

APPRAISING THE COMPLETENESS OF ROAD-TO-HEALTH BOOKLETS AT ECD CENTRES IN EASTERN CAPE



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AN INTERDISCIPLINARY PERSPECTIVE

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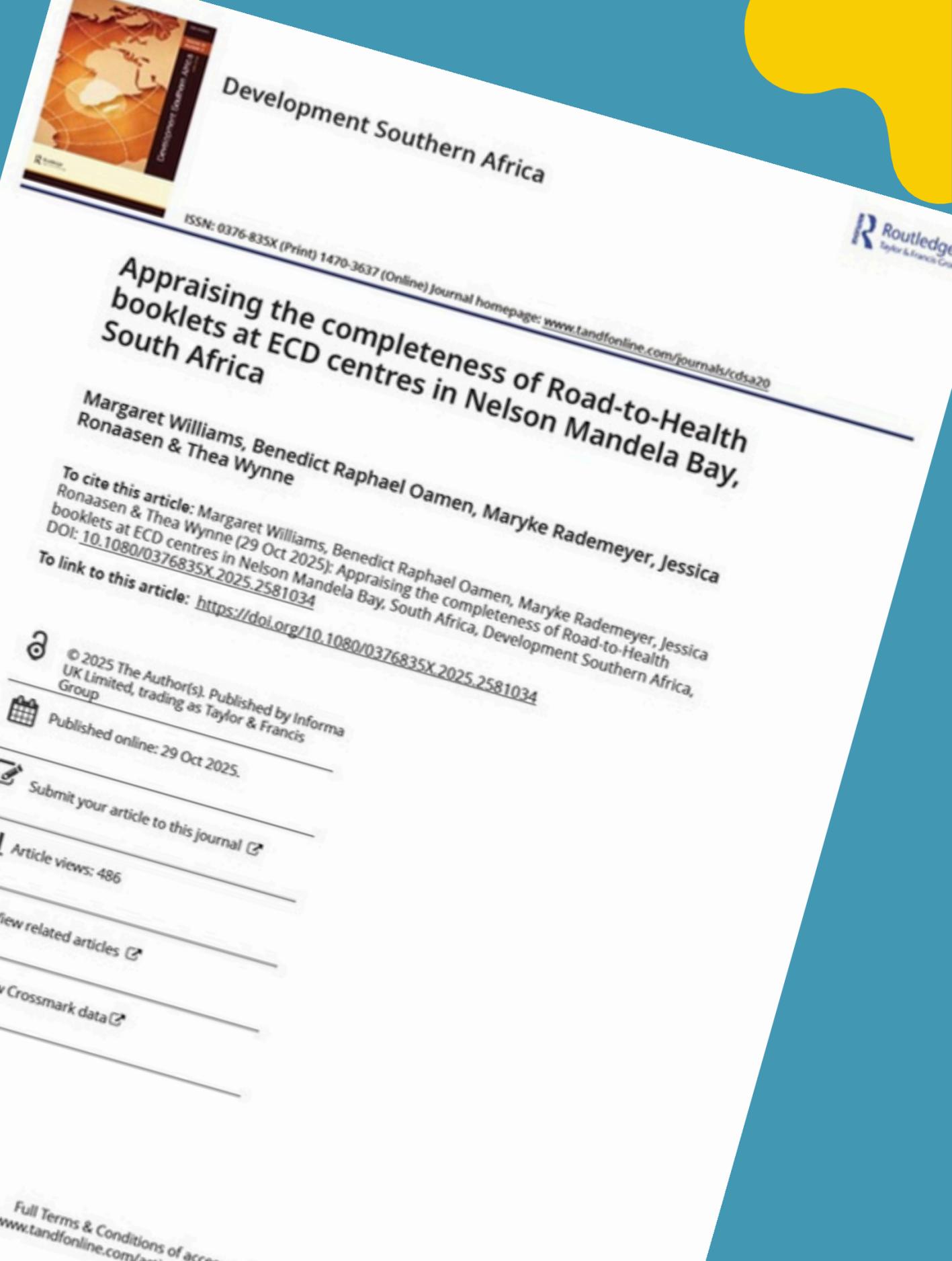
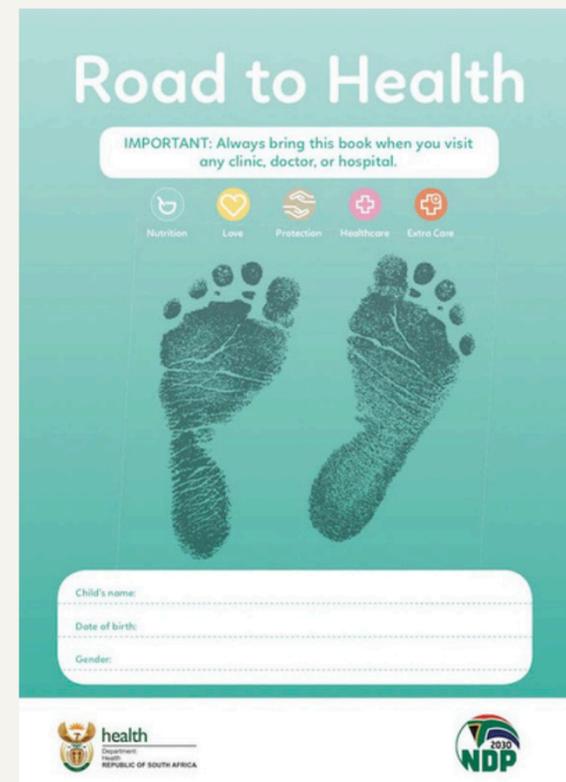
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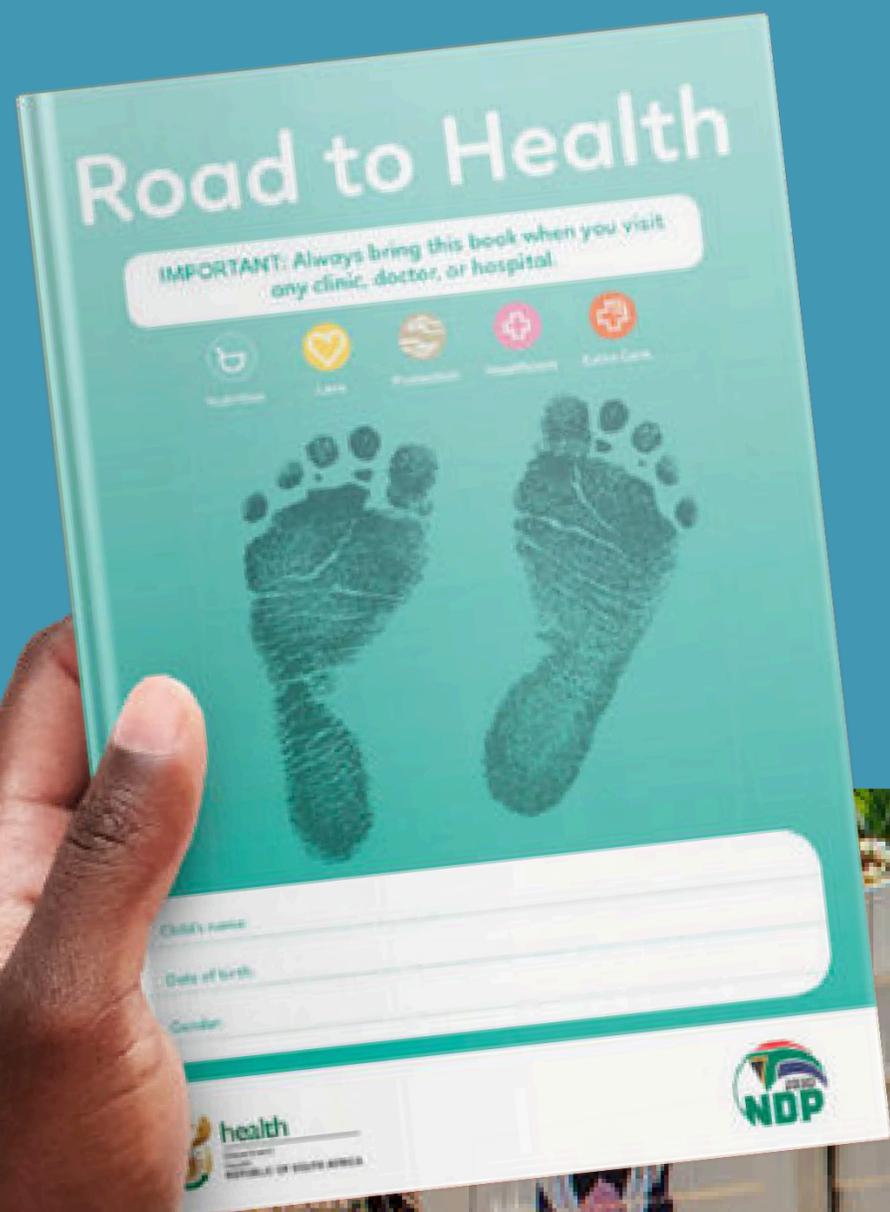
OVERVIEW & RESEARCH QUESTION

