



EVERY WOMAN
EVERY CHILD

Every Newborn Action Plan Metrics
Linked with
Ending Preventable Maternal Mortality

Update on ENAP metrics research for facility indicators for Antenatal Corticosteroids coverage, quality and safety

James A Litch MD, DTMH
On behalf of ENAP metrics ACS working group
at Windsor Workshop and LSHTM team

ACS TWG Meeting, 14 June 2016

#EveryNewborn #Endingstilbirths
#maternalhealth



World Health
Organization

unicef 

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



Every Newborn measurement improvement roadmap

Multi partner 5 year plan

Metrics testing and use in countries
for programme improvement and accountability



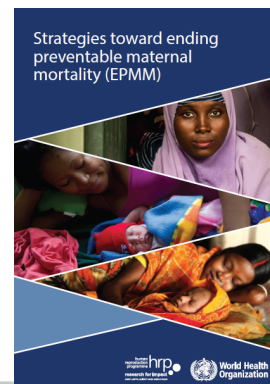
Moxon et al. BMC Pregnancy and Childbirth 2015, 15(Suppl 2):S8
<http://www.biomedcentral.com/1471-2393/15/S2/S8>



RESEARCH

Count every newborn; a measurement improvement roadmap for coverage data

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DEFINE

Scope ENAP metrics definitions, research gaps (including WHO meeting Dec 2014)

Sep 2014-May 2015

PLAN

Refine Roadmap, assess current work, consult, etc

June- Dec 2015

TEST VALIDITY

Test indicators and tools in various data platforms (CVRS, audit facility HMIS, surveys) Windsor meeting April 2016

Jan 2016- Dec 2018

TEST FEASIBILITY

Wide use in countries, linking data sources. testing E-health-based min perinatal dataset

Jan 2019- Dec 2020



ENAP Milestones regarding measurement



- Count births and deaths in CVRS (women, newborns and stillbirths)
- ENAP core indicators to be defined, incorporated in national metrics platforms and used
- Perinatal mortality audit and minimum perinatal dataset being widely used in countries

2030

End Preventable Maternal and Newborn Deaths including Stillbirths

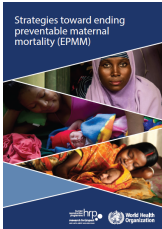

2020

Effective use of data in national health information systems to improve coverage, quality and equity

Indicators to track Every Newborn Action Plan

Current Status		Core ENAP Indicators	Additional indicators
Definitions clear but quantity and consistency of data lacking	Impact	1. Maternal mortality ratio 2. Stillbirth rate 3. Neonatal mortality rate	Intrapartum stillbirth rate Low birth weight rate Preterm birth rate Small for gestational age Neonatal morbidity rates Disability after neonatal conditions
Contact point definitions clear but data on content of care are lacking	Coverage: Care for All Mothers and Newborns	4. Skilled attendant at birth 5. Early postnatal care for mothers & babies 6. Essential newborn care (tracer is early breastfeeding)	Antenatal Care Exclusive breastfeeding up to 6 months
Gaps in definitions, and requiring validation and feasibility testing for HMIS use	Coverage: <i>Complications and extra care</i> Input: Service Delivery Packages for Quality of Care	7. Antenatal corticosteroid use 8. Neonatal resuscitation 9. Kangaroo mother care 10. Treatment of serious neonatal infections	Caesarean section rate Chlorhexidine cord cleansing
	Counting:	Birth Registration	Death registration, cause of death

