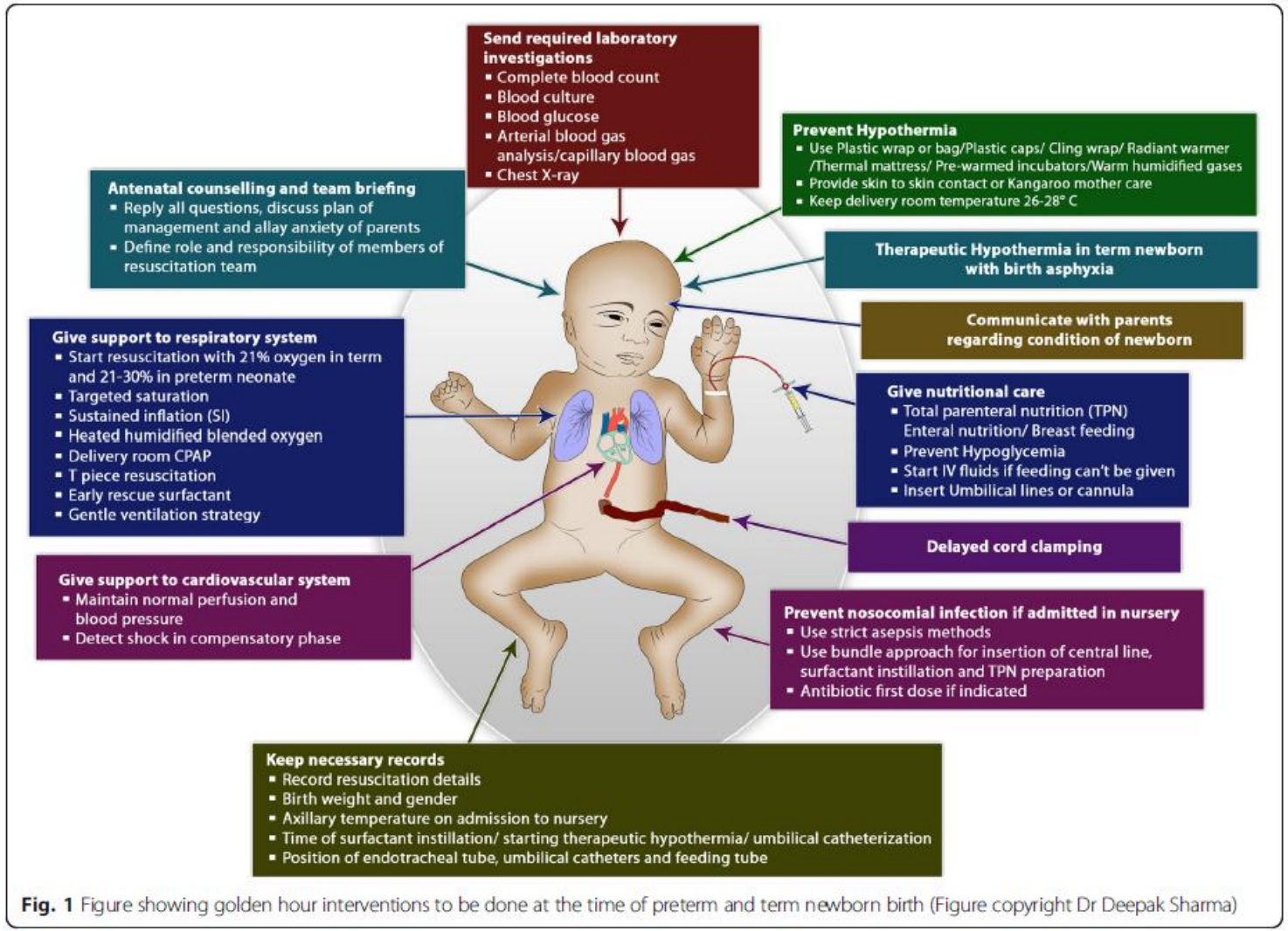

Fig. 1 Figure showing golden hour interventions to be done at the time of preterm and term newborn birth (Figure copyright Dr Deepak Sharma)

Anticipation and preparation for every delivery room resuscitation

Taylor Sawyer[a,*], Henry C. Lee[b], Khalid Aziz[c]

[a] Department of Pediatrics, Division of Neonatology, University of Washington School of Medicine and Seattle Children's Hospital, Seattle, WA, USA
[b] Department of Pediatrics, Division of Neonatal & Developmental Medicine, Stanford University, Stanford, CA, USA
[c] Department of Pediatrics, Division of Newborn Medicine, University of Alberta, Edmonton, Alberta, Canada

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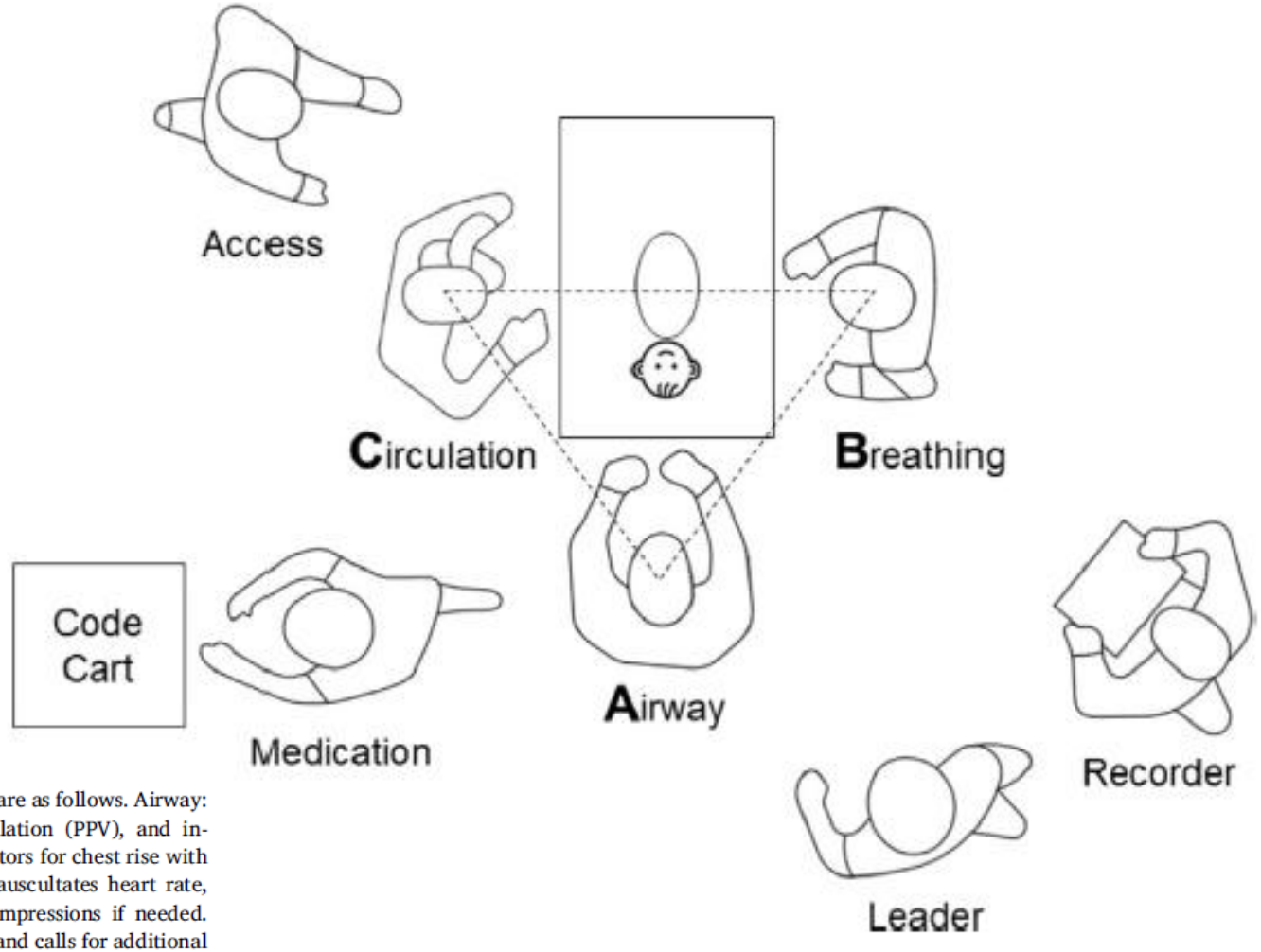


born resuscitation team. The roles of each team member are as follows. Airway: manages the airway, performs positive pressure ventilation (PPV), and intubates if needed. Breathing: turns on Apgar timer, monitors for chest rise with PPV, and helps with PPV and intubation. Circulation: auscultates heart rate, places electrocardiogram leads, and performs chest compressions if needed. Leader: leads resuscitation, directs other team members, and calls for additional help as needed. Recorder: keeps time, documents resuscitation, assists code leader. Medication: prepares and administers medications. Access: places emergency umbilical vessel catheter if needed.


37,7
0

THE GOLDEN HOUR IN LOW INCOME COUNTRIES

HOW MANY?
WHY?
WHERE?
WHEN?

1. IT’S REASONABLE ?
2. IT'S POSSIBLE ?

HOW MANY?

Levels & Trends in
Child Mortality
Report 2018

Estimates developed by the UN Inter-agency Group for Child Mortality Estimation

HOW MANY?
WHY?
WHERE?
WHEN?

Imagine for a moment that you are about to give birth. You are at home, accompanied only by a few members of your family. You are in pain, but you have no access to a doctor, nurse or midwife. You know there is a real risk that both you and the baby you have been waiting to meet may not survive the birth. Even if you and the baby survive, you know that the coming days and weeks will be filled with danger.

Imagine now that you are a midwife, preparing to deliver a premature baby. The health centre where you work has no running water, no electricity and few supplies. You are standing in the dark, your mobile phone clenched between your teeth, its dim glow the only light available to guide you. The mother before you is 16 years old. She is entering the active phase of labour. You are her only source of medical help and hope.

These scenarios illustrate the harsh reality faced by millions of mothers, babies and health workers around the world. It is a reality that we can and must change to keep ***EVERY CHILD ALIVE.***

ENDING PREVENTABLE NEWBORN DEATHS & STILLBIRTHS

EVERY YEAR:

2.6 million babies die in the first 28 days of life. Most in the first week.

THE TOP CAUSES:

1. Prematurity
2. Complications during birth
3. Severe infections

AN ADDITIONAL:

2.6 million stillbirths occur each year

50% after labour has begun

BUT:

75% of newborn deaths CAN be prevented with high-quality care.

So can the majority of maternal deaths and stillbirths.

Healthy mother + Healthy birth + Good health in the first days of life = The start of a healthy childhood

World Health Organization

unicef

WHY?

The challenge of keeping Every Child Alive

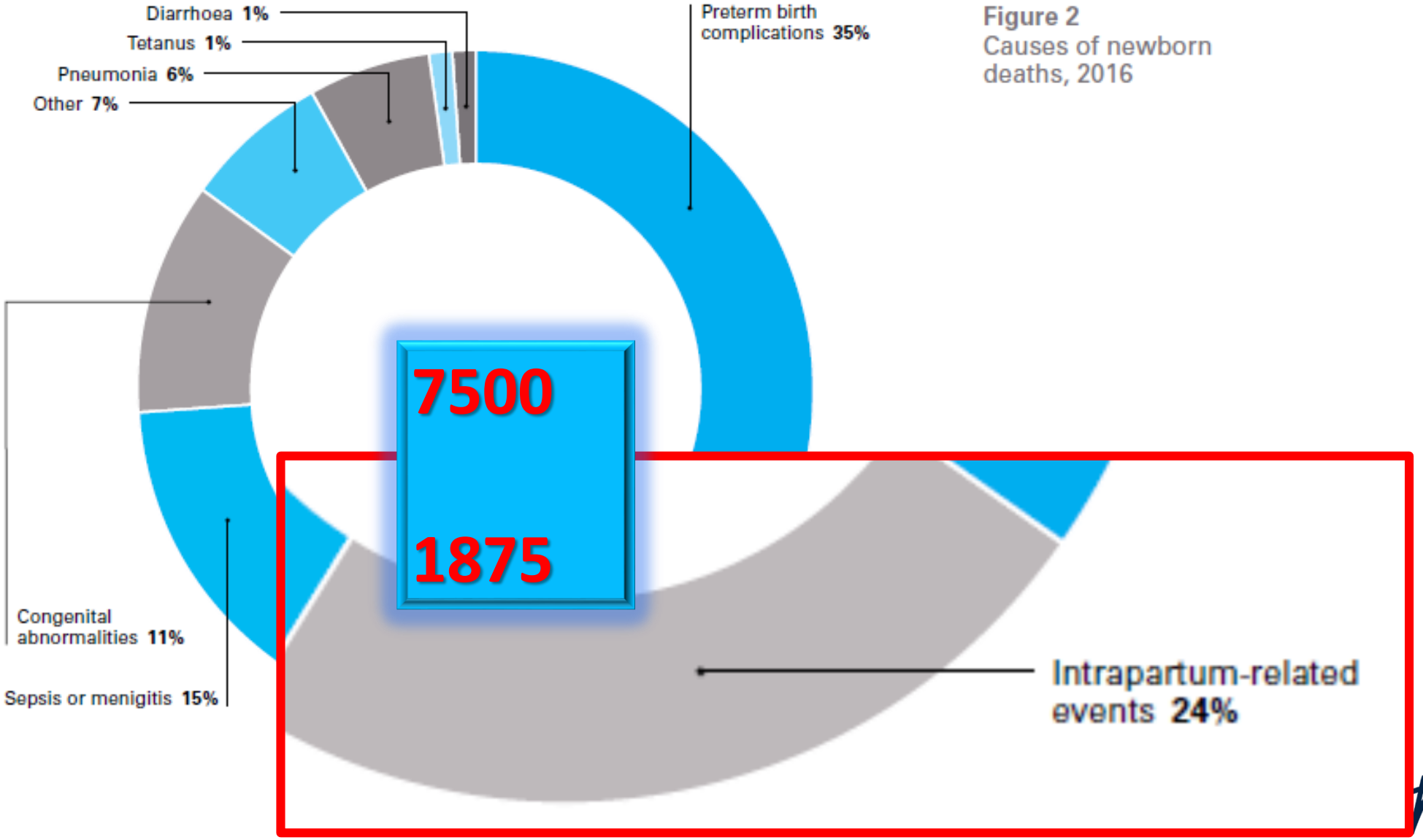


Figure 2
Causes of newborn deaths, 2016

Neonatal Survival 1

4 million neonatal deaths: When? Where? Why?

Joy E Lawn, Simon Cousens, Jelka Zupan, for the Lancet Neonatal Survival Steering Team*

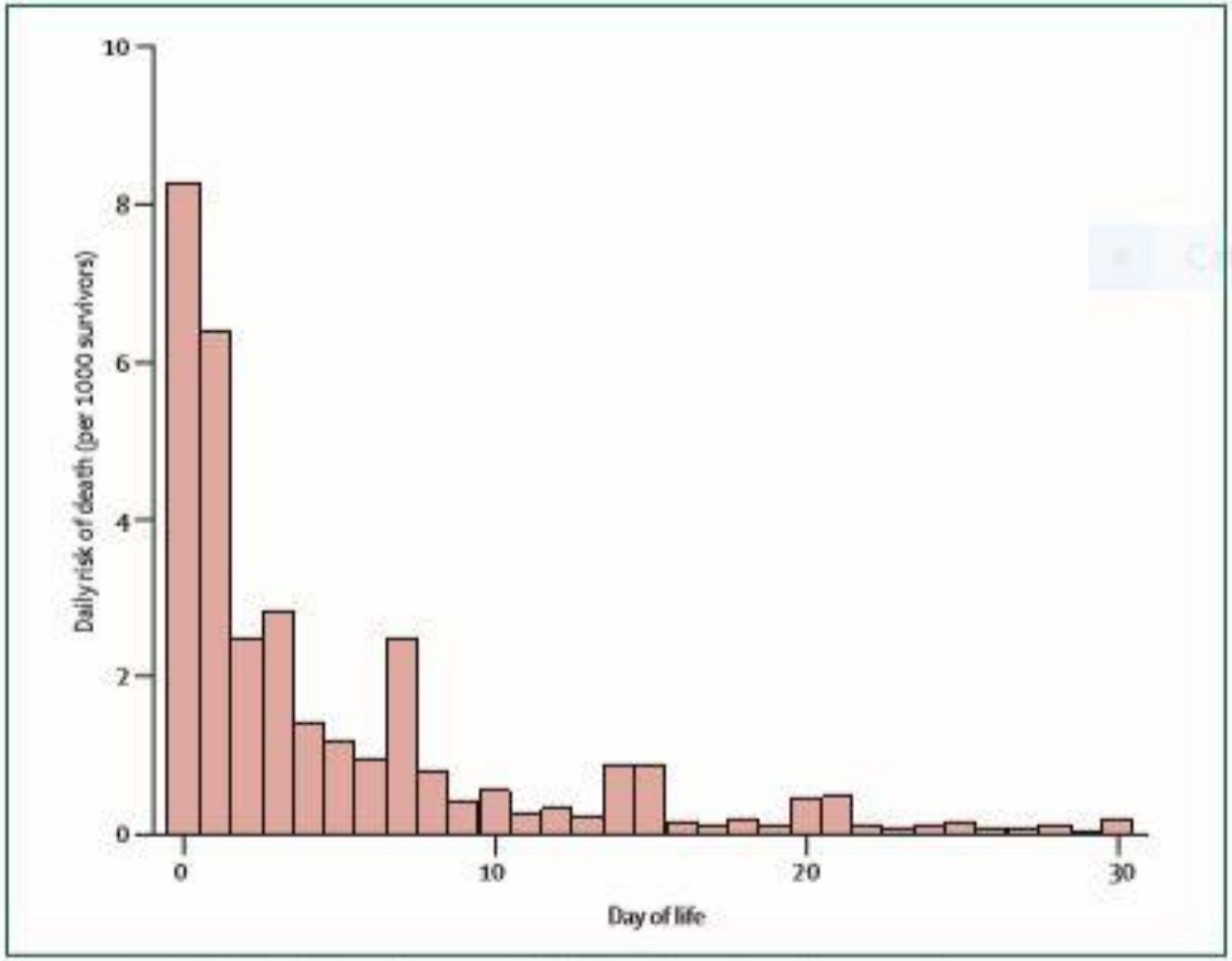
Lancet 2005; 365: 891–900

WHERE?

Most neonatal deaths are unrecorded in any formal registration system, hence global analysis is based on estimates (panel 1).[14–17] The most recent estimates suggest that there were nearly 4 million neonatal deaths in 2000. Only 1% of these deaths were in 39 high-income countries, where the average NMR is four per 1000 livebirths (table 1). The remaining 99% of deaths were in low-income and middle-income countries, where the average NMR is estimated to be 33.[1]

About two-thirds of neonatal deaths arise in the African and southeast Asian regions of WHO (table 1). The countries with the largest absolute numbers of deaths are mainly in south Asia, because of the large populations in this region; India alone contributes a quarter of neonatal deaths. Ten countries account for

WHEN?



Daily risk of death during first month of life based on analysis of 47DHS datasets (1995–2003) with 10 048 neonatal deaths

Neonatal Survival 1

4 million neonatal deaths: When? Where? Why?

*Joy E Lawn, Simon Cousens, Jelka Zupan, for the Lancet Neonatal Survival Steering Team**

The time of labour and the day of birth is when 40% of all stillbirths and neonatal deaths occur with 1 million babies dying on the day they are born.

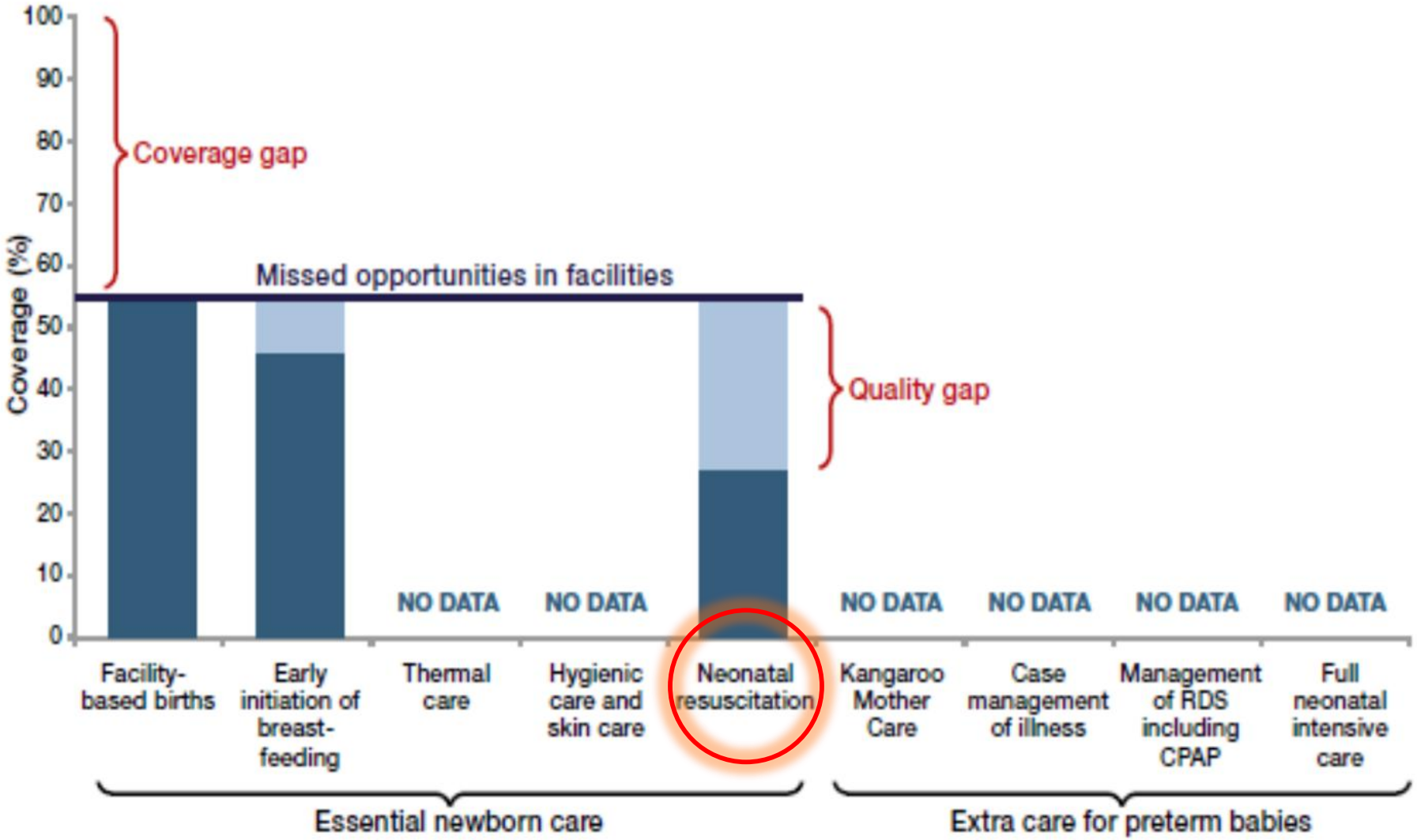
About 75% of all neonatal deaths occur during the first week of life.

