

Completeness of the infant Road to Health Booklet within the first 6 weeks of life: Results from three national facility-based surveys, South Africa

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BACKGROUND

- Tracking new-born infants until the age of 5 years is critical for reducing morbidity and mortality.
- SDG target 3.2 aims to end preventable deaths of new-borns and children under 5 years.

	SA 2010	SA 2011	SA 2012	SA 2013	SA 2014	SA 2015	2030 Target
Neonatal mortality rate <i>(per 1000 live births)</i>	11.7	11.5	11.3	11.2	11.1	11	12
Under 5 mortality rate <i>(per 1000 live births)</i>	54	49.8	47.7	43.4	41.4	40.5	25

Source:

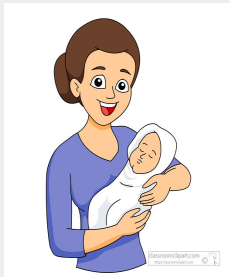
World Bank: Data: Mortality rate, neonatal (per 1000 live births) <http://data.worldbank.org/indicator/SH.DYN.NMRT?page=1>

World Bank: Data: Mortality rate, under 5 (per 1000 live births) <http://data.worldbank.org/indicator/SH.DYN.MORT?page=1>

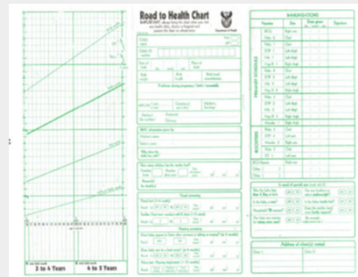
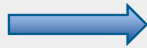
BACKGROUND

- Infant morbidity and mortality can be reduced by retaining infants in care.
- Missed opportunities for identifying deviations in a child's health is often attributed to poor documentation (recording and quality).
- Health programmes specify that every contact with a child is a golden opportunity to review and update his/her RtHB.
- An efficient health information system is essential for an effective health system.

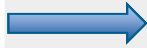
BACKGROUND



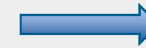
RtHB provided to all children at birth



RtHC used pre-2011



Interventions: Immunization, mother and infant PMTCT, ART, Vitamin A, anthropometry
Health promotion: Breastfeeding, development



RtHB is a:
- Portable tool
- Links patients and health care provider
- Summary of a child's health

Optimal use of the RtHB in South Africa has not been evaluated

AIM

This secondary analysis of data from three nationally representative PMTCT surveys aimed to report on the average completeness of the RtHB during the first 6 weeks postpartum and to understand factors associated with use.

METHODS – DESIGN

Primary Surveys

- 3 cross-sectional facility-based national PMTCT surveys in 2010, 2011-12, 2012-13.
- Target SS - 12 200 infants per survey: measure national and provincial early MTCT.
- Multistage PPS sampling.
- 580 facilities per survey randomly selected to yield the desired sample size
- Data collected through interviews and RtHB assessment

Secondary analysis

- Infants eligible for this analysis if in possession of RtHB and met survey inclusion criteria.
- Assessed information recorded on the RtHB

METHODS – ANALYSIS

- Analysis restricted to participants with RtHB during interview.
- Defining RtHB completeness in this study:-

RtHB completeness **2010, 2011-12, 2012-13**
defined as 3 indicators recorded:

- ✓ Infant birth weight,
- ✓ BCG immunization,
- ✓ Maternal syphilis results

RtHB completeness **2011-12, 2012-13**
defined as 4 indicators recorded:

- ✓ Infant birth weight,
- ✓ BCG immunization,
- ✓ Maternal syphilis results,
- ✓ Maternal HIV status

- Partial proportional odds logistic regression used to identify factors associated with completeness of the RtHB.
- Conducted using STATA version SE 13.