Combined indicator table for EPMM and ENAP

	EPMM	ENAP
IMPACT	 <p>1. Maternal mortality ratio</p> <p>2. Maternal cause of death (direct/indirect) based on ICD-MM</p> <p>3. Adolescent birth rate</p>	 <p>1. Maternal mortality ratio</p> <p>2. Stillbirth rate</p> <p><u>Additional:</u> Intrapartum stillbirth rate</p> <p>3. Neonatal mortality rate</p> <p><u>Additional:</u></p> <ul style="list-style-type: none"> • Preterm birth rate • Small for gestational age • Neonatal morbidity rates • Disability after neonatal conditions
COVERAGE care for all women	<p>4. Four or more antenatal care visits</p> <p><u>Additional:</u> Content of ANC</p> <p>5. Skilled attendant at birth</p> <p>6. Institutional Delivery</p> <p><u>Additional:</u> Respectful maternity care</p> <p>7. Early postnatal for woman and baby (< 2 days of birth)</p> <p><u>Additional:</u> Content of PNC</p> <p>8. Met need for family planning</p> <p>9. Uterotonic immediately after birth (among facility births)</p>	<p><u>Additional Indicator:</u> Content of ANC</p> <p>4. Skilled attendant at birth</p> <p>5. Early postnatal care for women and babies</p> <p>6. Essential newborn care (tracer is early breastfeeding)</p> <p><u>Additional:</u> Exclusive breastfeeding up to 6 months</p>
COVERAGE care for women and newborns with complications	<p>10. Caesarean section rate</p> <p><u>Additional:</u> Met need for EmONC</p>	<p>7. Antenatal corticosteroid use</p> <p>8. Newborn resuscitation</p> <p>9. Kangaroo mother care, feeding support</p> <p>10. Treatment of serious neonatal infections</p> <p><u>Additional:</u> Chlorhexidine cord cleansing</p> <p><u>Additional:</u> Caesarean section rate</p>
INPUTS	<p>11. Maternal death registration</p>	<p>Birth registration</p> <p><u>Additional:</u> Death Registration, cause of death</p>
Counting		
Availability of care	<p>12. Availability of functional EmONC facilities</p>	<ul style="list-style-type: none"> • Emergency Obstetric Care and Care of small and sick newborns • Every Mother Every Newborn Quality Initiative, measurable norms & standards

Summary = ~60% match

Overall aim of this research

Test selected ENAP & EPMM coverage indicators to assess the **validity of routine health facility-level recording**

To assess selected prioritised research questions regarding coverage content, quality, or safety for these interventions.

Some/all indicators will be later tested for **feasibility** in subnational and national programmes. In many countries likely to be linked to DHIS2, hence linking from the start)

Vision in 3 years: to have results to inform use (or not!) of these indicators in wider scale HMIS and plans for feasibility testing

Which indicators to evaluate?

	Numerator	Denominator
<i>Uterotonic use for 3rd stage</i>	Number of women who received a uterotonic immediately after birth	Live births (theoretically better as total births)
<i>Antenatal corticosteroid (ACS) use</i>	All women giving birth in facility <34 weeks who received one dose of ACS	Denominator = shared challenge!! Target population for coverage for that specific intervention: e.g. neonates “needing” resuscitation Other options a) Live births in facility b) Total births in facility (including stillbirths) c) Estimated births in the whole population
<i>Newborn Resuscitation</i>	Number of newborns who were not breathing spontaneously/crying at birth for whom resuscitation actions (stimulation and/or bag and mask) were initiated	
<i>Kangaroo Mother Care (KMC)</i>	Number of newborns initiated on facility based KMC	
<i>Treatment of Serious Neonatal Infection</i>	Number of newborns that received at least one dose of antibiotic injection for PSBI in the facility	

Testing validity of routine measurement for coverage data

HOW?

Test VALIDITY in FACILITIES:

Trained observers in labour rooms and newborn wards. Compare observed “gold standard” with Health worker records to assess sensitivity

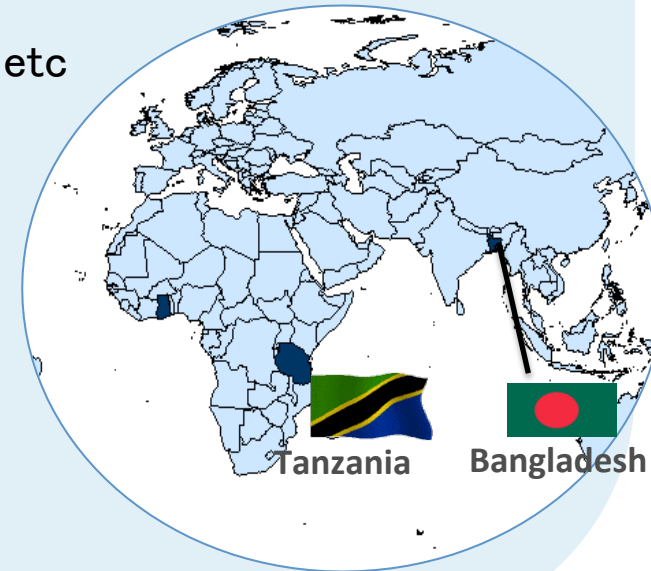
- 5 interventions (uterotonics, resus, ACS, KMC, treatment of PSBI)
- Not powered for ACS (likely to be used in <0.5% of live births) , hence research focus on GA and safety issues
- Compare different options for denominators
- Additional research using film records, maternal recall etc

Test FEASIBILITY in HEALTH SYSTEMS:

Few indicators then evaluated for feasibility in routine health information systems

WHERE?