Every Newborn 3

Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost?

Zulfiqar A Bhutta, Jai K Das, Rajiv Bahl, Joy E Lawn, Rehana A Salam, Vinod K Paul, Jeeva M Sankar, Hannah Blencowe, Arjumand Rizvi, Victoria B Chou, Neff Walker, for The Lancet Newborn Interventions Review Group and The Lancet Every Newborn Study Group

Figure 5.4: Missed opportunities to reach preterm babies with essential interventions, median for Countdown to 2015 priority countries



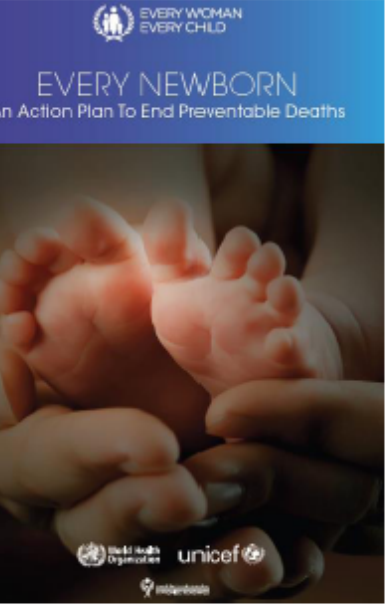
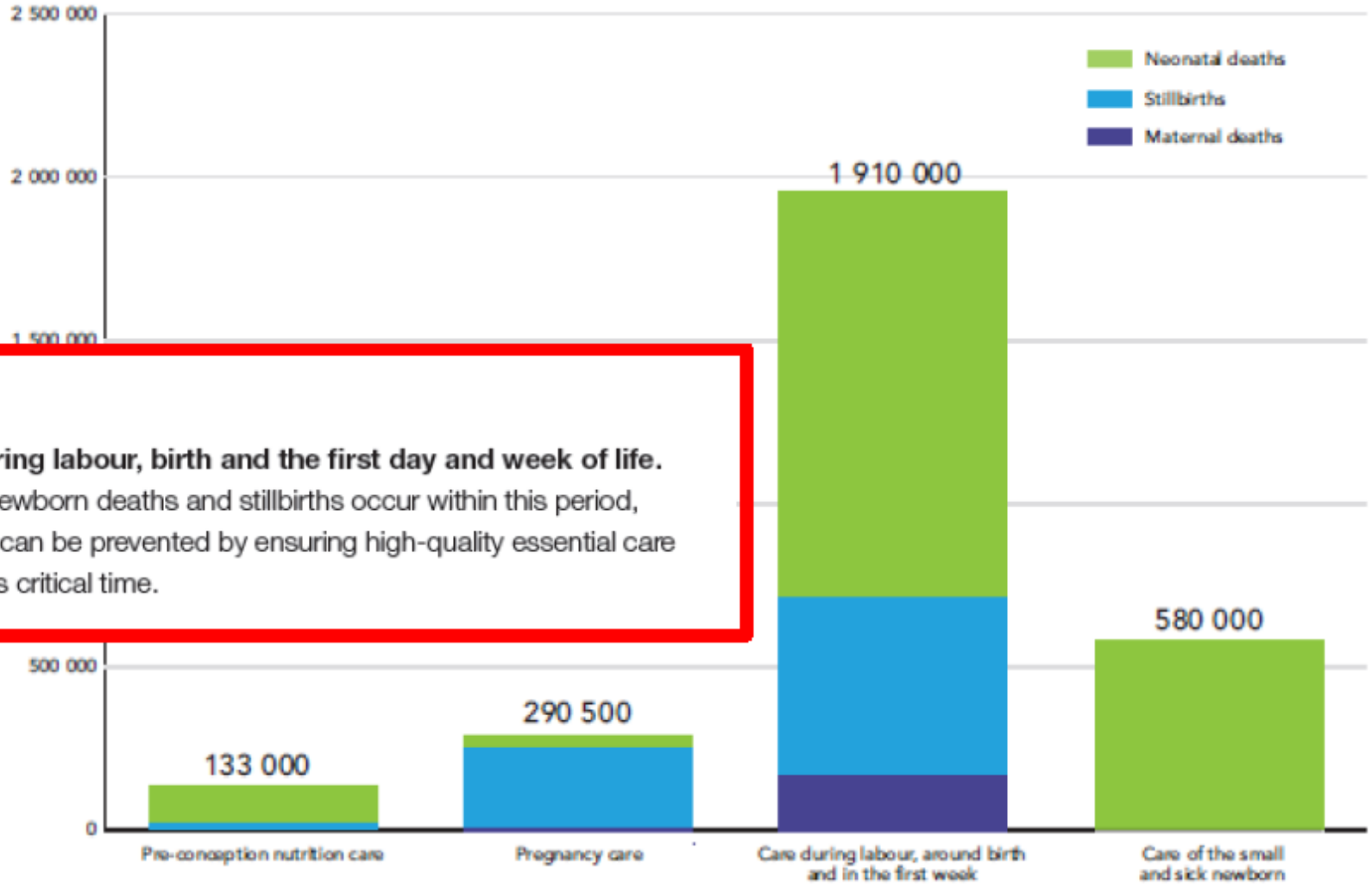


Fig. 3 Lives that could be saved by 2025 with universal coverage of care



Strategic objective 1

Strengthen and invest in care during labour, birth and the first day and week of life.
A large proportion of maternal and newborn deaths and stillbirths occur within this period, but many deaths and complications can be prevented by ensuring high-quality essential care to every woman and baby during this critical time.

Source: The Lancet Every Newborn Series, Bhutta Z et al. *Lancet*, 2014 (*6*).

Equity

rich/poor gap (% points)

(20% poorest) (20% richest)

	rich/poor gap	(20% poorest)	(20% richest)
Demand for family planning satisfied with modern methods	36	22%	58%
Antenatal care, 4+ visits	23	24%	47%
Neonatal tetanus protection	4	67%	71%
Skilled birth attendant	46	47%	93%
Postnatal care for mothers	21	61%	82%
Postnatal care for babies	6	23%	29%

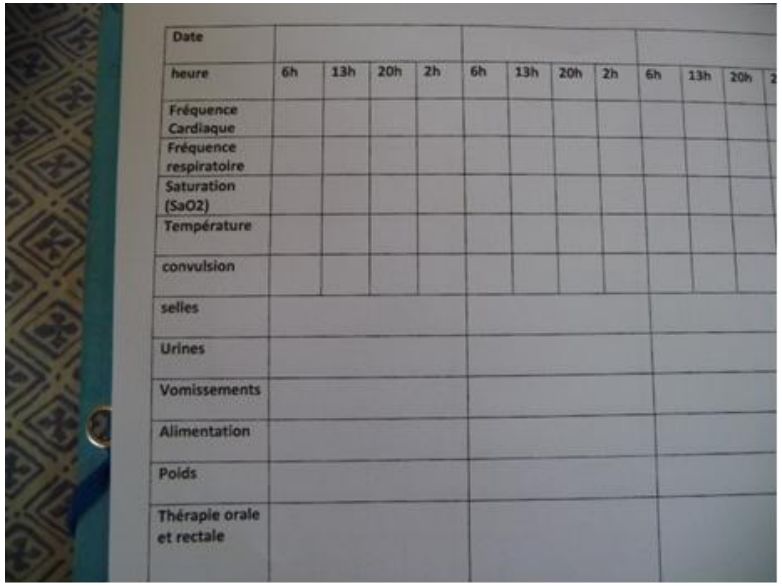
by Tarek Meguid: Maternal Health 2015

THE GOLDEN HOUR IN LOW INCOME COUNTRIES

HOW MANY?
WHY?
WHERE?
WHEN?

1. IT'S REASONABLE ?
2. IT'S POSSIBLE ?

ORGANIZATION LEARNING DEVICES

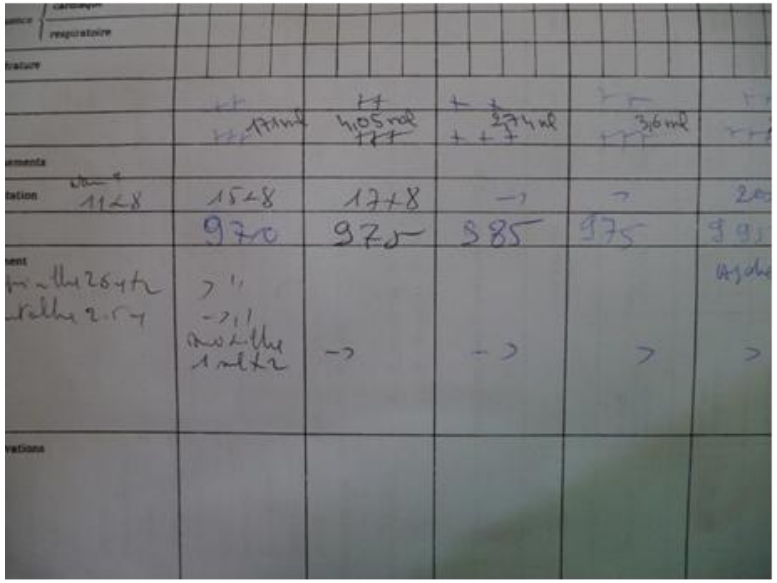


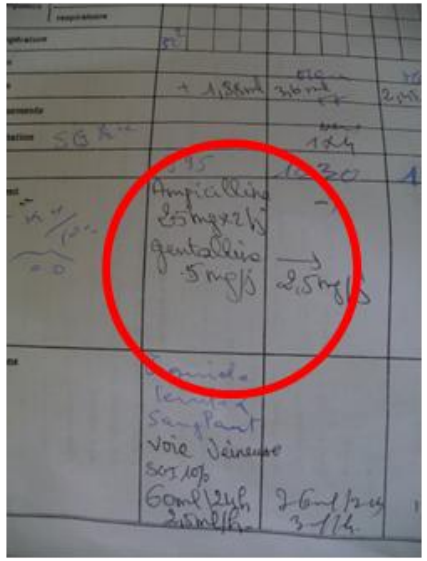
Date												
heure	6h	13h	20h	2h	6h	13h	20h	2h	6h	13h	20h	2h
Fréquence Cardiaque												
Fréquence respiratoire												
Saturation (SaO2)												
Température												
convulsion												
selles												
Urines												
Vomissements												
Alimentation												
Poids												
Thérapie orale et rectale												

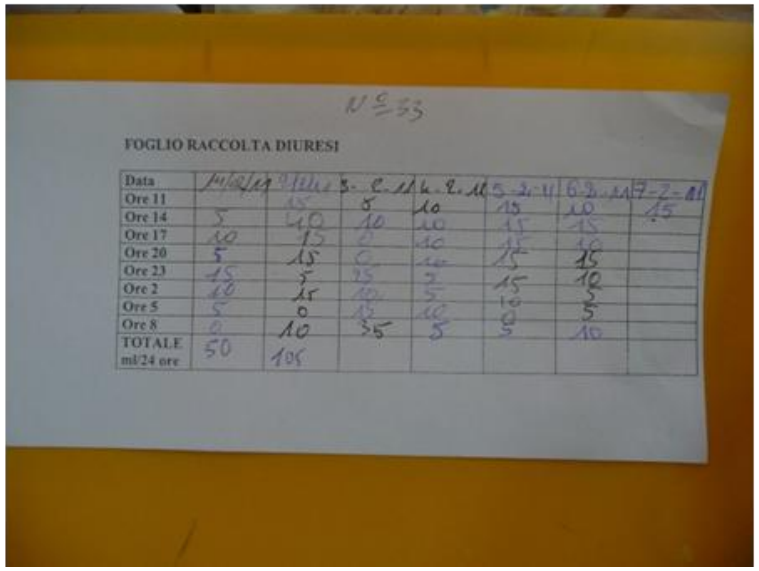
Date												
heure	6h	13h	20h	2h	6h	13h	20h	2h	6h	13h	20h	2h
Fréquence Cardiaque	136	176	175	142	107	163						
Fréquence respiratoire		60	62	66	68	60						
Saturation (SaO2)	95	100	100	90	90	97						
Température		36,5	37	37	36,8	37						
convulsion												
selles												
Urines												
Vomissements												
Alimentation												
Poids												
Thérapie orale et rectale												

FOGLIO RACCOLTA DIURESI

Data						
Ore 11						
Ore 14						
Ore 17						
Ore 20						
Ore 23						
Ore 2						
Ore 5						
Ore 8						
TOTALE ml/24 ore						



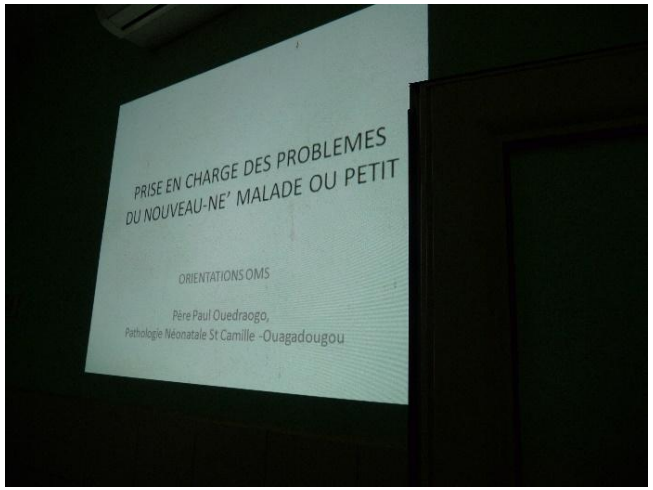




FOGLIO RACCOLTA DIURESI

Data							
Ore 11							
Ore 14							
Ore 17							
Ore 20							
Ore 23							
Ore 2							
Ore 5							
Ore 8							
TOTALE ml/24 ore							

Facility
Care
NRP
Procedures
Hygiene
Training



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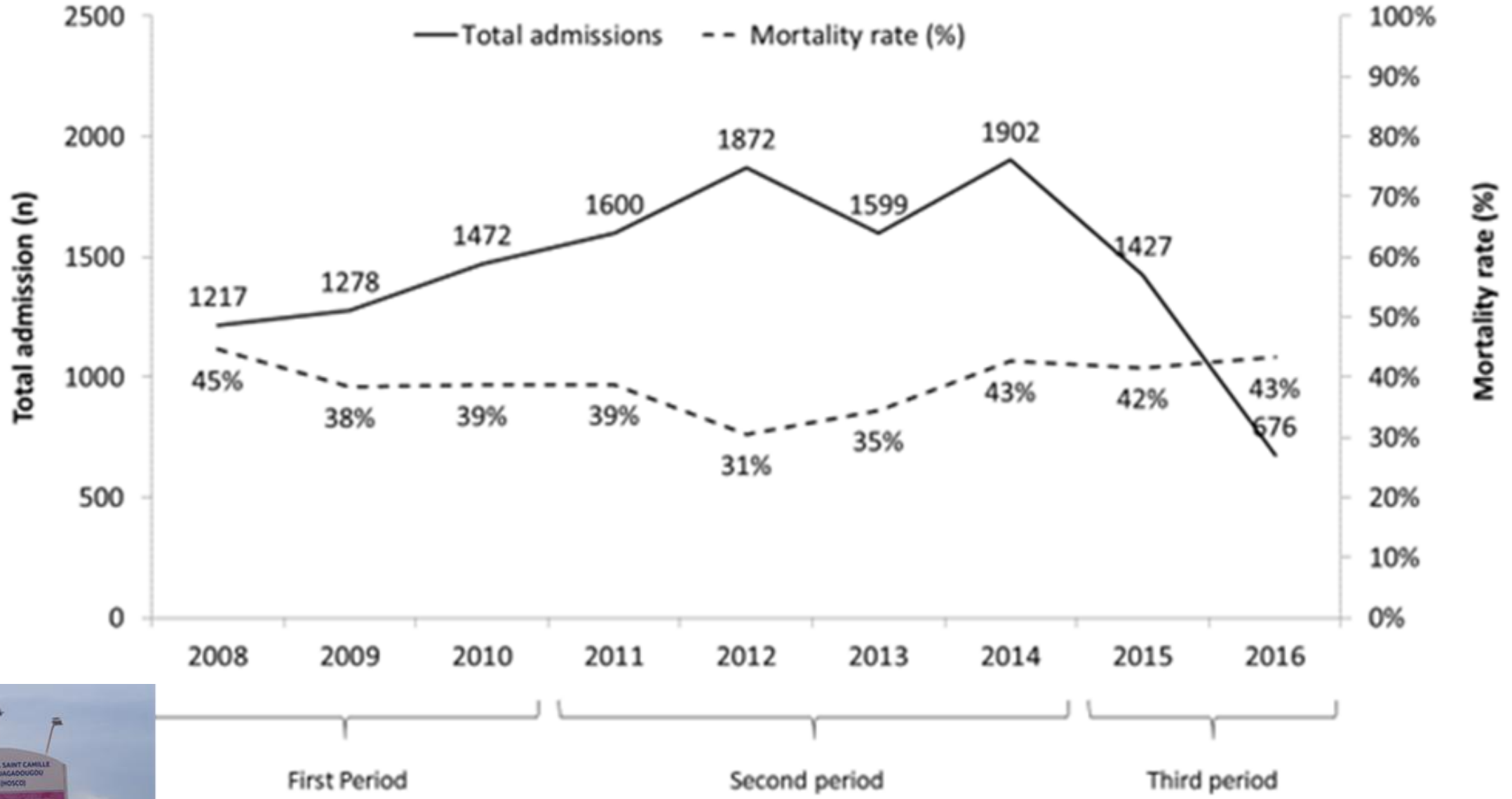
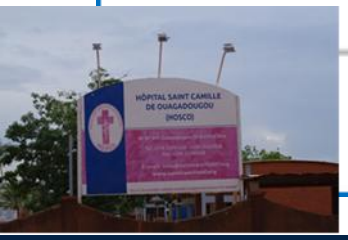

Total admissions
Mortality rate (%)
Total admission (n)
Mortality rate (%)
2500
2000
1500
1000
500
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1217
1278
1472
1600
1872
1599
1902
1427
676
45%
38%
39%
39%
31%
35%
43%
42%
43%
2008
2009
2010
2011
2012
2013
2014
2015
2016
First Period
Second period
Third period


HÔPITAL SAINT CAMILLE
DE OUAGADOUGOU
(HOSCO)


HÔPITAL SAINT CAMILLE
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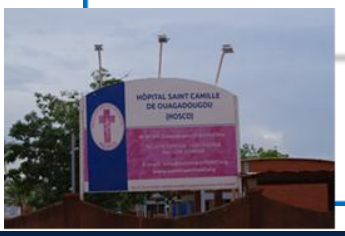
HÔPITAL SAINT CAMILLE
DE OUAGADOUGOU
(HOSCO)

Outborn
VLBW
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
79%
86%
82%
78%
86%
86%
86%
79%
64%
42%
32%
28%
43%
21%
44%
46%
54%
35%
2008
2009
2010
2011
2012
2013
2014
2015
2016
First Period
Second Period
Third period

RÉPARTITION DES CAS SELON LE MOTIF DE RÉFÉRENCE 2017	EFFECTIFS	POURCENTAGE
PRÉMATURITÉ	193	79%
DÉTRESSE RESPIRATOIRE	69	28,7%
ASPHYXIE	19	07,7%
FAIBLE POID	19	07,7%
CONVULSIONS	06	02,4%
ETAT DE MORT APPARENT	04	01,6%
FIÈVRE	04	01,6%
AUTRES*	24	9,8

RÉPARTITION DES CAS NOUVEAU-NÉS SELON LA CAUSE DE DÉCÈS 2017	EFFECTIFS	POURCENTAGE
DÉTRESSE RESPIRATOIRE	221	87.8%
HÉMORRAGIE	30	10,1%
OCCLUSION INTESTINALE	16	06,5%
ANÉMIE	11	04,4%
AUTRES *	09	03,6%
TROUBLES HYDROÉLECTROLYTIQUES		

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nest
Neonatal Essential Survival Technology

Baby's needs:
warm
sweet
pink
Basic equipment
Basic drugs

Caregiver for following up:

Kangaroo mother care

Data recording

Training needs:
"Neonatal nurse" (care at birth and ongoing care)
Basic training

FACILITY level
(Community)
(Government)

Guarantee **a minimum level of essential newborn care** at the time of birth, during the first 48 hours and transition to home

Available resources:
water
(oxygen)
(energy)

BirthLink

nest
Neonatal Essential Survival Technology

Soins essentiels

Un aperçu des principes fondamentaux des soins au nouveau-né

Réchauffé, Bon, Bien Coloré et Protégé

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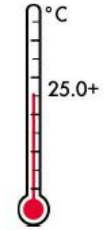
Chaleur - comment allons-nous garder le bébé au chaud?