RESULTS: PARTICIPANT CHARACTERISTICS

Data analysed:

- 2010: 10 078 (98,9%)
- 2011-12: 10 415 (99.6%)
- 2012-13: 9529 (99.2%)

97% of mothers brought infants to clinic

Age: ~70% were 20-34 years (range 13-51 years)

Education: ~84% had Grade 8 and above

Marital status: ~75% Single/Widowed/Divorced/separated

Parity: ~60% had 2+ children

HIV status: ~69% were HIV negative

Health care	2010	2011-12	2012-13
Infant feeding counselling	84.4 (83.6-85.1)	89.9 (89.3-90.6)	92.5 (91.9-93.0)
TB screening	29.3 (28.3-30.3)	36.7 (35.7-37.8)	34.1 (33.1-35.2)
Delivered at a hospital	78.1 (77.1-79.0)	79.5 (78.6-80.4)	78.6 (77.7-79.5)
Delivery assisted by nurse/midwife/CHW	67.2 (66.2-68.3)	68.4 (67.4-69.5)	67.8 (66.8-68.8)

RESULTS

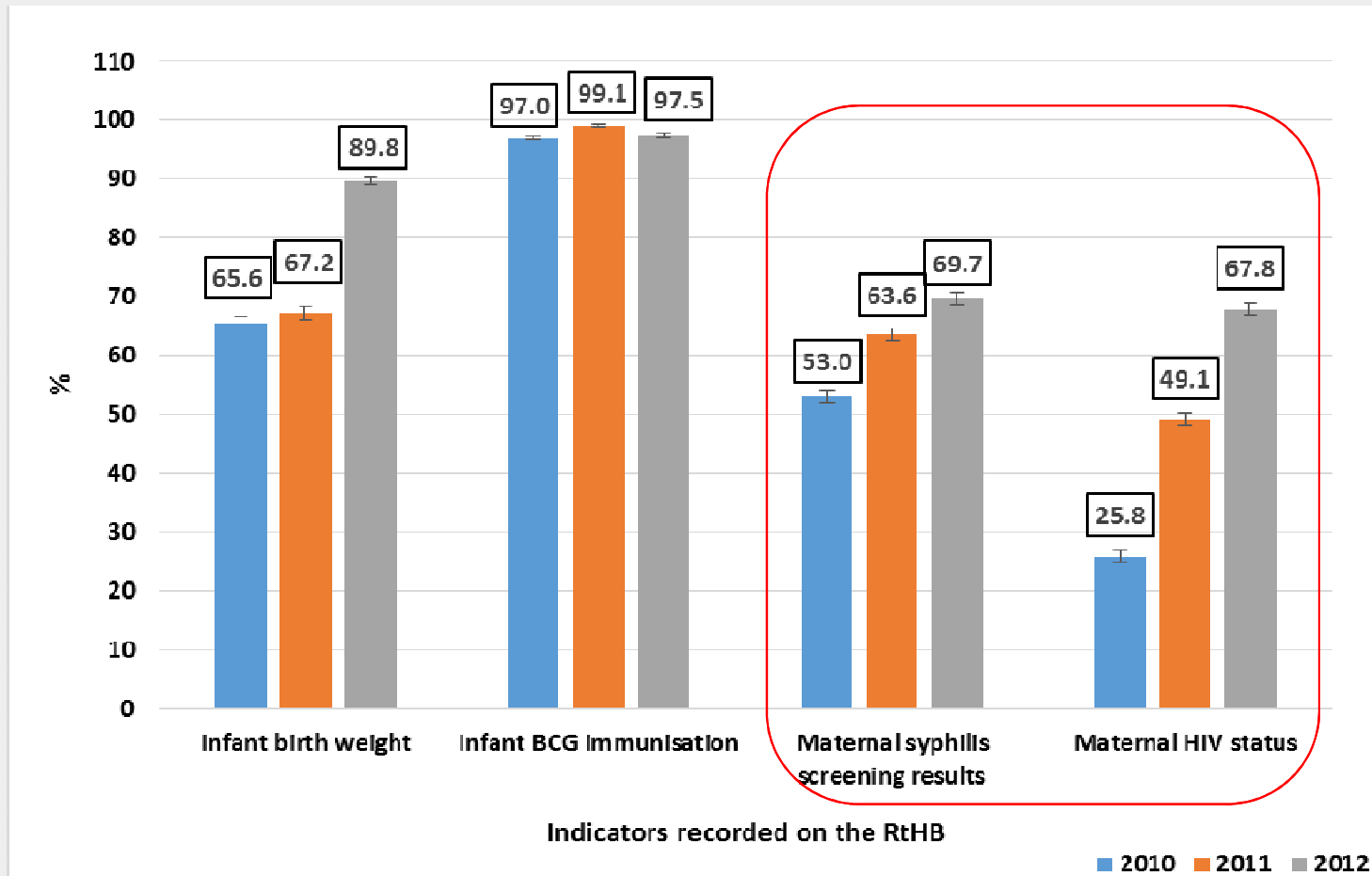


Figure 1: Indicators recorded on the RtHB

RESULTS: PERCENTAGE COMPLETENESS OF THE RtHB

- RtHB completeness **2010, 2011-12, 2012-13** defined as 3 indicators (Infant birth weight, BCG immunization, Maternal syphilis results) recorded:

% completeness: 2010 = **35.7% (34.6-36.8)**

- RtHB completeness **2011-12, 2012-13** defined as 4 indicators (Infant birth weight, BCG immunization, Maternal syphilis results, Maternal HIV status) recorded:

% completeness: 2011-12 = **23.1% (22.2-24.0)**

% completeness: 2012-13 = **43.3% (42.2-44.4)**

RESULTS: MATERNAL AND HEALTH PROVIDER RISK FACTORS AND COMPLETENESS OF THE RTHB IN 2010, 2011 & 2012

Base comparison: Completeness = 0 variables recorded:	Increased odds of RtHB Completeness		Reduced odds of RtHB Completeness	
	AOR	p-value	AOR	p-value
Survey year (ref = 2010)				
2011-12	4.1 (2.2-7.7)	<0.0001		
2012-13	5.7 (2.7-11.8)	<0.0001		
Parity~ (ref = first child)				
Child 2+	1.1 (1.0-1.2)	0.017		
Correct knowledge of MTCT modes*~ (ref = doesn't know all modes correctly)				
Knows all 3 modes correctly	1.2 (1.1-1.4)	0.001		
SES (ref = highest)				
Low	1.2 (1.0-1.4)	0.026		
Lowest	2.6 (1.1-6.0)	0.027		
TB screening during pregnancy*~ (ref = No)				
Yes	1.6 (1.4-1.8)	<0.0001		
Infant feeding counselling during pregnancy~ (ref = No)				
Yes	1.6 (1.3-1.8)	<0.0001		
Place of delivery~ (ref = home/other)				
Clinic	1.8 (1.3-2.6)	<0.0001		
Hospital	1.7 (1.2-2.4)	0.002		
Birth attendant (ref = doctor)				
TBA/other			0.6 (0.4-0.9)	0.014

RtHB completeness 2010, 2011-12, 2012-13 defined as 3 indicators recorded:

- ✓ Infant birth weight,
- ✓ BCG immunization
- ✓ Maternal syphilis

Maternal education was not associated with completeness of the 3 health indicators

RESULTS: MATERNAL AND HEALTH PROVIDER RISK FACTORS AND COMPLETENESS OF THE RTHB IN 2011 & 2012

Base comparison: Completeness = 0 variables recorded:	Increased odds of RthB Completeness		Reduced odds of RthB Completeness	
	AOR	p-value	AOR	p-value
Survey year (ref = 2011)				
2012-13	1.6 (1.6-1.7)	<0.0001		
Marital status (ref = single/widowed/divorced/separated)				
Married/co-habiting			0.9 (0.8-1.0)	0.003
SES (ref = highest)				
Low	1.1 (1.0-1.3)	0.023		
Lowest			0.8 (0.7-0.9)	<0.0001
TB screening during pregnancy*~ (ref = No)				
Yes	1.9 (1.8-2.0)	<0.0001		
Infant feeding counselling during pregnancy~ (ref = No)				
Yes	2.1 (1.7-2.5)	<0.0001		
Place of delivery~ (ref = home/other)				
Clinic	2.6 (1.5-3.8)	0.001		
Hospital	2.3 (1.8-3.1)	0.003		
Birth attendant (ref = doctor)				
Nurse/midwife/CHW	1.3 (1.2-1.4)	<0.0001		

RthB completeness 2011-12, 2012-13 defined as 4 indicators recorded:

- ✓ Infant birth weight,
- ✓ BCG immunization,
- ✓ Maternal syphilis
- ✓ Maternal HIV status

Maternal education and parity were not associated with completeness of the 4 health indicators

SUMMARY

- Completeness of the RtHB improved over time but remained unsatisfactory by 2012-13.
- Maternal-related factors (parity and knowledge of the modes of MTCT) associated with completeness.
- Healthcare provider-related factors (screening for TB, received infant feeding counselling, delivering at a clinic or hospital, having a nurse/midwife/CHW as birth attendant) associated with completeness.
- Improving user knowledge of the RtHB could improve completeness.

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