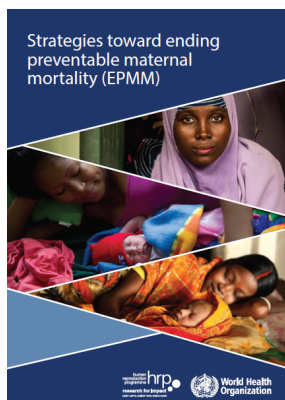
Bangladesh ICCDR,B and Kushtia District
Tanzania – Ifakara Health Institute



Coordinated approach will yield the fastest progress

Research protocols and tools developed at design workshop April 20th -23rd

Will be open access and shared widely so can be adapted and used by others



PROCESS FOR DEVELOPMENT OF ENAP METRICS & EPMM FACILITY BASED COVERAGE INDICATORS RESEARCH PROTOCOLS

1. Validation Protocol Group (*slightly different group for feasibility testing*):

Purpose-

Develop first draft GENERAL protocol TO GUIDE facility based validation of ENAP coverage indicators:

Participants: Require epi and stats expertise in order to design a robust validation including: sample size, with specific reference to sensitivity and specificity etc.

LSHTM (Joy & Hattie); Statistician (Simon Cousens); Country team leads (Shams for Bangladesh, Tanzania TBC); WHO (Matthews); ICM/UNICEF (Agbessi); IDEAS (Tanya M); USAID (Allisyn). UNICEF Nepal (KC Ashish); Save the Children (Lara)

Newborn Resus group

Lead Links via
UNICEF KC Ashish
+ Hattie Ruysen

Antenatal corticosteroid group

Lead Links via
LSTMH (Joy Lawn), WHO
(Alfred Osoto) and GAPPS
(Jim Litch)

Tanzania

Research team and
national partners

2. Technical consultation

Design Workshop focused on key methodological outputs plus review from Intervention Specific working groups.

Purpose-

To provide detailed review of protocol in accordance with intervention specific expertise

Participants: > 60 methods, intervention and measurement experts during 2 day workshop.

Kangaroo Mother Care group

Lead Links via KMC
acceleration grp +thru Sarah
Moxon and Goldy

Treatment of Infection task team:

Lead Links via SATTs
with WHO & SNL (Steve Wall/
Troy Jacobs) + Deb Sitrin

Oxytocin task team:

Lead Links via
EPMM, Allisyn Moran + Rima
Jolivet

Bangladesh

Research team and
national partners

3. BROAD CONSULTATION

4. DISSEMINATION AND SHARING OF PROTOCOLS and REALTED TOOLS



Facility-based testing research Design Workshop

(April 20th-22nd 2016, Windsor)

More than 60 experts from many organisations

.....to enable technical review for facility-based testing research design and to bring together researchers who are/have undertaken similar work, as well as relevant experts to ensure the approach is programmatically relevant, and is appropriately targeted for feasibility testing in national data platforms at a later stage.



ENAP ACS Metrics Working Group

- Participants at the Windsor Workshop for ACS:
 - Facilitators:
 - Alfred Osoti (WHO/RHR)
 - Jim Litch ((Every Premie/GAPPS)
 - Joy Lawn (UCL)
 - Working Group Members:
 - Cally Tann (LSHTM)
 - Dorothy Boggs (LSHTM)
 - Florina Sebanescu (CDC)
 - Also others unable to join at the time, eg Josh Vogel
- Email enapmetrics@lshtm.ac.uk and note you are interested in ACS metrics

ACS coverage research: Numerator

Were women seen at <34 weeks given ACS?

- Place of observation (or later verification if cannot directly observe all)
 - Labour ward triage, labour ward, antenatal ward
- Develop/refine a checklist for observers
 - Are steroids given, time & date of admin, consideration of gestational age, method of gest age assessment
- How is the intervention is recorded?
 - Clinical records, medical round book, prescription/drug chart
 - NB unlikely to be in register & probably not justified to add ACS to register as is low prevalence of use
- For GA assessment (USS, clinical) if possible links to other research
- Maternal recall for ACS use will be assessed at pre-discharge but may not be accurately known and will also be affected by the quality of communication from health workers

ACS coverage research: *Denominators* ***to compare measuring the “true denominator”*** ***i.e. the target population for the intervention***