Contact peau à peau

Matelas chauffant

Chaleur radiant

Couveuse



Maintenir un environnement chaud

BirthLink

Chiesi FOUNDATION

Bon - Alimentation et nutrition

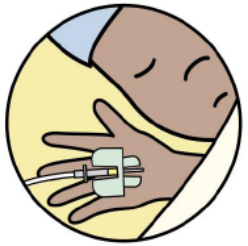
Comment allons-nous nourrir le bébé?

Est-ce que le bébé est capable de se nourrir au sein?

L'alimentation à la tasse peut soutenir l'allaitement maternel au sein

La sonde naso-gastrique nourrit les bébés prématurés et très petites

Des liquides intraveineux seront nécessaires en cas d'une détresse respiratoire ou si le bébé est malade



BirthLink

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Bien coloré et protégé - Oxygène

Pour éviter l'hypoxie et hyperoxaemia

Respiration - évaluer le fonctionnement de la respiration et le documenter

Surveiller la saturation en oxygène par intermittence

Donnez oxygénothérapie si les niveaux de saturation en oxygène sont dessous de 90%

Fournir de l'oxygène par un embout nasale ou un masque facial

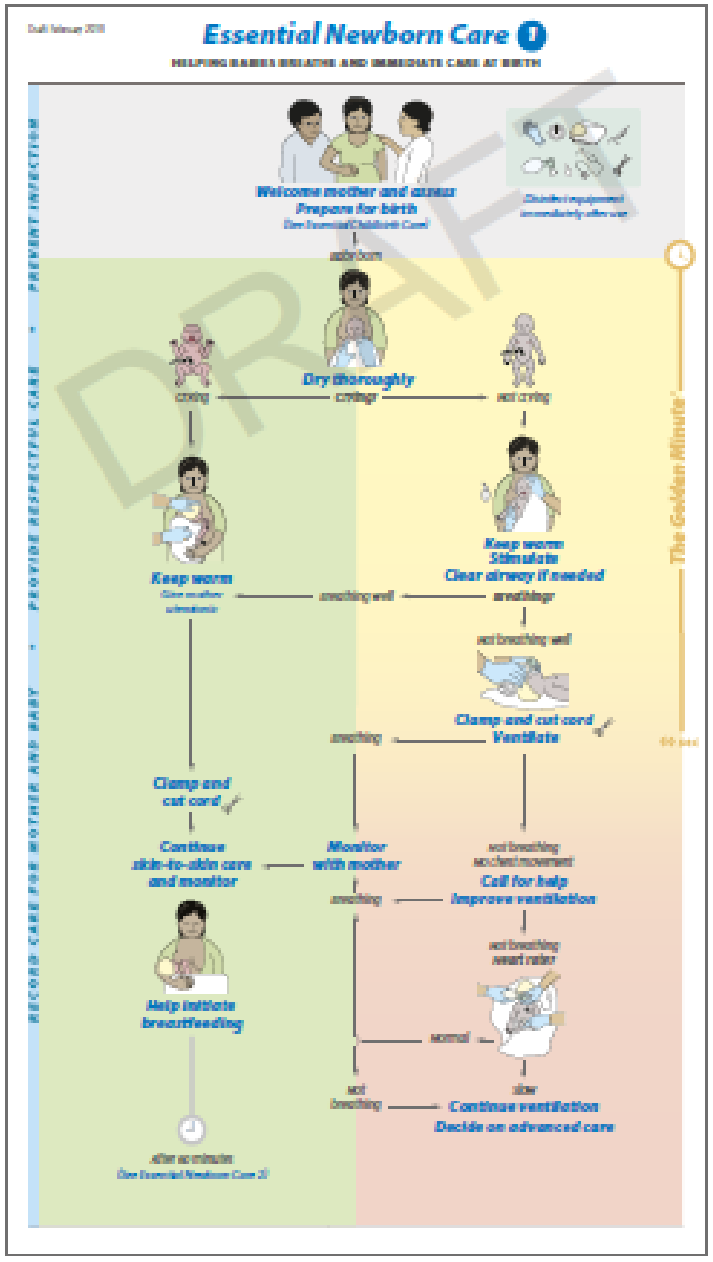
Considérez CPAP nasale si disponible

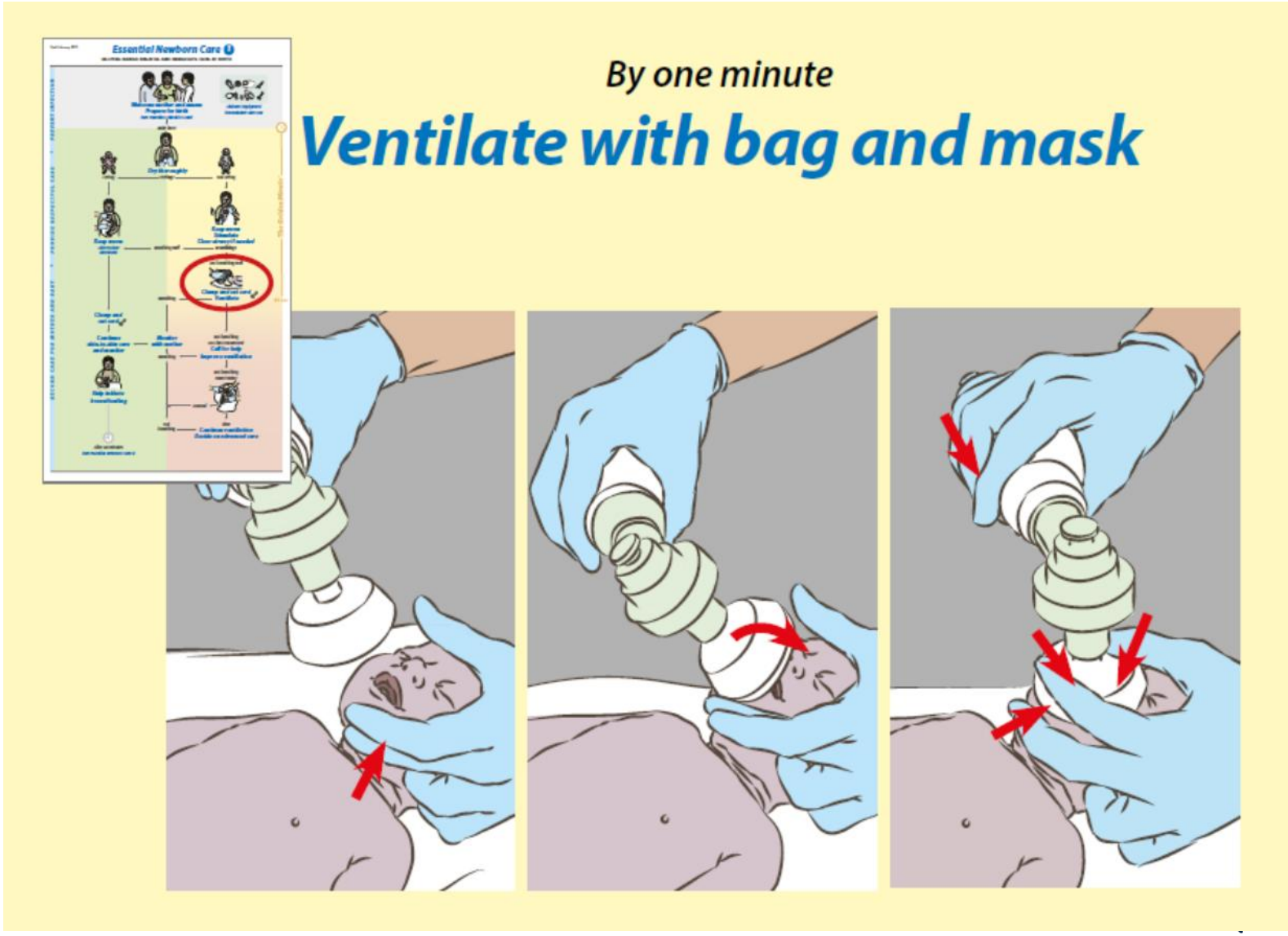
Surveiller les saturations continuellement si le bébé reçoit de l'oxygène et les documenter

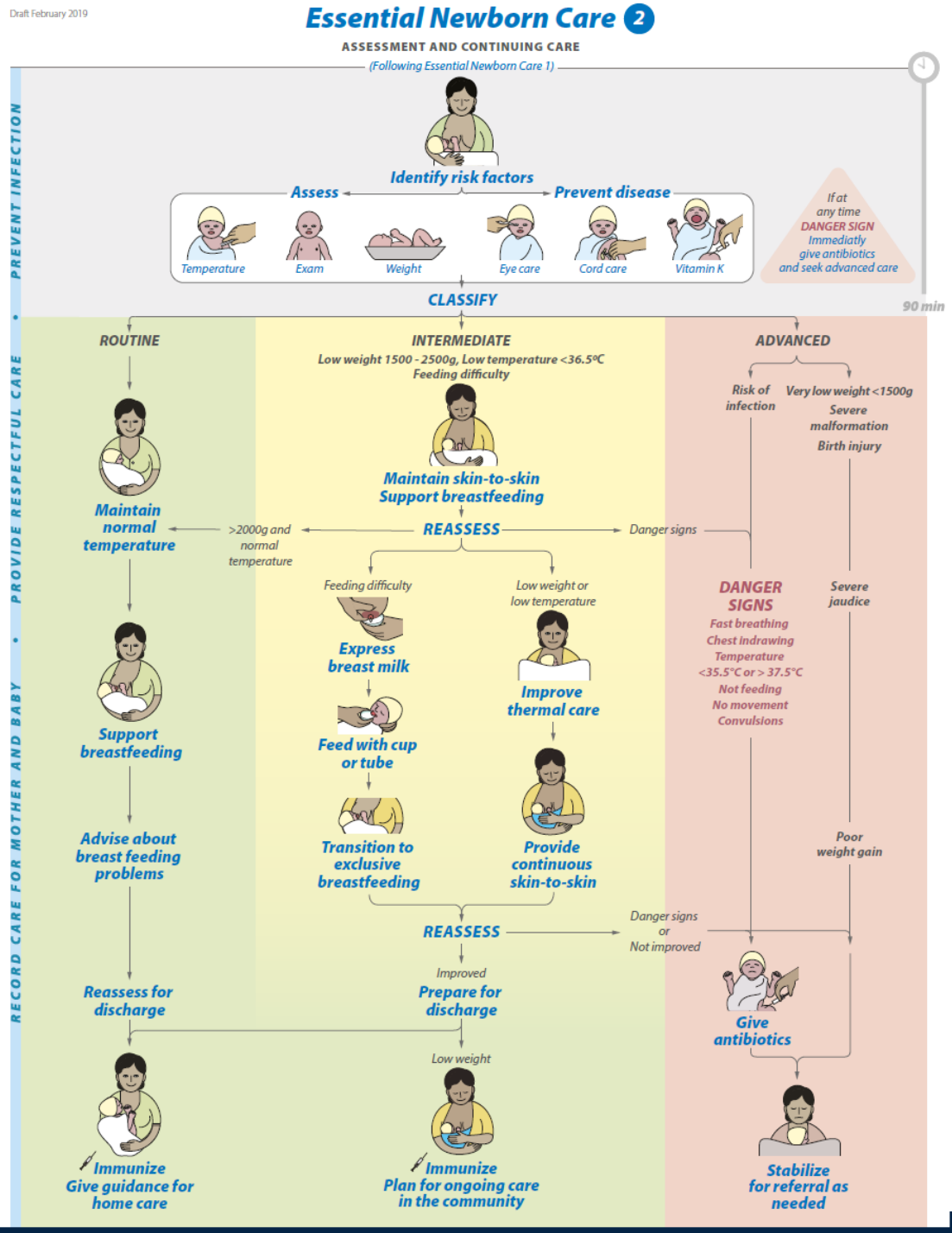
Maintenir SpO2 90-95% si le bébé reçoit oxygène

BirthLink

Chiesi FOUNDATION


Essential Newborn Care
HELPING BABIES BREATHE AND IMMEDIATE CARE AT BIRTH
RECORD CARE FOR MOTHER AND BABY · PROVIDE RESPECTFUL CARE · PREVENT INFECTION
Welcome mother and assess
Prepare for birth
baby born
Dry thoroughly
crying
not crying
Keep warm
Stimulate
Clear airway if needed
breathing well
not breathing well
Clamp and cut cord
Ventilate
gasping
Clamp and cut cord
Continue skin-to-skin care and monitor
Monitor with mother
not breathing
Call for help
Improve ventilation
gasping
not breathing
heart rate
Help initiate breastfeeding
normal
slow
not breathing
Continue ventilation
Decide on advanced care
The Golden Minute
DRAFT


By one minute
Ventilate with bag and mask



BirthLink

nest
Neonatal Essential Survival Technology

Soins essentiels

Un aperçu des principes fondamentaux des soins au nouveau-né

Réchauffé, Bon, Bien Coloré et Protégé

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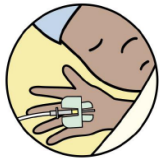
Protégé- prévention des infections

Bonne hygiène
Soins du cordon
Soins de la bouche
Soins des yeux
Soins des fesses
Soins de la peau
Lavage des mains



BirthLink

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SIN Società Italiana di Neonatologia

Is the "Golden Hour" possible in low income countries? The NEST (Neonatal Essential Survival Tecnology) project for improving the prognosis of HOSCO's (HÔpital Saint Camille de Ouagadougou-Burkina Faso) premature babies.

P. E. Villani1, M. Pierro1, G. De Bernardo1, Z. Nicaise2, C. Dyemkouma2, B. Allais1, F. Beccagutti1, P. Castelli3, C. Monfredini1, C. Plicco4, S. Ricò1, A. Rossi3, D. Sordino1, L. Tubaldi1, P. Ouedraogo2.

1. Department of Mother's and Child's Health Fondazione Poliambulanza Istituto Ospedaliero Brescia, Italy.
2. Saint Camille hospital in Ouagadougou (HOSCO), Burkina Faso, P.O. Box 444, Ouagadougou 01, Burkina Faso.
3. Pediatric Clinic Fondazione IRCCS Policlinico San Matteo 'V.le Golgi, 19 Pavia, Italy.
4. Chiesi Foundation Onlus. CF 92130510347. Largo Belloli 11a 43122 - Parma Italy.

Background

The first hour of life(FHL) is a critical time for all infants requiring any support for their transition to the extra-uterine life. The golden hour (GH) concept refers to a standardized, timely, and efficient approach, initiated within the FHL, leading to a lower risk of mortality and morbidities. Most of these interventions are standard of care in developed countries (DC) but in low-income countries (LIC), where neonatal mortality is accounted for up to 99% of the global neonatal mortality, no standardized approach has yet been established. To improve the knowledge of the GH approach of the personnel involved in perinatal care is needed.

Methods

A specific theoretical and practical GH training in two days (for a total of 9 hours) was granted to the personnel working in the delivery room and all the health care providers of the neonatal unit at the HOSCO and to the obstetric personnel of the the spoke centers. The project includes at least two trainings per year. Temperature stabilization (called "Warm"),basic respiratory support in the delivery room (called "Pink")as the Helping Babies Breathe program, hygiene measures for prevention of neonatal infections (called "Protected"),prevention of hypoglycaemia with early breast feeding (called "Sweet") are chapters of our NEST program to standardize and increase knowledge in HOSCO.Pre and post-test were carried out to evaluate the trainee learning and the efficacy of the training.

Results

50 health care providers of HOSCO and its referral centres (doctors, murses, midwifes, healthcare operators) participated to the training. Pre and post-test including 25 questions (5 on neonatal resuscitation, 5 on temperature stability, 5 on hygene, 5 on kangaroo mother care (Fig.), 5 on feeding practice) were submitted. 38% of correct answers in the pre test and 63.1% in post-test were scored,with an improvement of almost 50% at the end of our NEST course.

Fig: kangaroo mother care in HOSCO.

Conclusions

Our results suggest that the training is effective in improving the knowledge of health personnel about the FHL.A global standardized approach for improvement the immediate survival and the morbidities in LIC is needed.In HOSCO the application of our protocol could improve neonatal care but an important cultural changes were required.Further studies in order to confirm our results and propose the GH approach in LIC are required.

Golden Hour Protocol for Preterm Infants: A Quality Improvement Project.Harriman TL, Carter B, Dail RB, Stowell KE, Zukowsky K.Adv Neonatal Care. 2018 Dec; 18(6):462-470.
"Golden Hour" quality improvement intervention and short-term outcome among preterm infants.J Perinatol.2019.Mar;39(3):387-392.

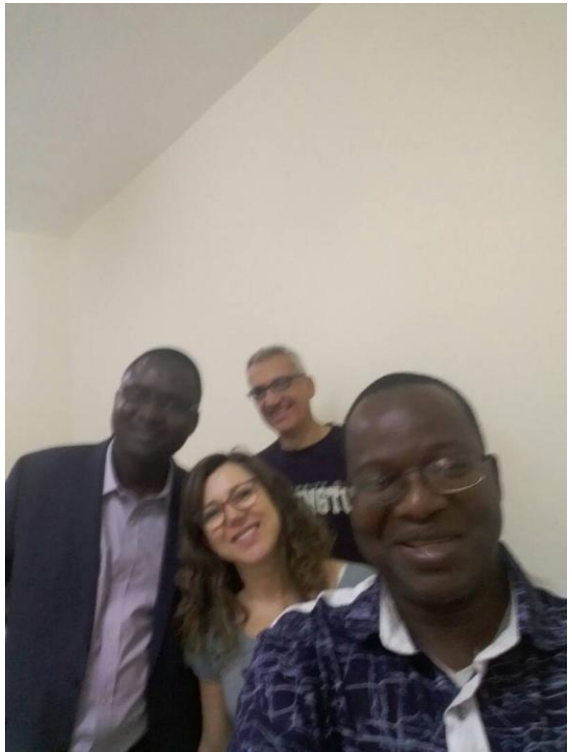
RETE TRA I PUNTI NASCITA

H YG

H CD

H SC

NEST TEAM



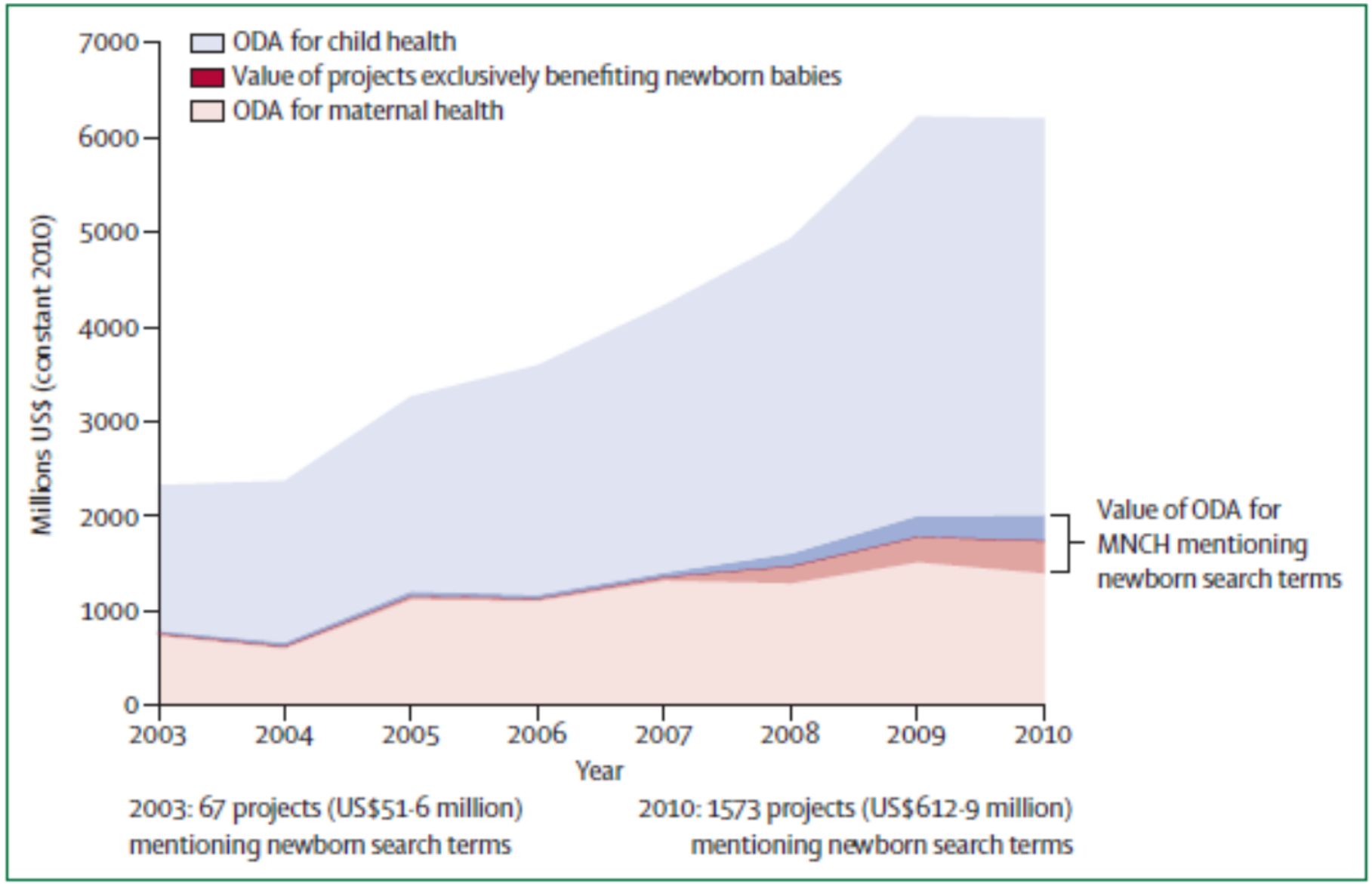
GRAZIE PER L'ATTENZIONE

FONDAZIONE
POLIAMBULANZA
L'ospedale, come vorresti che fosse.

Via Leonida Bissolati 57, Brescia

Who has been caring for the baby?

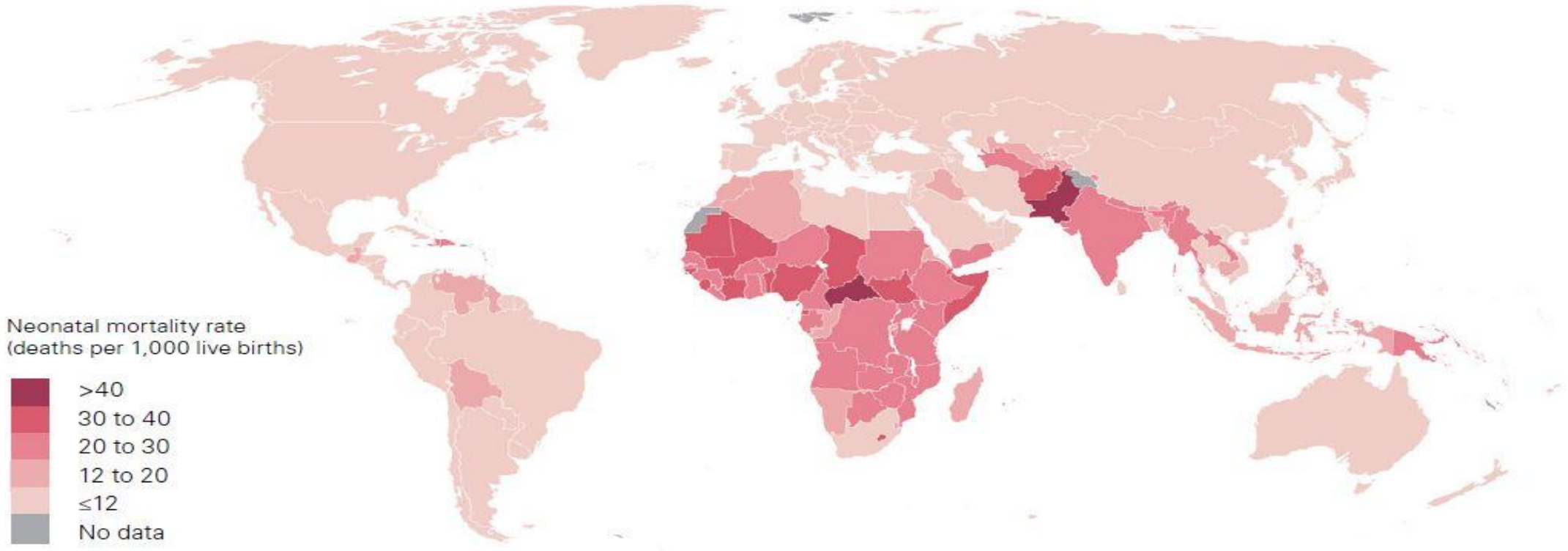
Gary L Darmstadt, Mary V Kinney, Mickey Chopra, Simon Cousens, Lily Kak, Vinod K Paul, Jose Martines, Zulfiqar A Bhutta, Joy E Lawn, for The Lancet Every Newborn Study Group



MAP 2

Large disparities in the level of neonatal mortality persist across regions and countries

Neonatal mortality rate (deaths per 1,000 live births) in 2017, by country



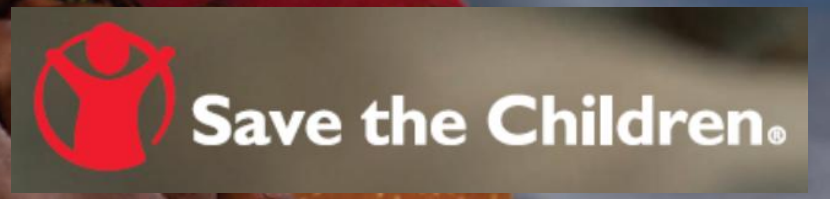
Note: The classification is based on unrounded numbers. This map does not reflect a position by UN IGME agencies on the legal status of any country or territory or the delimitation of any frontiers.

Levels & Trends in Child Mortality Report 2018
Estimates developed by the UN Inter-agency Group for Child Mortality Estimation

ENDING NEWBORN DEATHS

Ensuring every baby survives

NEONATAL MORTALITY	2,6 MIL
FIRST DAY MORTALITY	1 MIL
STILLBIRTHS during labour	1,2 MIL
DEATHS PREVENIBILE	2 MIL
DEATHS PREVENIBILE (Essential Care)	950.000
INCREASING HEALTH EXPENDITURE	€ 4



Comparison of Patient Demographics and Outcomes Between Pre- and Postprotocol Infants

	Preprotocol Patients (n = 106) Median (IQR)	Postprotocol Patients (n = 119) Median (IQR)	*P*-Value
Gestational age (wks)	26.0 (3.0)	26.0 (2.0)	0.338
Birth weight (kg)	0.778 (0.300)	0.830 (0.299)	0.187
Admit temperature (C°)	36.4 (1.0)	36.6 (0.7)	0.053
Admit glucose (mg/dL)	57.0 (38.0)	62.0 (32.0)	0.027
Time difference (hr:min)	1:46 (0:40)	0:55 (0:26)	<0.001

Abbreviation: IQR, interquartile range.

TABLE 2. Comparison of Admission Temperatures, Glucose, and Intravenous Access Between Pre- and Postprotocol Patients

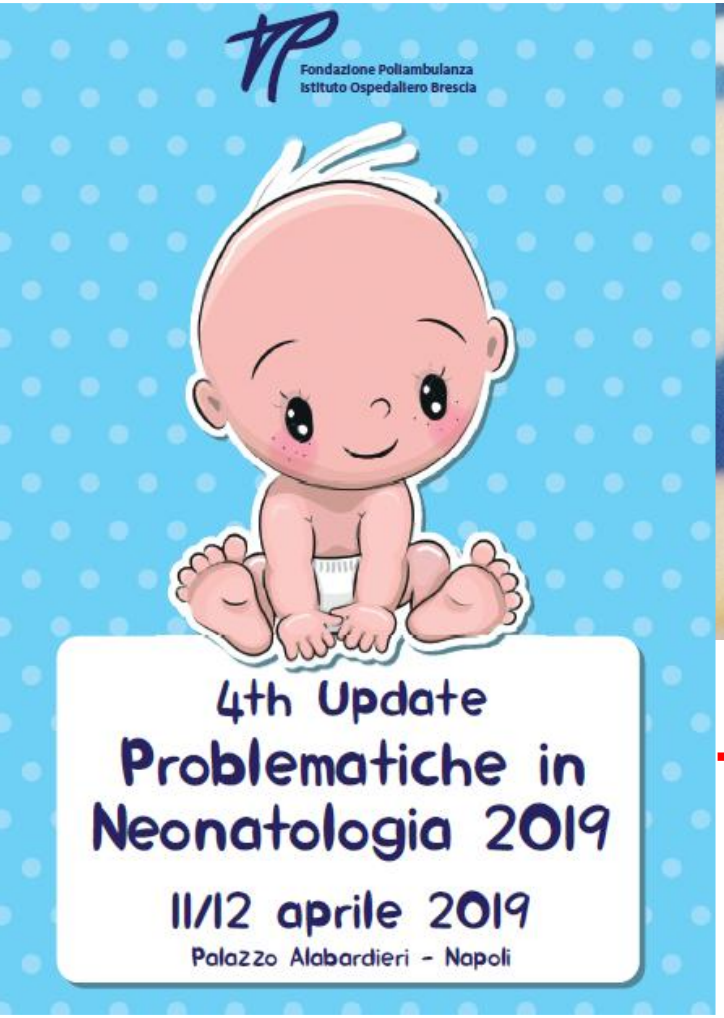
	Preprotocol Patients (n = 106)	Postprotocol Patients (n = 119)	
	N (%)	*N (%)*	*P*-Value
Admit temperature in-range	30 (28.3)	53 (49.6)	0.002
Admit glucose >50 mg/dL	59 (55.7)	86 (72.3)	0.012
Intravenous access within 1 hour	8 (7.5)	73 (61.3)	<0.001

REVIEW Open Acce
Sharma *Maternal Health, Neonatology, and Perinatology* (2017) 3:16
DOI 10.1186/s40748-017-0057-x

Golden hour of neonatal life: Need of the hour

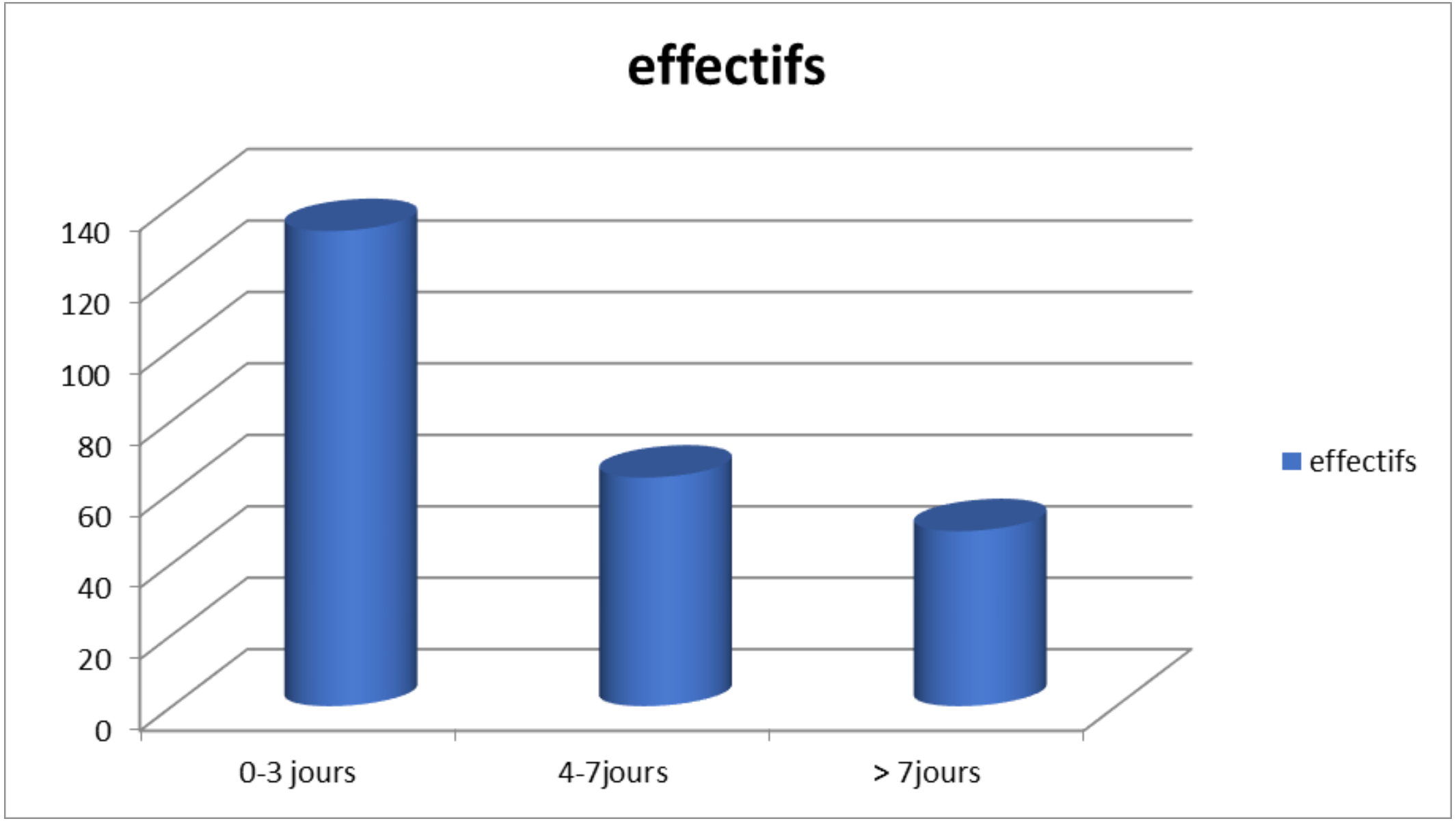
Deepak Sharma

The Golden Hour Protocol was written considering the physical layout of the workspace and the proximity of the NICU to labor and delivery. Three operating room suites are connected to the NICU by a resuscitation "island" where high-risk infants are stabilized before being transferred to their NICU bed space. It had been the practice that after a stable airway was established, the infant would be transferred to a bed space on 1 of 2 floors where the umbilical catheters or peripheral IVs would then be placed. The Golden Hour Protocol mandated that an IV administration be started before the infant was transferred to the NICU and delineated roles for admission personnel to help accomplish that task. Because the practice of oxygen

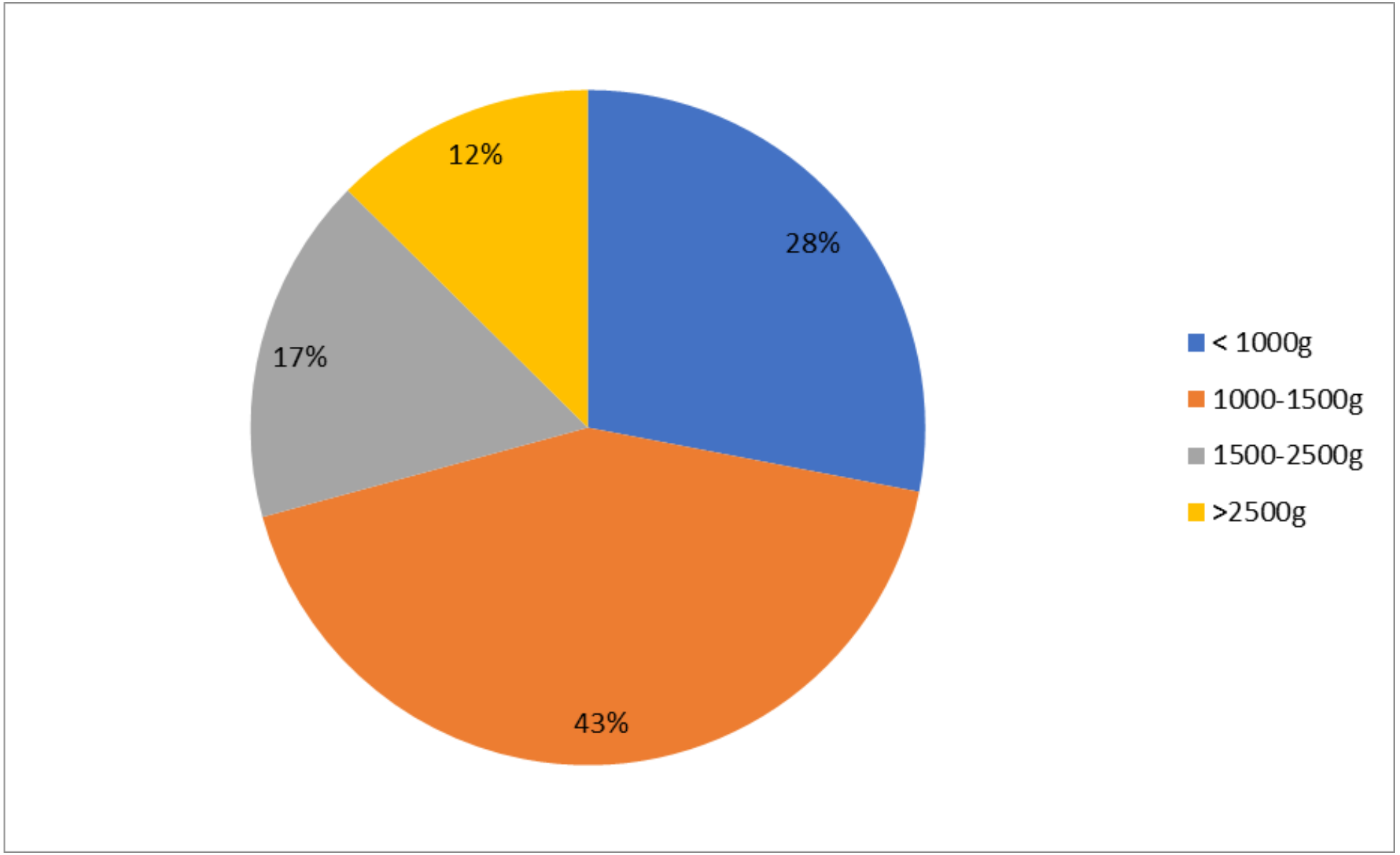


THE GOLDEN HOUR IN LOW INCOME COUNTRIES

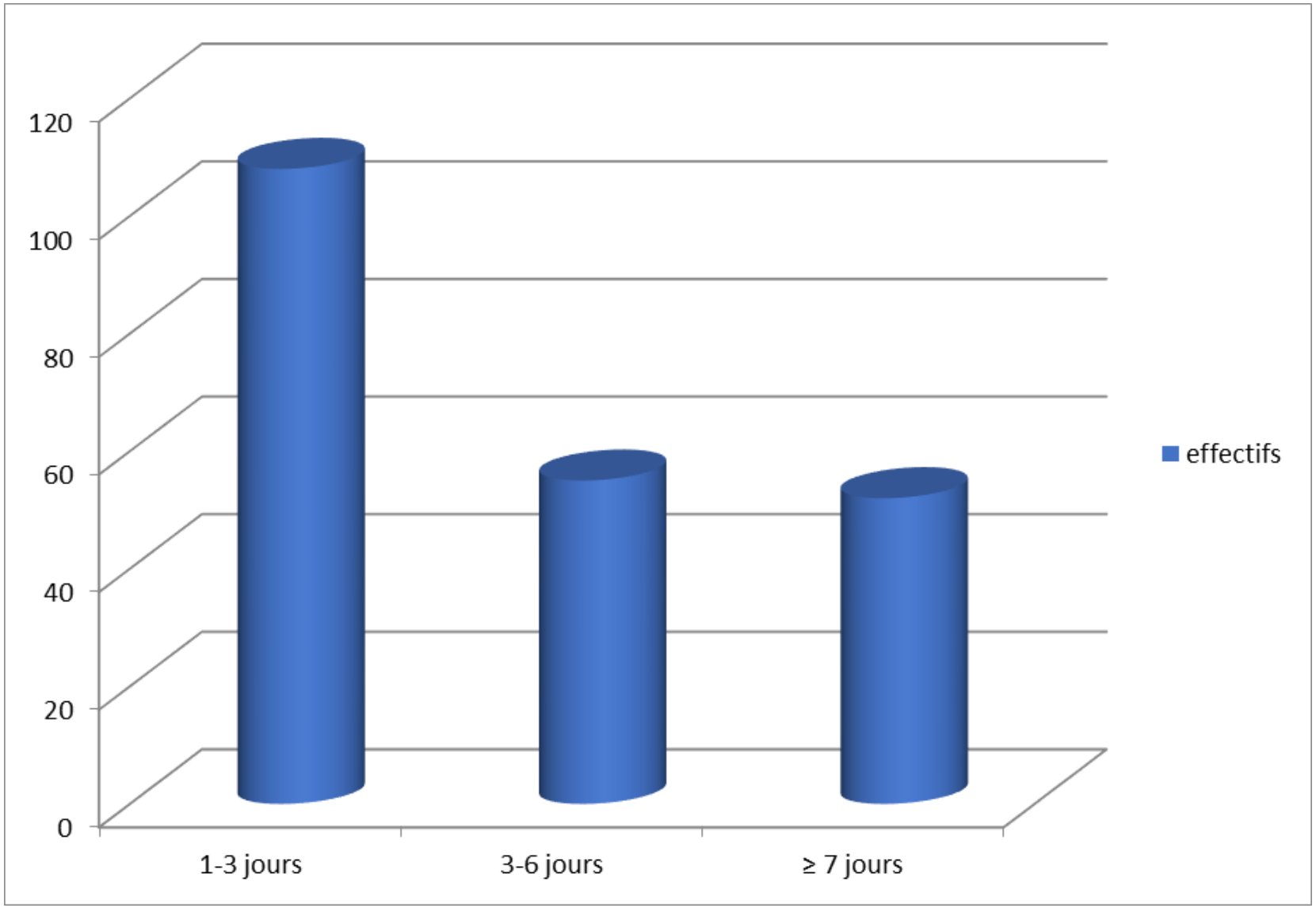
PAOLO VILLANI
NICU
FONDAZIONE
POLIAMBULANZA
Istituto Ospedaliero



Répartition des nouveau-nés selon le délai de survenue de décès



répartition des nouveau-nés décédés selon le poids de naissance



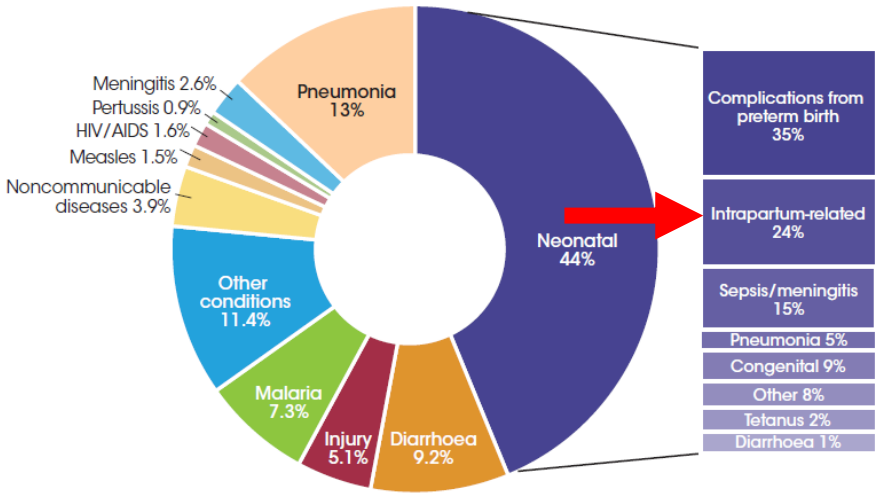
répartition des nouveau-nés décédés selon le délai d'admission

THE LANDSCAPE

1

THE NEONATAL RESUSCITATION TO BASIC AND COMPREHENSIVE RESOURCES

Fig. 1 Causes of deaths in children under 5 years of age, 2012



More than 80% of newborn deaths are in small babies (preterm or small for gestational age) in the highest burden settings.