- True denominator

- All women <34 weeks

- Place of assessment

- triaged on admission to labour ward

- Other denominators

- Facility live births <34 weeks
- Facility total births <34 weeks
- Estimated population denominator <34 weeks
- All women triaged to labour ward <34 weeks
- All eligible women = All women < 34 weeks who should have received ACS (accurate GA, imminent preterm birth, no infection, context of care (i.e. adequate childbirth care and care for preterm infant)

- For consideration, should denominator only include women <34 weeks with fetal heart rate present on admission, or at time of decision to provide ACS

- Document methods of assessment of gestational age for all women assessed to be <34 weeks (i.e. LMP, USS, FH, best obstetrical estimate)

- Postnatal newborn examination for all newborns where mother assessed to be <34 weeks (Ballard / Dubowitz etc. to be decided, Modified Ballard preferred, but all have limitations)

Coverage and Quality/Safety:

	<34 weeks	≥34 weeks
ACS +	✓	✓
ACS -		

ACS coverage research: **Quality and safety**

Additional research questions regarding safe/effective administration based on WHO recommendations for of ACS

1. Was there an assessment for 'imminent preterm birth'?
How 'imminent of preterm birth' was defined (uterine contractions with cervical change and effacement, or maternal complications at high risk for PTB)?
2. Was there an assessment for maternal infection?
How 'maternal infection' was defined (fever, offensive liquor, uterine tenderness, maternal/fetal tachycardia, leucocytosis)
3. Drug?
 - Which drug (Betamethasone vs. Dexamethasone) was used? (Prednisone to be included on list – though not the appropriate drug, it is used by some)
 - How many doses / courses?
 - Timing of administration?

We will already know context of care through other study measures

- availability of care around the time of birth
- availability care for preterm newborn

Questions for Discussion

- Focus on Safety Tracking?
 - Eg excluding maternal clinical infection, identification of imminent birth, etc
 - ENAP metrics work with WHO and SNL and AMDD on measuring service readiness for Care of small/sick newborns will be linked to EmOC assessment and will feed into the criteria to assess hospital readiness for the WHO criteria
- Gestational Age Measurement and linking to other work on this?
- Suggestions of relevant tools?
- Do you want to be involved with ACS metrics? Please pass your name on to:
enapmetrics@lshtm.ac.uk or georgia.gore-langton@lshtm.ac.uk
ENAP Metrics Technical Coordinator, LSHTM

Every Newborn Series

5 papers

6 comments

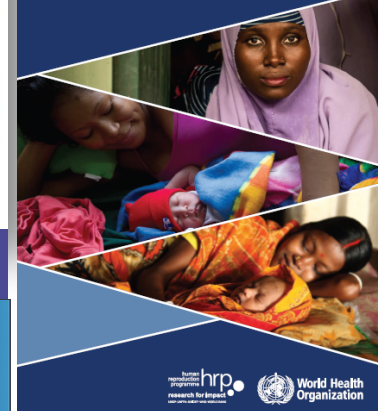
55 authors from 18+ countries

60+ partner organisations



Ending preventable maternal mortality

Strategies toward ending preventable maternal mortality (EPMM)



Main funders: Bill & Melinda Gates Foundation, USAID, Children's Investment Fund Foundation

Every Newborn Action Plan

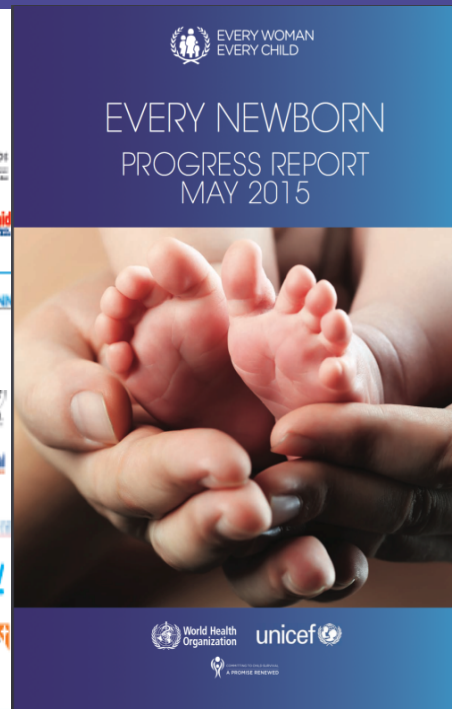
Co-led by UNICEF & WHO

Consultation >60 governments

>80 organisations, >1000 individuals

World Health Assembly 2014 resolution

One year after, already policy and program change in at least 20 high burden countries



#EPMM

THE LANCET

Ending preventable stillbirths
An Executive Summary for The Lancet's Series



THANK YOU!

Jim Litch

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Sebanescu