Source: WHO Global Health Observatory, 2014 (*19*). Estimates are rounded, and therefore may not sum to 100%.

Soins de la bouche

Si le bébé est nourri par voie orale, la bouche restera normalement propre

Si le bébé reçoit la nourriture à travers le tube, les lèvres peuvent être sèches avec du lait séché autour des lèvres

Parfois, il y a un excès de salive, en particulier pour le bébé recevant la thérapie d'oxygène

Essuyer la bouche avec une gaze propre, en utilisant de l'eau bouilli refroidi ou le lait maternel exprimé

Ne jamais utiliser l'aspiration pour nettoyer la bouche

BirthLink Chiesi FOUNDATION

Soins du cordon

Toujours garder le cordon propre et sec

Abaisser la couche dessous du cordon

Si le moignon du cordon a des sécrétions, le nettoyer avec de l'eau bouilli, refroidi et le sécher

Utiliser seulement la solution que la politique locale a examiné et conseillé

Si gardé sec et propre, le cordon se séparera entre 5-10 jours

BirthLink Chiesi FOUNDATION

Soins des yeux

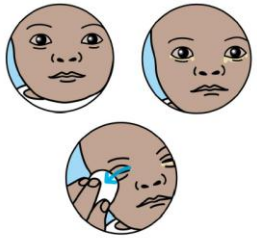
Utilisez le traitement conformément à la politique locale après la naissance

Évaluer les yeux régulièrement pour toute décharge

Au décharge, nettoyer avec eau bouillie, réfrigérée

Utilisez une gaze propre ou de la laine de coton - une par chaque œil

Essuyer de la zone intérieure à la zone extérieure



BirthLink Chiesi FOUNDATION

Soins de la peau et hygiène

Changer la couche régulièrement

Nettoyer la zone des fesses avec de l'eau tiède

Observer tout rougeur de la peau, peau lésée

Ne pas baigner les bébés dans les 6 premières heures

BirthLink Chiesi FOUNDATION

Soins du cordon

Surveiller régulièrement l'absence de signes d'infection du cordon

Chercher zone rouge, enflammée autour de l'ombilic

Rechercher toute sécrétion – sang ou pus

Informer le docteur immédiatement

Nettoyer soigneusement avec de l'eau bouilli refroidi

BirthLink Chiesi FOUNDATION

Neonatal Survival 1

4 million neonatal deaths: When? Where? Why?

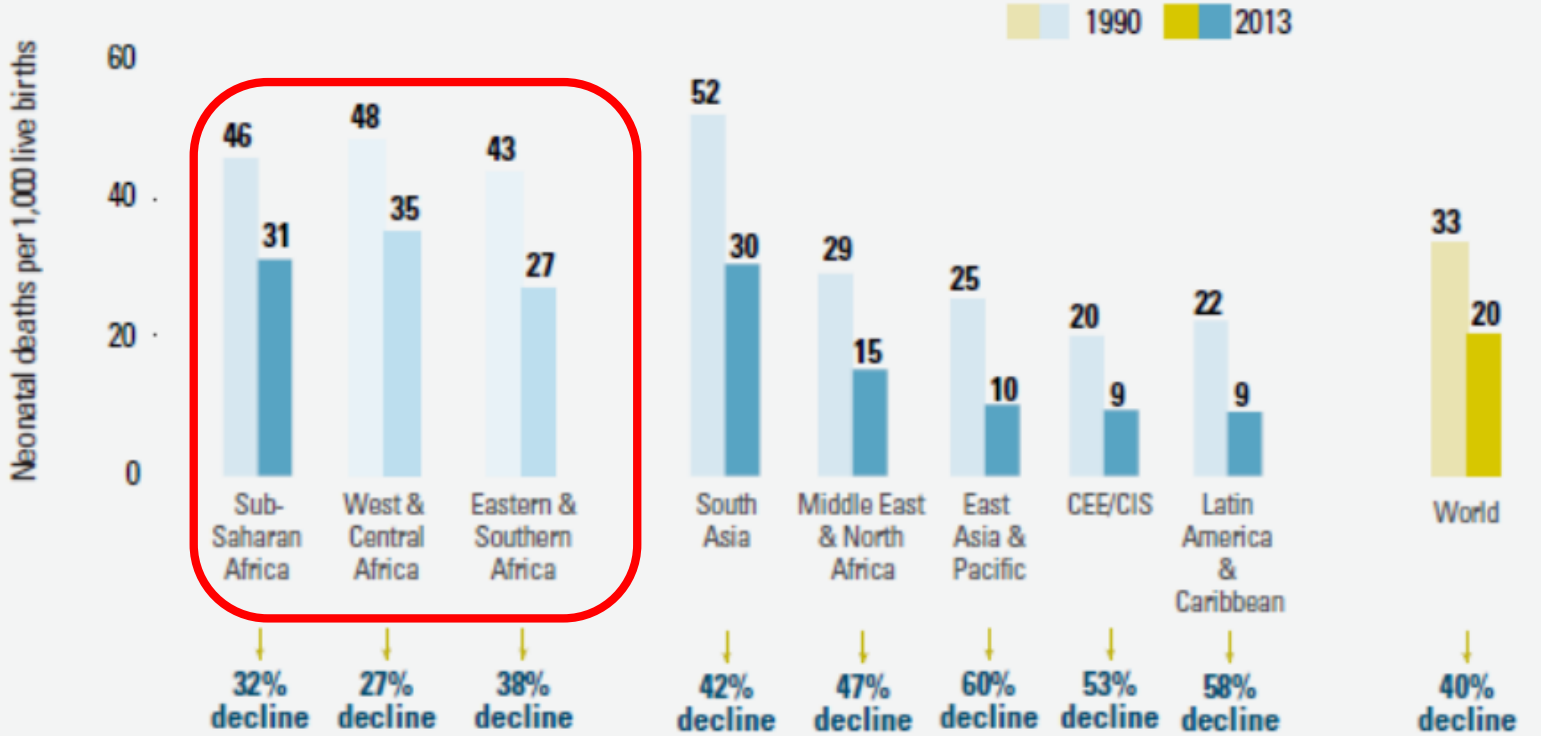
*Joy E Lawn, Simon Cousens, Jelka Zupan, for the Lancet Neonatal Survival Steering Team**

Lancet 2005; 365: 891–900

Most neonatal deaths are unrecorded in any formal registration system, hence global analysis is based on estimates (panel 1).[14–17] The most recent estimates suggest that there were nearly 4 million neonatal deaths in 2000. Only 1% of these deaths were in 39 high-income countries, where the average NMR is four per 1000 livebirths (table 1). The remaining 99% of deaths were in low-income and middle-income countries, where the average NMR is estimated to be 33.[1]

About two-thirds of neonatal deaths arise in the African and southeast Asian regions of WHO (table 1). The countries with the largest absolute numbers of deaths are mainly in south Asia, because of the large populations in this region; India alone contributes a quarter of neonatal deaths. Ten countries account for

Neonatal mortality rate by region, 1990 and 2013

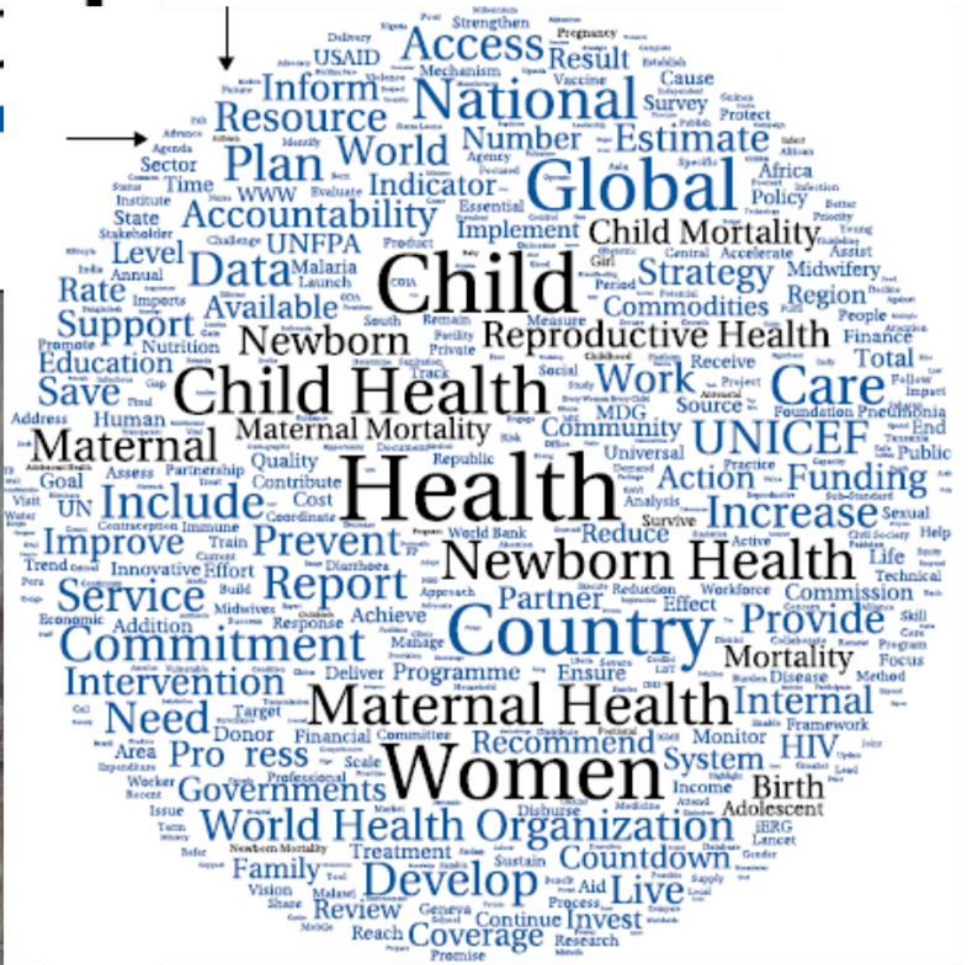


THE LANCET

January, 2016

Ending preventable stillbirths

An Executive Summary for *The Lancet*'s Series



Stillbirth is largely invisible in the discourse on maternal and newborn health[1]

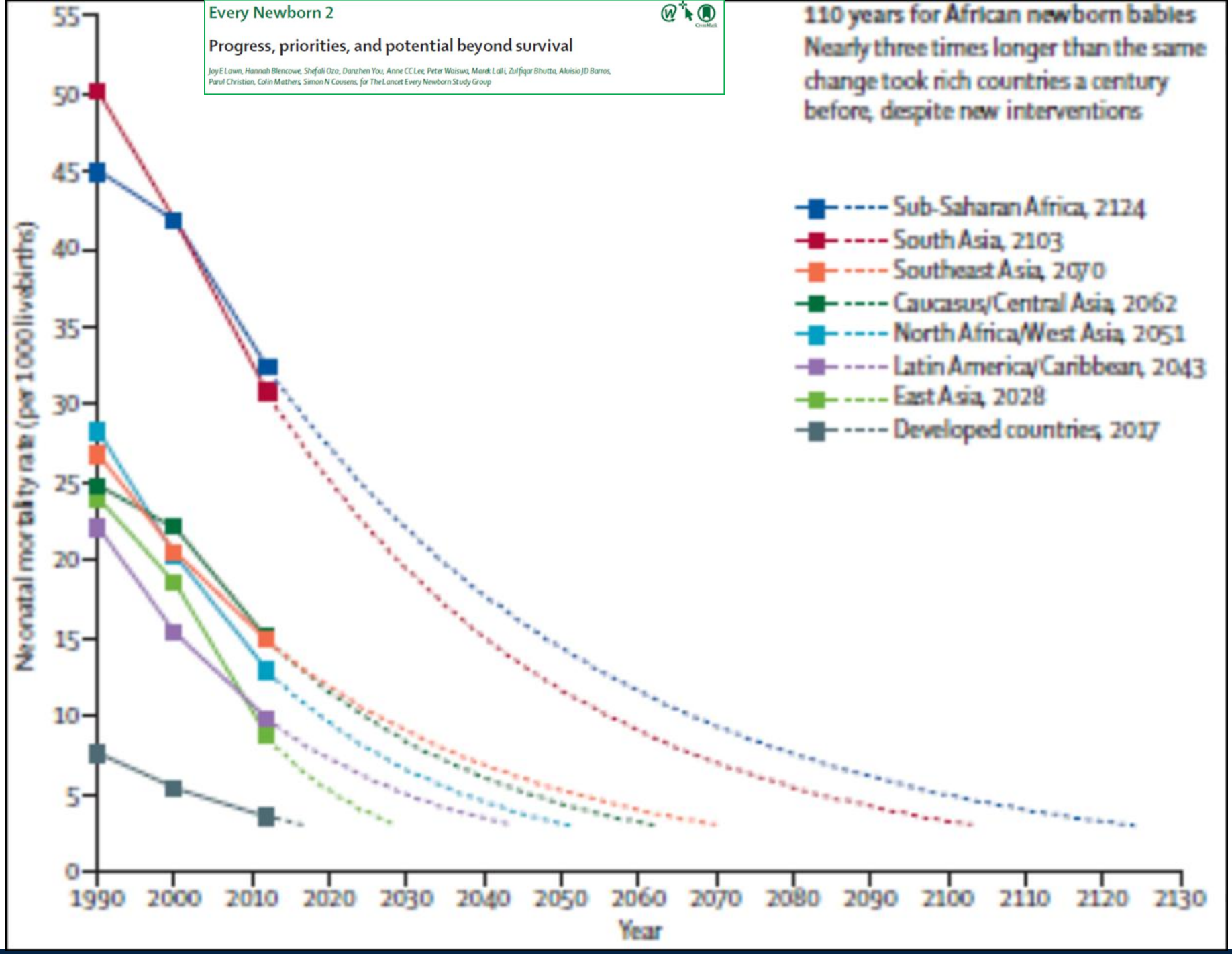
"At the core of public health programmes for women's and children's health... high quality antenatal and intrapartum care protects the mother and her baby, and represents a quadruple return on investments, saving the lives of mothers and newborns, preventing stillbirths, and additionally, improving child development."[1]

Every Newborn 2

Progress, priorities, and potential beyond survival

Joy E Lawn, Hannah Blencowe, Shefali Oza, Danzhen You, Anne CC Lee, Peter Waiswa, Marek Lalli, Zulfiqar Bhutta, Aluisio JD Barros, Parul Christian, Colin Mathers, Simon N Cousens, for The Lancet Every Newborn Study Group

110 years for African newborn babies
Nearly three times longer than the same change took rich countries a century before, despite new interventions



2

Countdown to 2015
Maternal, Newborn & Child Survival

The 2015 Report

Burkina Faso

DEMOGRAPHICS

Total population (000)	18,106	(2015)
Total under-five population (000)	3,144	(2015)
Births (000)	717	(2015)
Birth registration (%)	77	(2010)
Total under-five deaths (000)	60	(2015)
Neonatal deaths (% of under-five deaths)	30	(2015)
Neonatal mortality rate (per 1000 live births)	27	(2015)
Infant mortality rate (per 1000 live births)	61	(2015)
Stillbirth rate (per 1000 total births)	26	(2009)
Total maternal deaths	2,800	(2013)
Lifetime risk of maternal death (1 in N)	44	(2013)
Total fertility rate (per woman)	5.4	(2015)
Adolescent birth rate (per 1000 girls)	136	(2008)

Under-five mortality rate
Deaths per 1000 live births

Source: UN IGME 2015

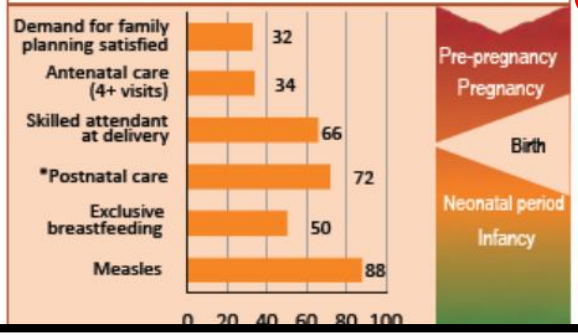
Maternal mortality ratio
Deaths per 100,000 live births

Source: MMEIG 2014

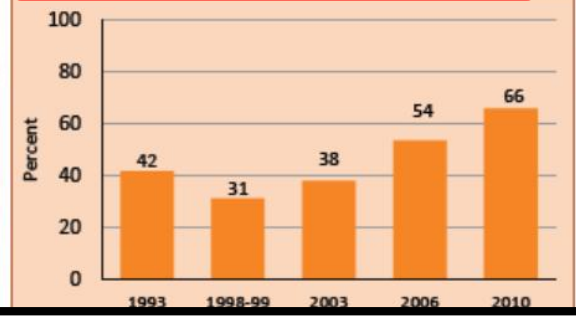
Note: MDG target calculated by Countdown to 2015.

MATERNAL AND NEWBORN HEALTH

Coverage along the continuum of care



Skilled attendant at delivery
Percent live births attended by skilled health personnel

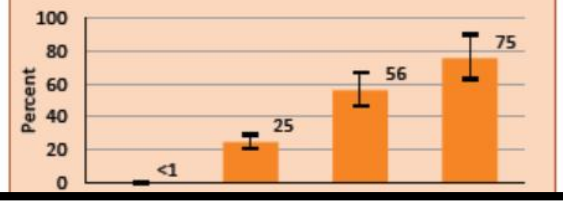


Prevention of mother-to-child transmission of HIV

Eligible HIV+ pregnant women receiving ART for their own health (%) 19 (2014)

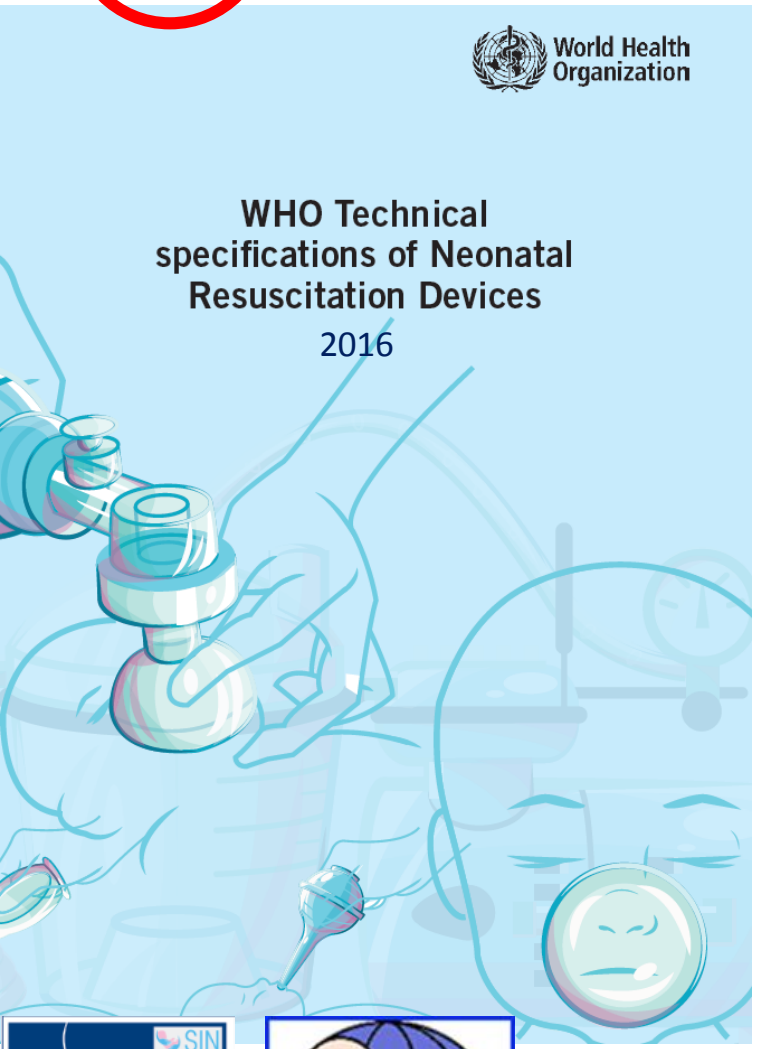
Percent HIV+ pregnant women receiving ARVs for PMTCT

Uncertainty range around the estimate



	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016*	2017
Total Admitted	**887**	**1217**	**1278**	**1472**	**1600**	**1872**	**1599**	**1902**	**1427**	**676**	
Survival % overall	**56,4%**	**55,4%**	**61,6%**	**61,3%**	**61,2%**	**69,5%**	**65,5%**	**57.3%**	**58,4%**	**56,7%**	
Outborn		961	1097	1211	1247	1602	1370	1639	1121	429	
% outborn		**79,0%**	**85,8%**	**82,3%**	**77,9%**	**85,6%**	**85,7%**	**86.1%**	**78,6%**	**63,5%**	
VLBW	307	513	412	415	693	396	702	881	772	234	
% VLBW	34,6%	42,2%	32,2%	28,2%	43,3%	21,2%	43,9%	46.3%	54,1%	34,6%	
Average Weight	1251	1208	1288	1231	1165	1183	1176	1148	1140	1269	
GA	29,5	30,6	31,9	31,6	32,9	32,4	32,1	31,9	31,6	33,8	
Survival %	**23,2%**	**36,1%**	**44,7%**	**49,9%**	**34,9%**	**50,0%**	**44,1%**	**32.6%**	**41,6%**	**44,5%**	
ELBW			118	118	177	107	157	252	227	88	
% ELBW			9,2%	8,0%	11,1%	5,7%	9,8%	13,3%	15,9%	13%	
Average Weight			845	823	809	840	850	826	827	803	
GA			28,8	27,2	29,5	30	29,7	29,3	29,4	29,1	
Survival	**1,4%**	**8,0%**	**4,3%**	**12,7%**	**5,6%**	**13,1%**	**12,1%**	**6,7 %**	**14,5%**	**7,3 %**	

3



The United Nations Commission on Life-Saving Commodities (UNCLSC), launched in 2012, defined 13 health products to be available and used appropriately to end preventable deaths of woman and children. One of those 13 products is the neonatal resuscitator, an indispensable medical device to save newborns from asphyxia at birth.

This document is part of the work led by WHO to ensure availability of good quality, affordable neonatal resuscitators in every place where a child is born, along with trained health-care workers, in order to help babies breathe and save their lives. This document is a guide for the selection and procurement of neonatal resuscitators, describing the technical specifications as well as providing guidance for correct use.

Neonatal mortality represents approximately 44% of under-5 child deaths, of which one quarter of overall neonatal deaths (around 700 000) is attributed to birth asphyxia, defined as the failure to initiate and sustain breathing at birth. Effective neonatal resuscitation; immediate care, including thorough drying, suction and stimulation after assessment; and positive-pressure ventilation, if needed, can prevent a high number of neonatal deaths *(1)*.

Based on the World Health Organization (WHO) *Guidelines on basic newborn resuscitation* (2012) and the technical meeting on medical devices of the UNCLSC in June 2013, the WHO medical devices team worked in collaboration with neonatal resuscitation experts from PATH, the Clinton Health Access Initiative (CHAI) and the United Nations Children's Fund (UNICEF) to develop technical specifications for neonatal resuscitation devices, which are described in each chapter:

- Chapter 1, neonatal resuscitation self-inflating bag with mask
- Chapter 2, suction machine
- Chapter 3, single and suction device
- Chapter 4, procurement guidance
- Chapter 5, research agenda

J. Wyllie et al. / Resuscitation 95 (2015) 249–263

(Antenatal counselling)
Team briefing and equipment check

Birth

Dry the baby
Maintain normal temperature
Start the clock or note the time

Assess (tone), breathing and heart rate

If gasping or not breathing:
Open the airway
Give 5 inflation breaths
Consider SpO_2 ± ECG monitoring

Re-assess
If no increase in heart rate
look for chest movement

If chest not moving:
Recheck head position
Consider 2-person airway control
and other airway manoeuvres
Repeat inflation breaths
SpO_2 monitoring ± ECG monitoring
Look for a response

If no increase in heart rate
look for chest movement

When the chest is moving:
If heart rate is not detectable
or very slow (< 60 min^{-1})
Start chest compressions
Coordinate compressions with PPV (3:1)

Reassess heart rate every 30 seconds
If heart rate is not detectable
or very slow (< 60 min^{-1})
consider venous access and drugs

Discuss with parents and debrief team

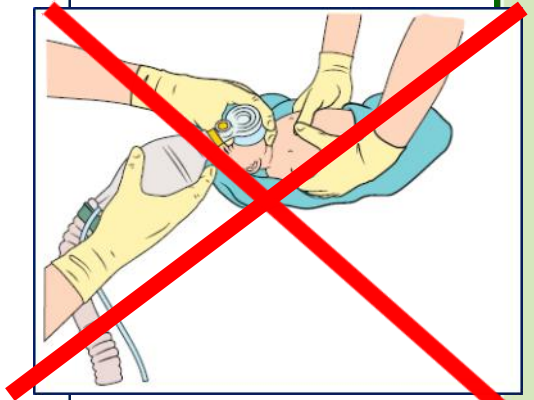
60 s

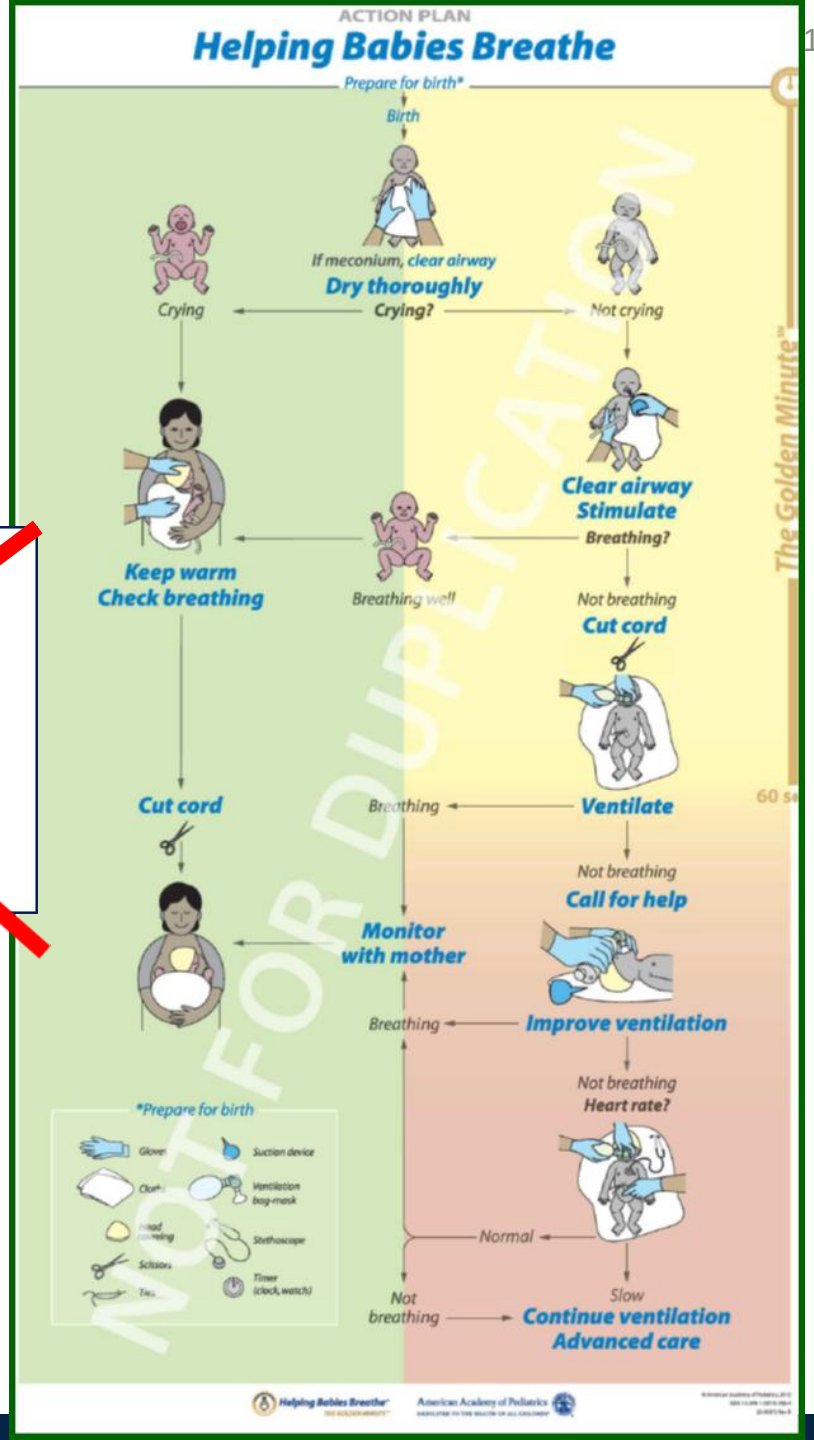
Acceptable pre-ductal SpO_2	
2 min	60%
3 min	70%
4 min	80%
5 min	85%
10 min	90%

Increase oxygen
(Guided by oximetry if available)

Maintain Temperature

At All Times Ask: Do You Need Help?





Daniele Trevisanuto, MD
Nicoletta Doglioni, MD

THE JOURNAL OF PEDIATRICS • www.jpeds.com

Vol. 156, No. 2

Neonatal resuscitation in developing countries

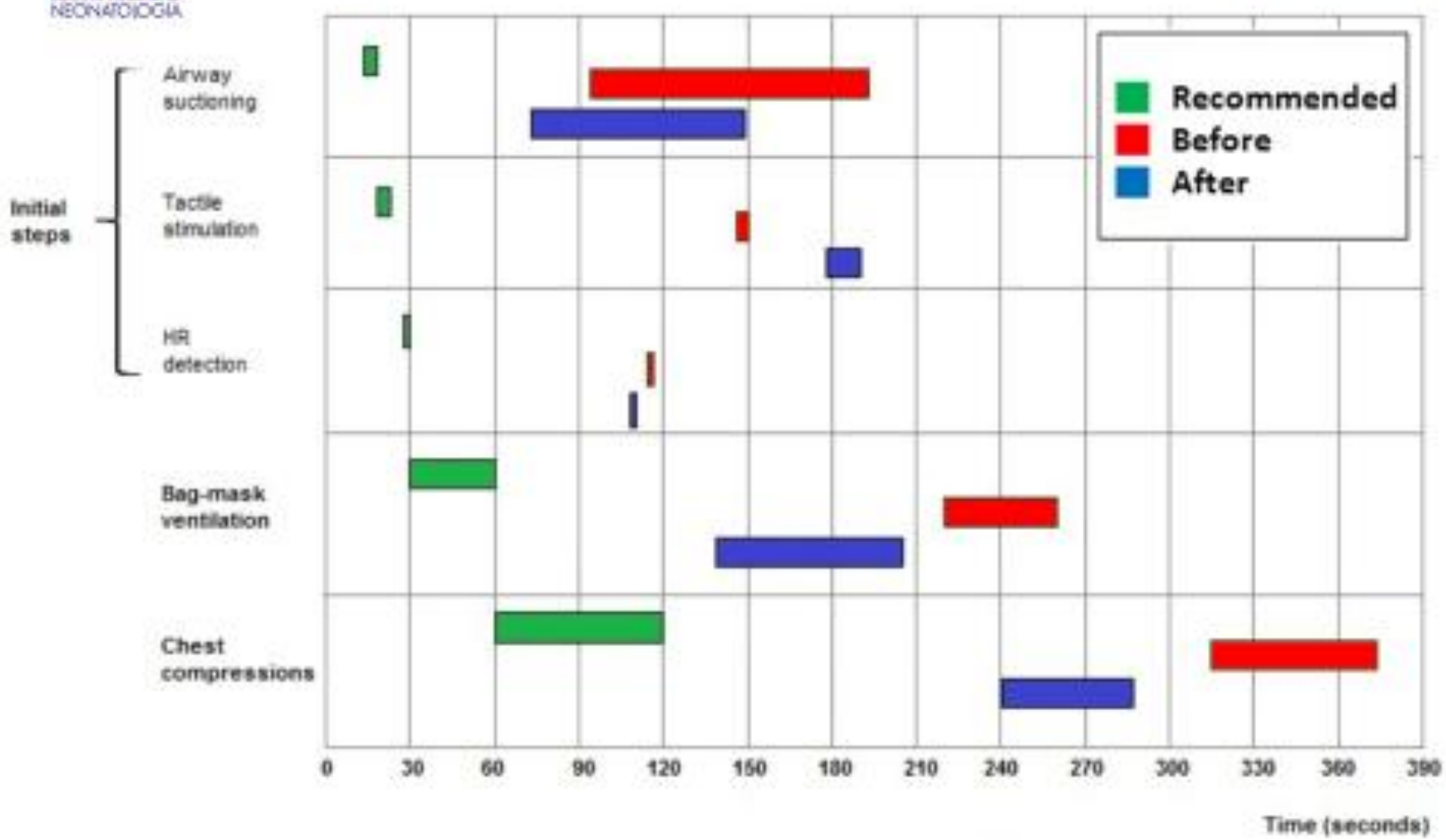
After training, performance scores, although lower than those reported in the study by Carlo et al,[1] were higher than those from our earlier courses.[2] These data suggest that, in addition to the experience in NRP of instructors and learners, performance evaluation method plays an important role for skill assessment of participants, which could be relevant for developing countries where NRP course standardization needs to be defined.

Table. Percentage of items performed correctly on the performance evaluation (skills evaluation) immediately after course participation (post-test)

	Carlo et al[1]	Trevisanuto et al
Overall performance evaluation	88 (9)	78 (35)
A. Initial steps	87 (11)	75 (21)
1. Indicates use of (universal) standard precautions	78 (42)	25 (41)
2. Prepares for warming	98 (12)	84 (33)
3. Prepares for positioning or for clearing airway	93 (26)	74 (39)
4. Prepares for ventilation	98 (15)	84 (31)
5. Prepares medications	72 (45)	79 (35)
6. Determines need for the initial steps of resuscitation	76 (43)	90 (28)
7. Places baby on preheated radiant warmer or on mother with neck slightly extended	90 (30)	96 (18)
8. Clears mouth and nose	94 (23)	100 (0)
9. Dries the baby	98 (15)	71 (46)
10. Removes wet linen	84 (37)	61 (49)
11. Slaps foot, flicks heel, or rubs back briefly	72 (45)	61 (49)
B. Ventilation	88 (12)	83 (11)
12. Chooses correct size mask or positions the bag	92 (27)	89 (31)
13. Checks the seal	86 (35)	75 (47)
14. Positions the head and applies the face mask	96 (20)	93 (26)
15. Checks for and removes secretions	92 (27)	89 (31)
16. Ventilates with mouth slightly open	79 (41)	68 (47)
17. Increases ventilation pressure	75 (44)	61 (49)
18. Ventilates 30 seconds at a rate of 40-60 times/min	87 (34)	96 (18)
19. Achieves visible rise and fall of the chest	90 (30)	79 (41)
20. Asks for help to administer chest compressions	94 (24)	75 (44)
21. Continues positive pressure ventilation	95 (21)	82 (39)
22. Checks the heart rate by palpation or stethoscope	85 (36)	93 (26)
23. Checks to ensure adequate chest movement	87 (34)	86 (36)
24. Coordinates ventilations and chest compressions appropriately	81 (39)	93 (26)
C. Chest compressions	93 (14)	71 (19)
25. Locates appropriate position on lower one-third of baby's sternum	95 (21)	89 (31)
26. Provides firm support for baby's back	93 (26)	79 (42)
27. Uses fingertips or ring fingers or distal portion of both thumbs	94 (24)	39 (50)
28. Compresses sternum approximately one-third of the anterior-posterior diameter of the chest	92 (27)	75 (44)
29. Maintains cadence of "one- and two- and three- and breathe- and..".	92 (27)	75 (44)

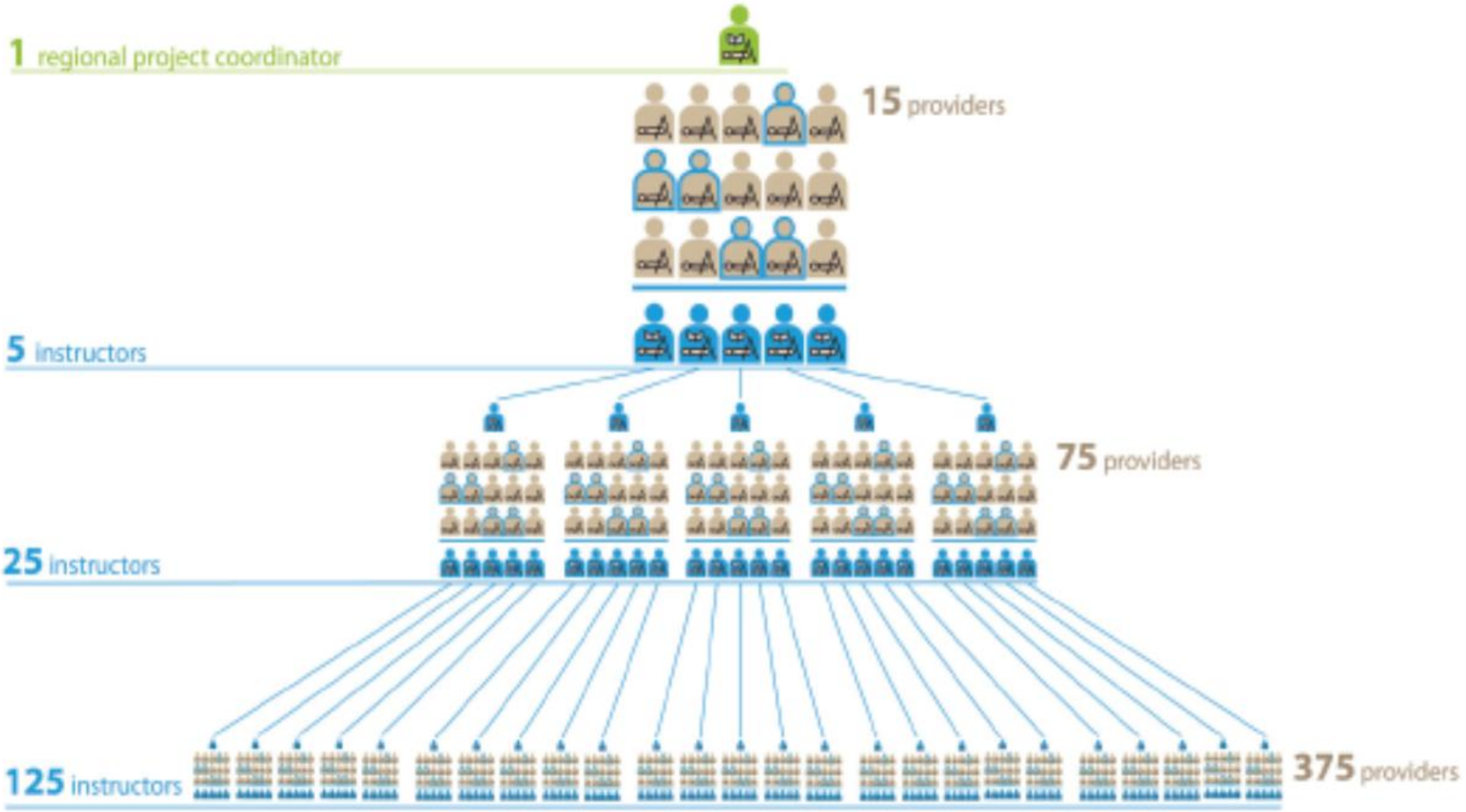
ORGANIZATION LEARNING DEVICES

RN: TIMING



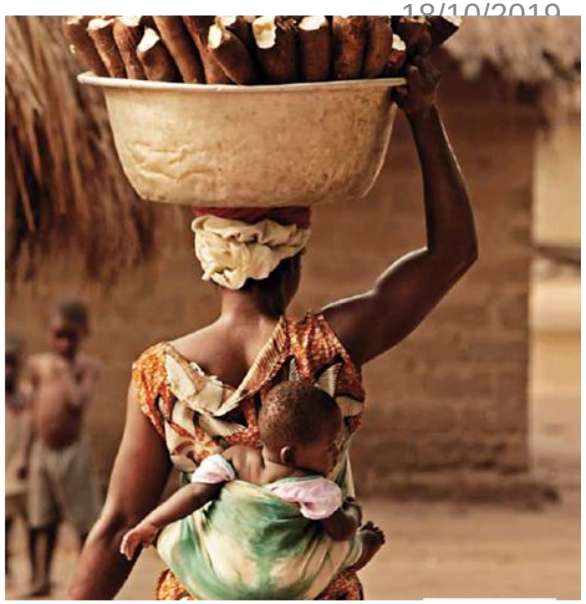
Trevisanuto D. et al. Plos One 2015

Dissemination model



Chiesi FOUNDATION

nest
Neonatal Essential Survival Technology



Baby's needs:
warm
sweet
pink
Basic equipment
Basic drugs

Caregiver for following up:

Kangaroo mother care

Data recording

Training needs:
"Neonatal nurse" (care at birth and ongoing care)
Basic training

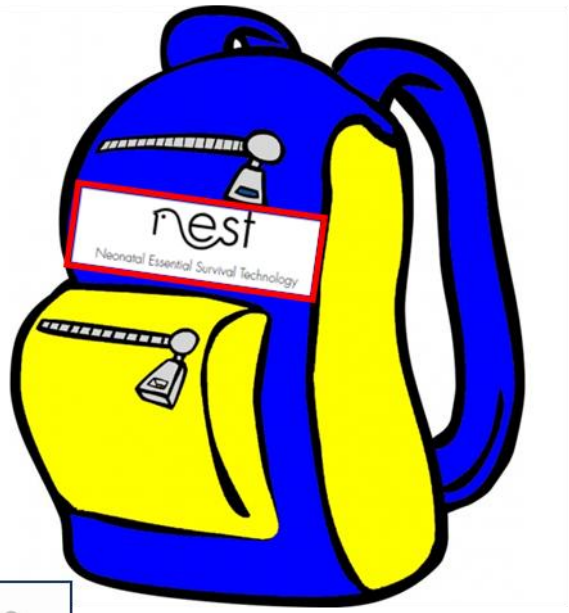
FACILITY level
(Community)
(Government)

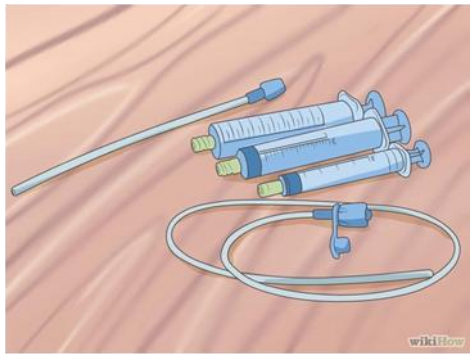
Guarantee **a minimum level of essential newborn care** at the time of birth, during the first 48 hours and transition to home

Available resources:
water
(oxygen)
(energy)


E.P.S.CA

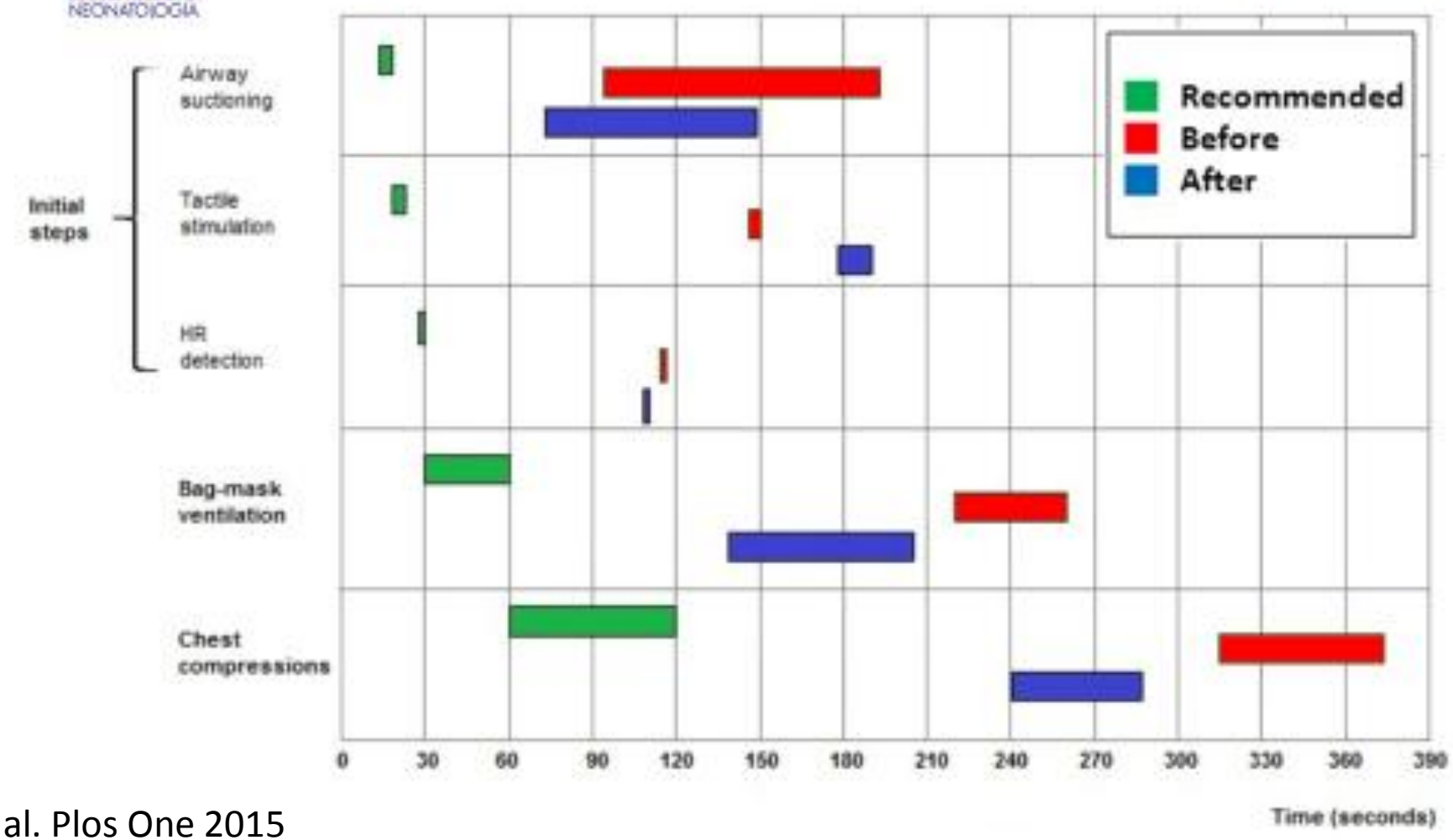
Chiesi FOUNDATION





SIN GRUPPO DI STUDIO DI RIANIMAZIONE NEONATALE

RN: TIMING



TrevisanutoD et al. Plos One 2015

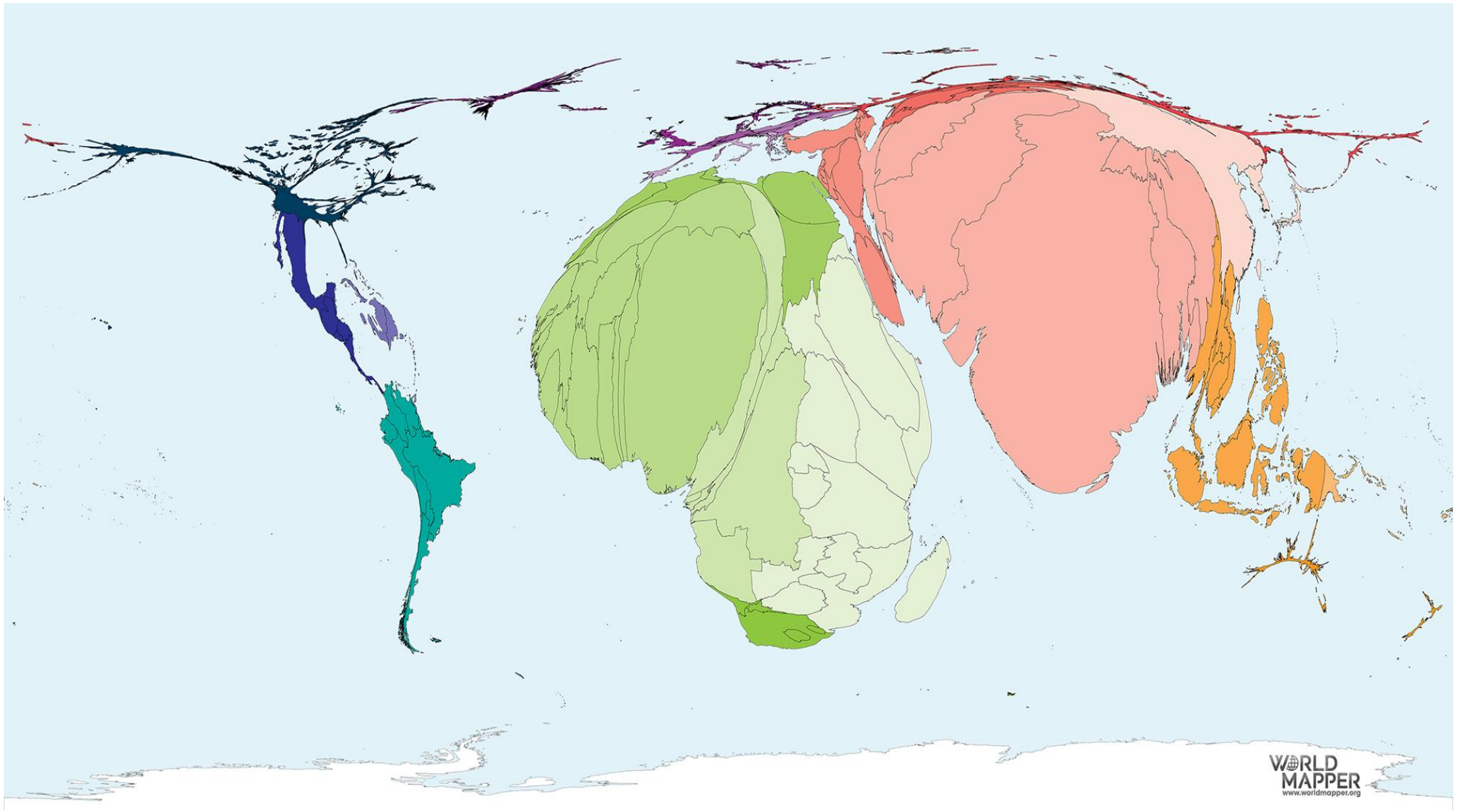
INSERIRE TITOLO CAPITOLO

THE NEONATAL RESUSCITATION TO BASIC AND COMPREHENSIVE RESOURCES

PAOLO VILLANI
UOC TIN NEONATOLOGIA

FONDAZIONE
POLIAMBULANZA
Istituto Ospedaliero

WHERE ?



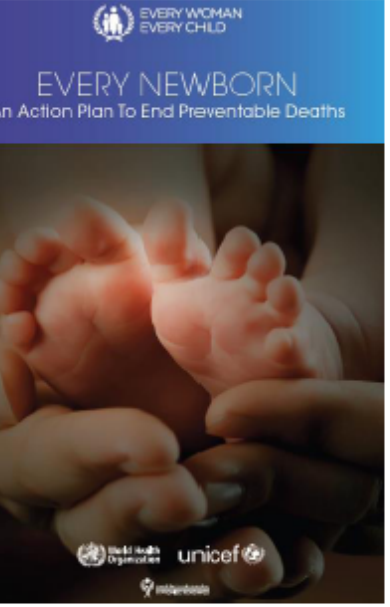
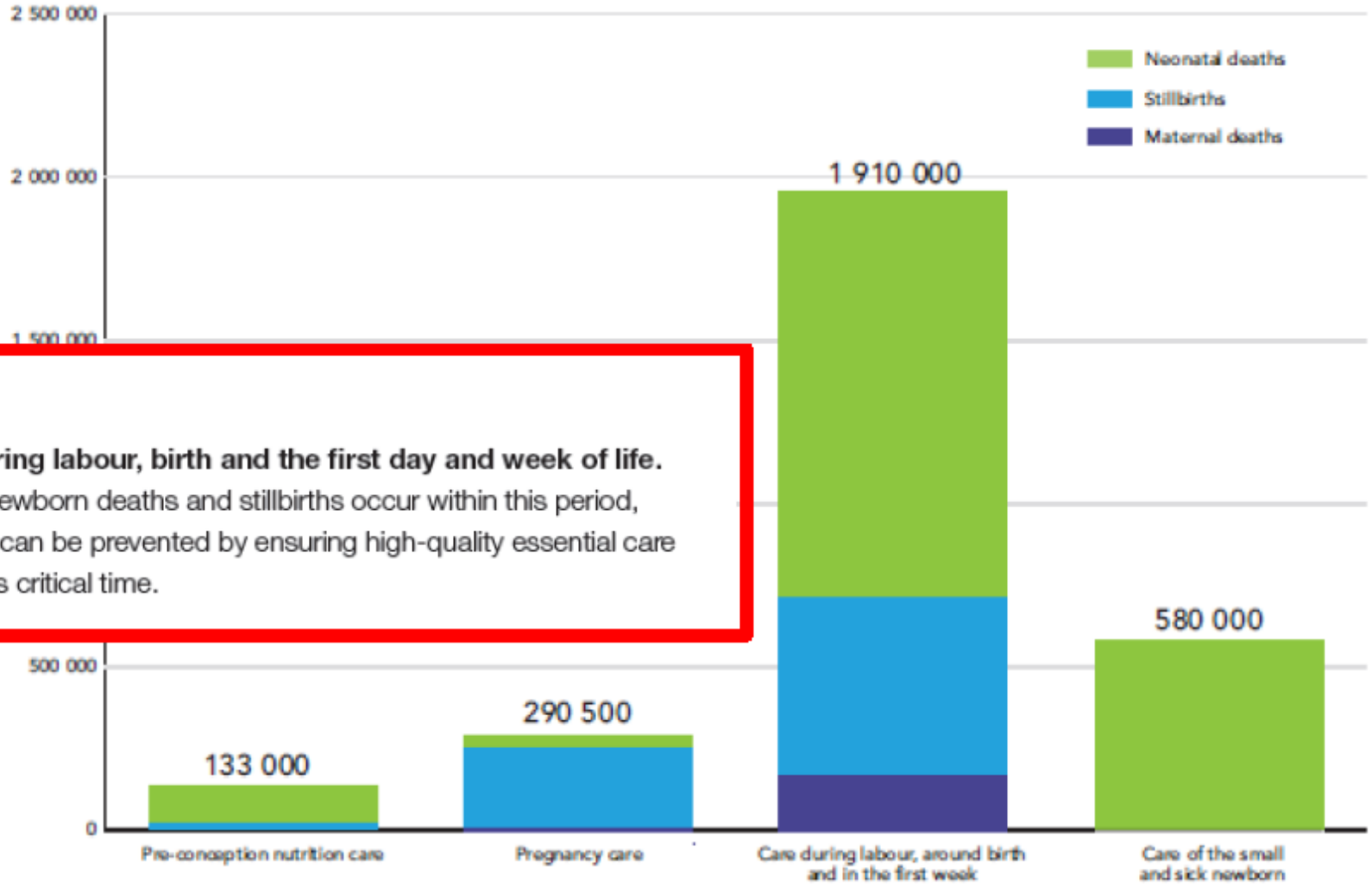


Fig. 3 Lives that could be saved by 2025 with universal coverage of care

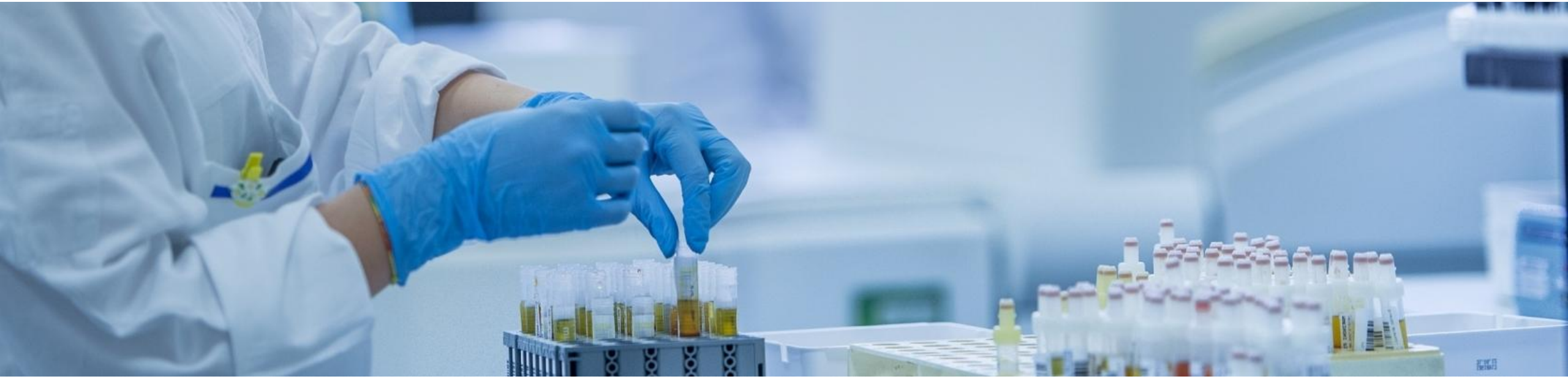


Strategic objective 1

Strengthen and invest in care during labour, birth and the first day and week of life.
A large proportion of maternal and newborn deaths and stillbirths occur within this period, but many deaths and complications can be prevented by ensuring high-quality essential care to every woman and baby during this critical time.

Source: The Lancet Every Newborn Series, Bhutta Z et al. *Lancet*, 2014 (*6*).

INSERIRE TITOLO SLIDE



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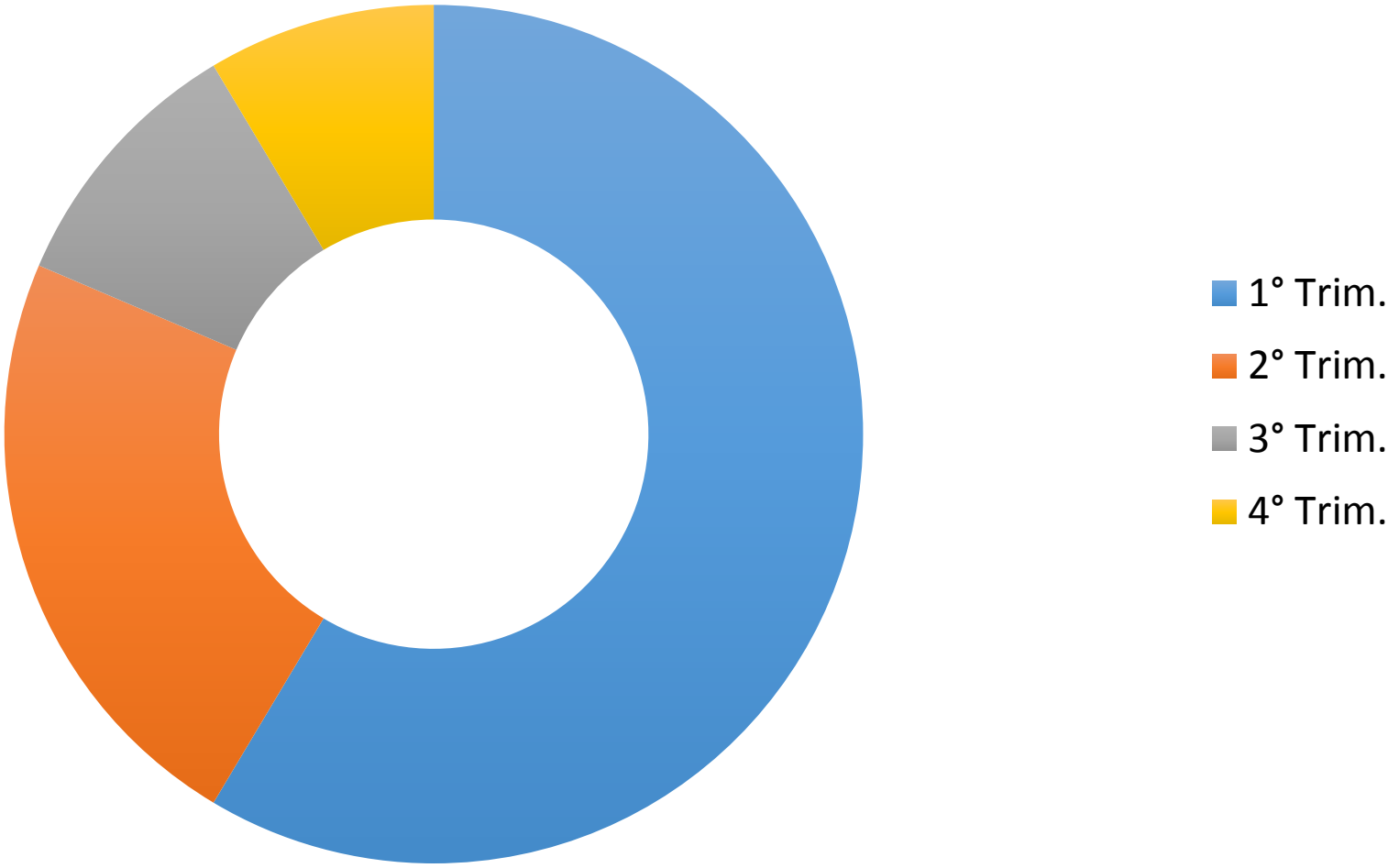

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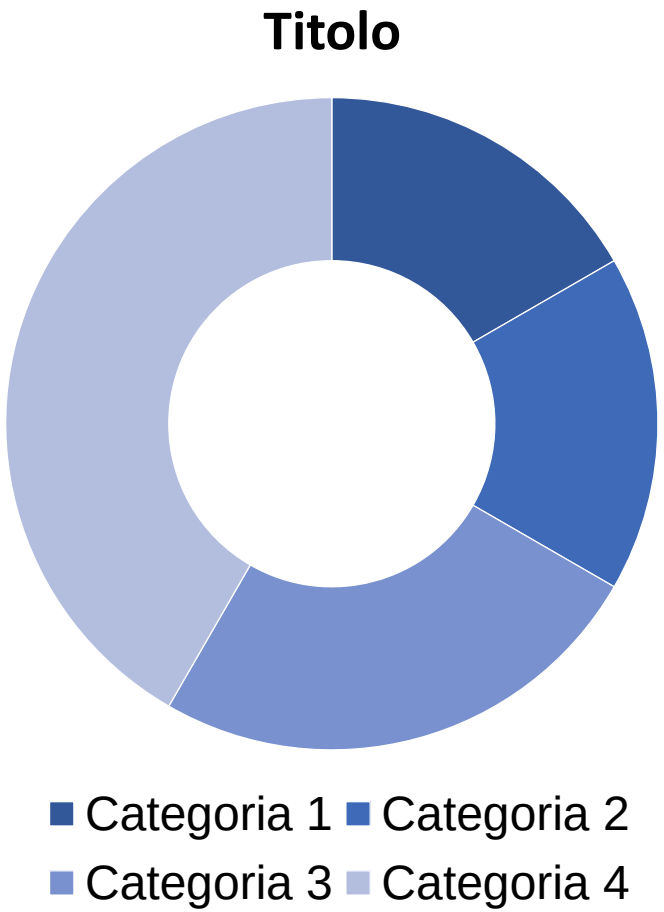
Titolo del grafico



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MOTIFS	EFFECTIFS (N = 244)	POURCENTAGE
DÉTRESSE RESPIRATOIRE	69	28,7%
ASPHYXIE	19	07,7%
FAIBLE POIDS DE NAISSANCE	19	07,7%
CONVULSIONS	06	02,4%
ETAT DE MORT APPARENT	04	01,6%
FIÈVRE	04	01,6%
AUTRES*	24	9,8

Inserire titolo

Titolo 1

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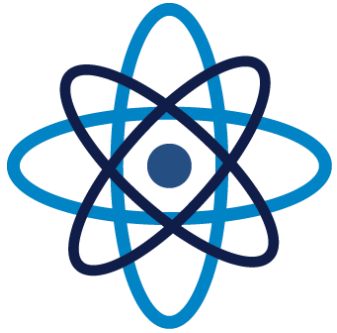

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GRAZIE PER L'ATTENZIONE

FONDAZIONE
POLIAMBULANZA
L'ospedale, come vorresti che fosse.

Via Leonida Bissolati 57, Brescia

GRAZIE PER L'ATTENZIONE

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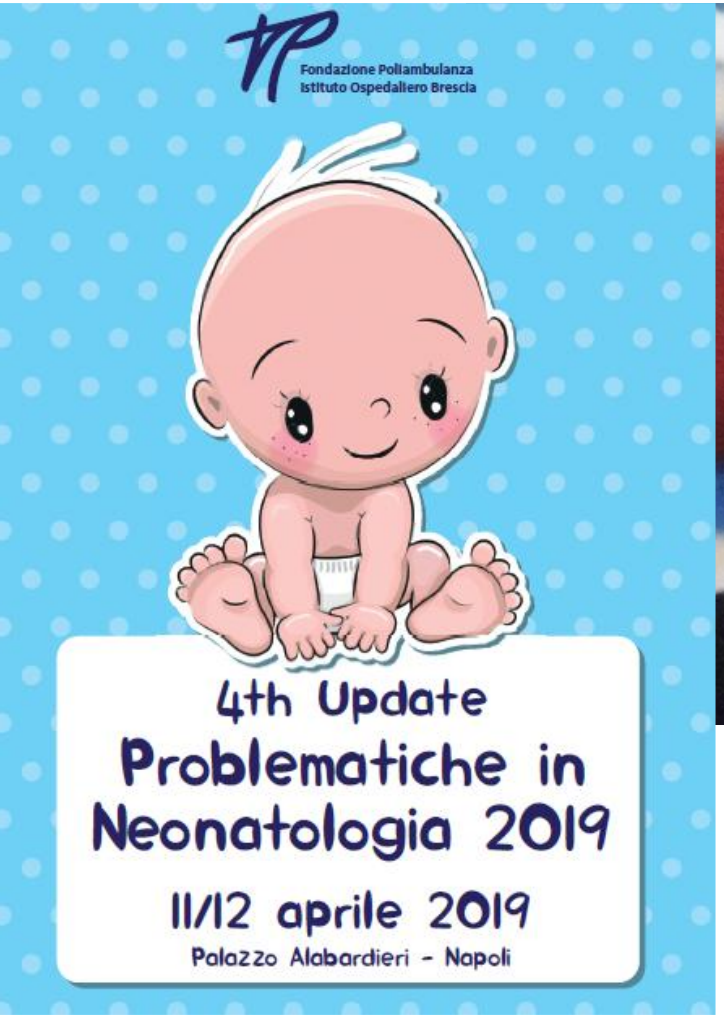
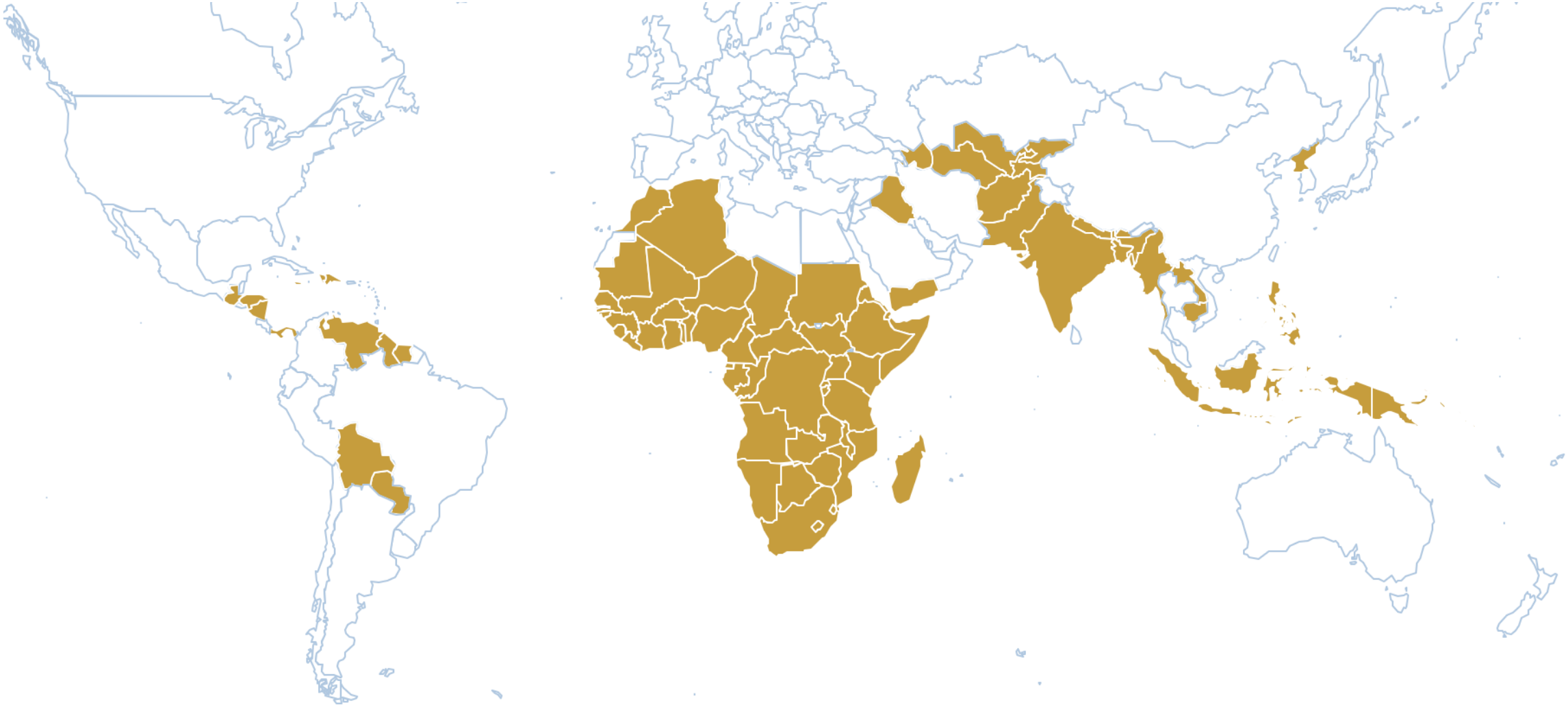


FONDAZIONE
POLIAMBULANZA
Istituto Ospedaliero

répartition des nouveau-nés selon les pathologies au cours de la grossesse		
PATHOLOGIES	Effectifs (n = 86)	Pourcentage
GROSSESSE MULTIPLE	44	51,1%
PATHOLOGIE DES ANNEXES	10	11,6%
PRÉÉCLAMPSIE/ÉCLAMPSIE	09	10,4%
RUPTURE PRÉMATURÉE DES MEMBRANES (>72H)	07	8,1%
PALUDISME	04	4,6%
AUTRES *	12	13,9%

HOSPITALISATIONS	710	246 DÉCÈS	34.6%
PATHOLOGIE MATERNELLE			
VOIE D'ACCOUCHEMENT			
POIDS DE NAISSANCE			
STATUT À LA NAISSANCE			
SCORE D'APGAR			
ASPECT DU LIQUIDE AMNIOTIQUE			

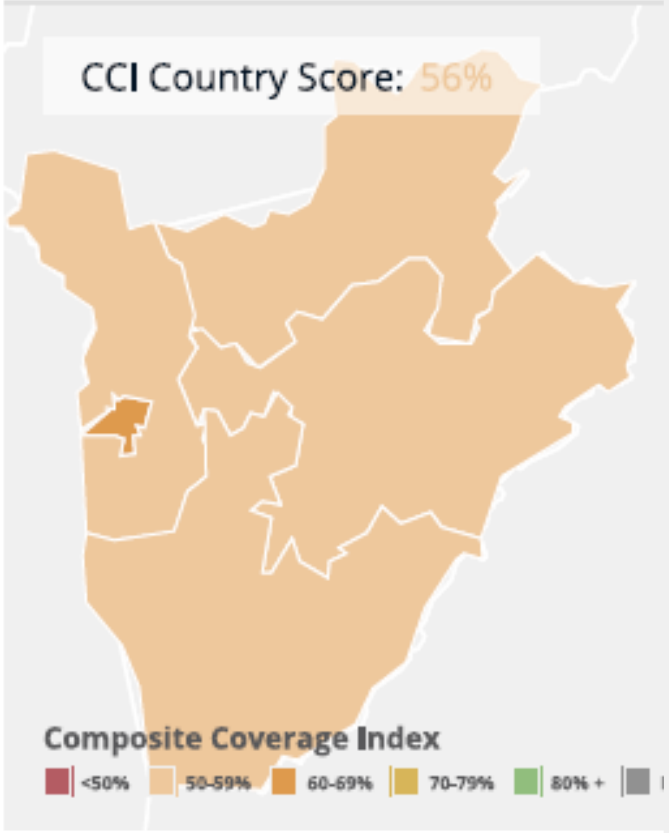


Missione Ospedale Renato Monolo Kiremba

Scalmani Emanuela, Villani Paolo

	PUNTI DI FORZA	PUNTI DI MIGLIORAMENTO
Leader-Ship Medica	Dr. Marcellin Lumushi	Coinvolgimento di altri 2 medici
Competenza medica adeguata	+	
Aggiornamento/ Collaborazione	+	
Igiene ambienti/personale		-
Logistica/Ambienti		-
Raccolta Dati	+	
Prise en Charge		-

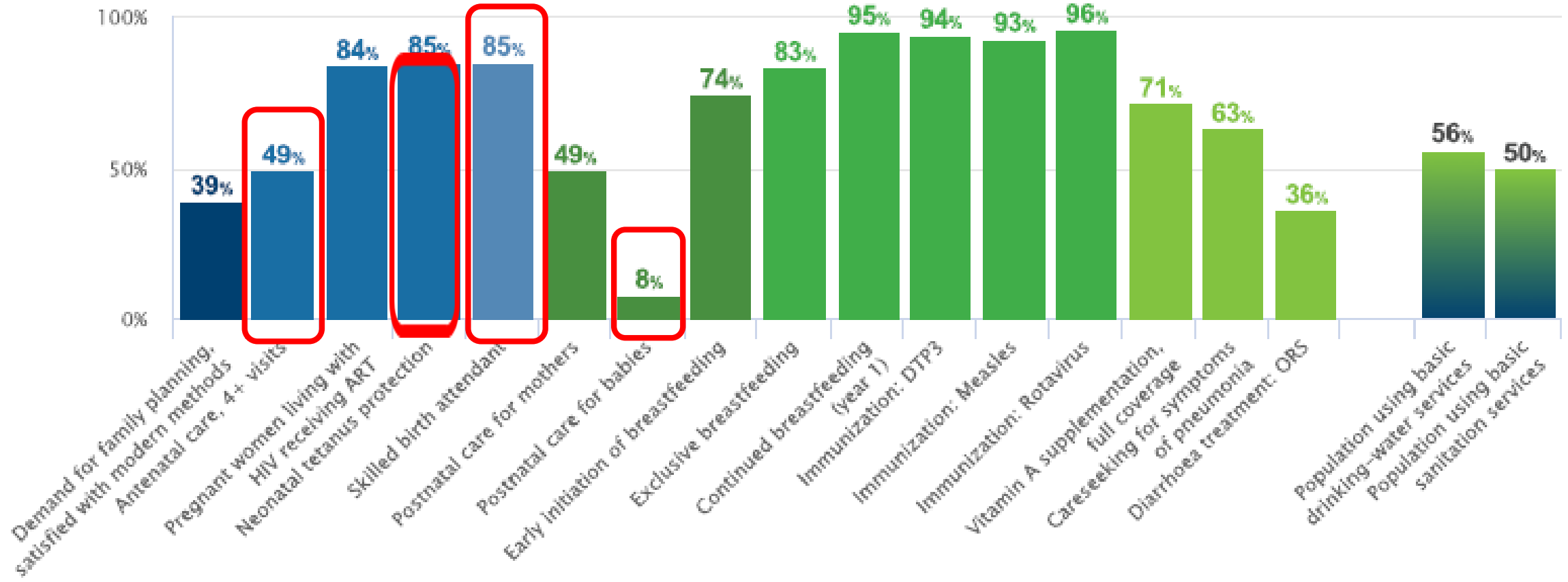
Countdown to 2030
Maternal, Newborn & Child Survival



Birth registration	75%	2010
Total maternal deaths	3,500	2015
Lifetime risk of maternal deaths (1 in N)	23	2015
Stillbirth rate (per 1000 total births)	27	2015
Neonatal deaths, as % of all <5 deaths	36%	2015
Total under 5 deaths (000)	31	2016

Continuum of Care Coverage

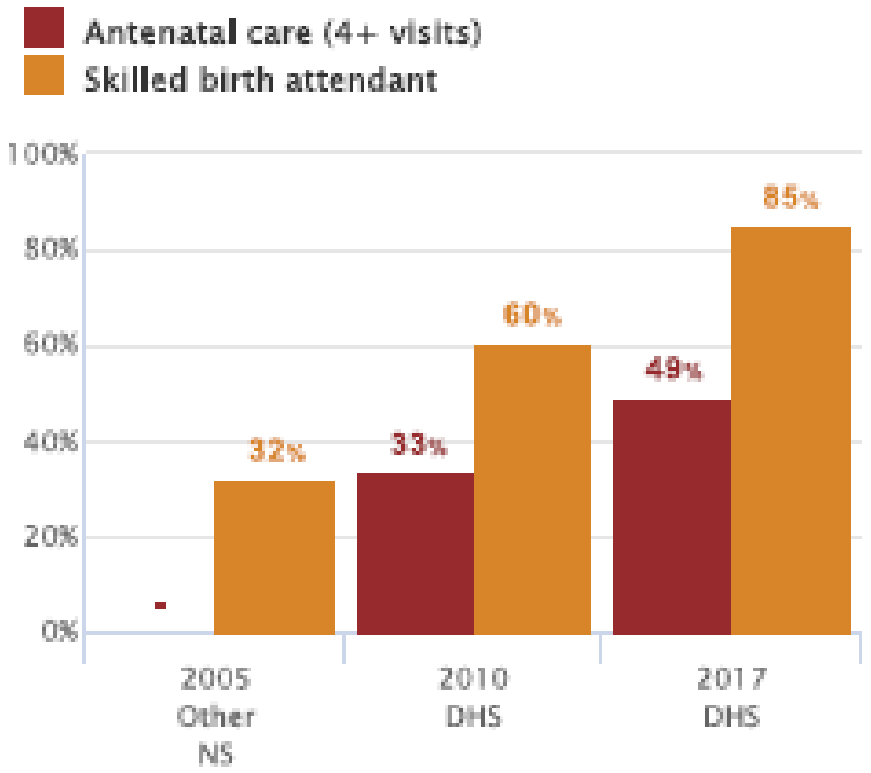
Percentage of those in need receiving coverage of key interventions across the continuum of care



Maternal & Newborn Health

Pregnancy and Delivery Care

Percent women aged 15–49 years with:

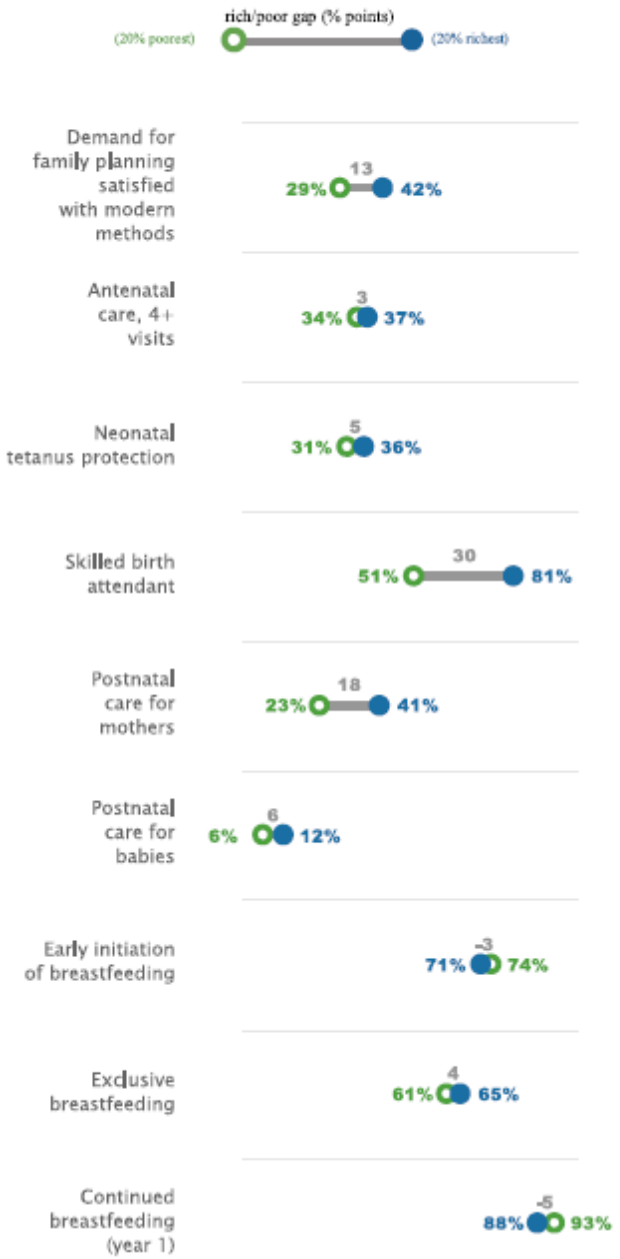


More years of data may be available on the dashboard.

Countdown to 2030
Maternal, Newborn & Child Survival

profiles.countdown2030.org

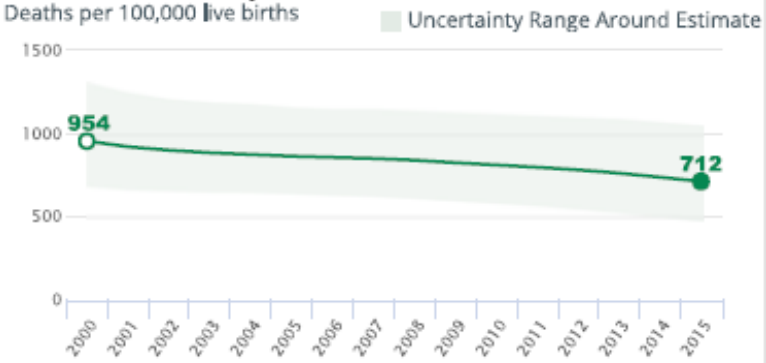
Equity



Demographics

Maternal Mortality Ratio

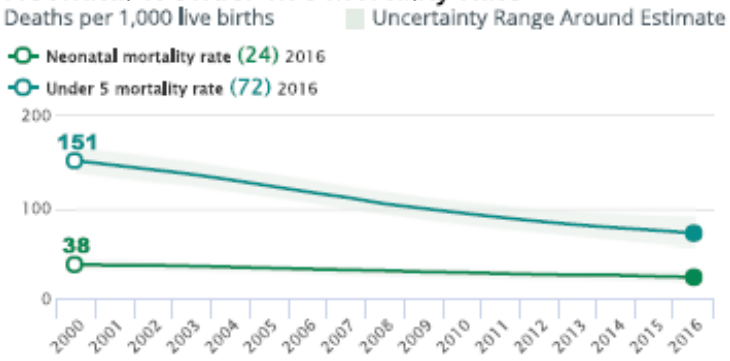
Deaths per 100,000 live births



Source: UN MMEIG 2015

Neonatal & Under-five Mortality Rate

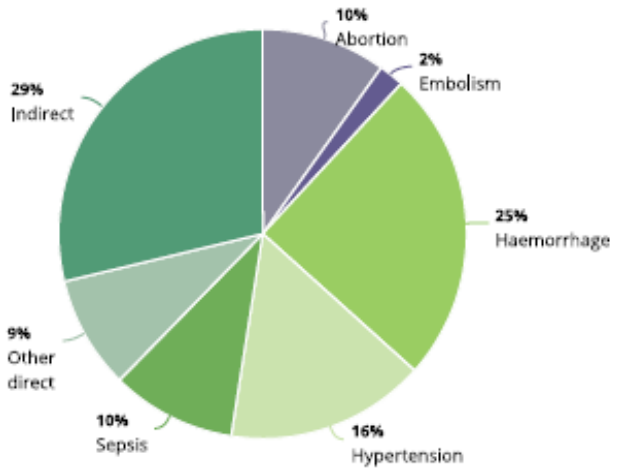
Deaths per 1,000 live births



Source: UN IGME 2017

Causes of Maternal Death - 2014

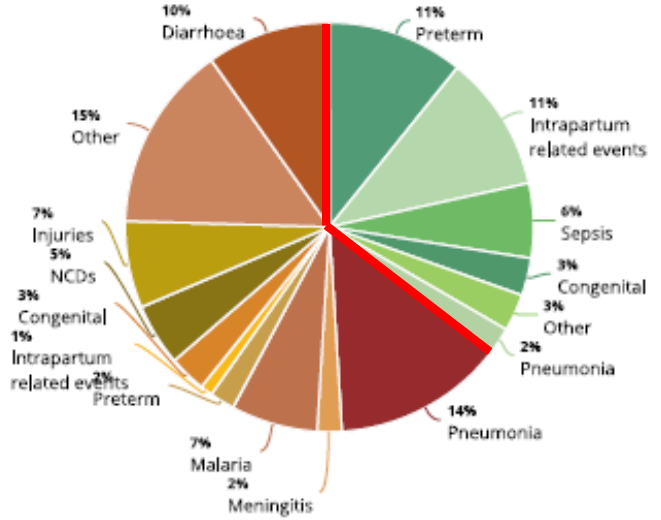
Regional estimates for Sub-Saharan Africa



Source: WHO 2014

Causes of Death Under-Five - 2015

Globally nearly half of child deaths are attributable to undernutrition



Children ages 1-59 months

Newborns ages 0-27 days

36% of deaths occur in the neonatal period

Source: WHO MCEE 2015


URGENT
SONUB
SONUC