The current study aimed to determine the vaccination, vitamin A, and deworming and growth monitoring status by auditing RtHBs of children under five years of age at selected ECD centres in under-resourced communities in the Nelson Mandela Bay Health District (NMBHD) in the Eastern Cape, South Africa.



NATIONAL SCALED HEALTH INTERVENTION SIDE BY SIDE CAMPAIGN

- Track Growth over the children's birth - 6 years
- Early detection of growth faltering and stunting
- Continuity of care across services (developmental milestones)
- Caregiver empowerment and support with key messages on breastfeeding, complementary feeding and illness
- Data visibility for the health system



Nutrition



Love



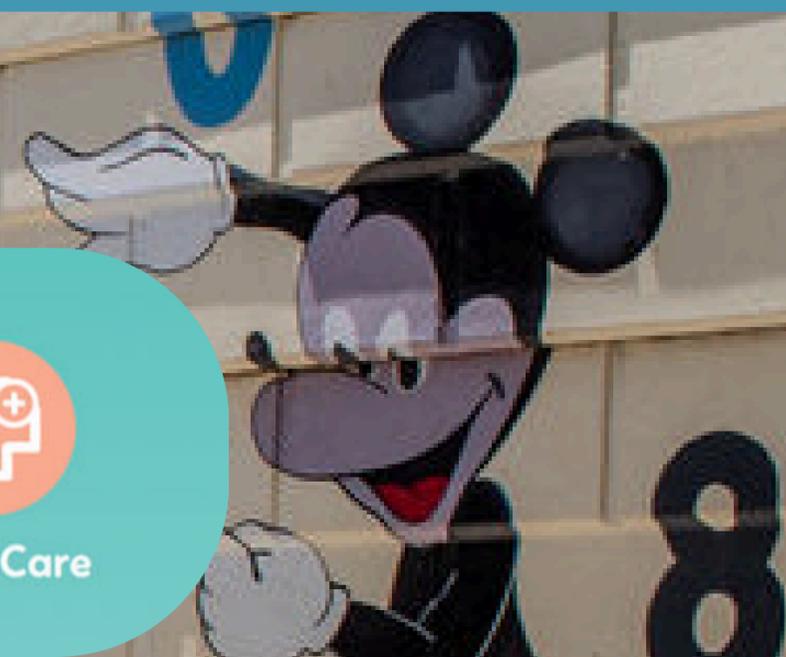
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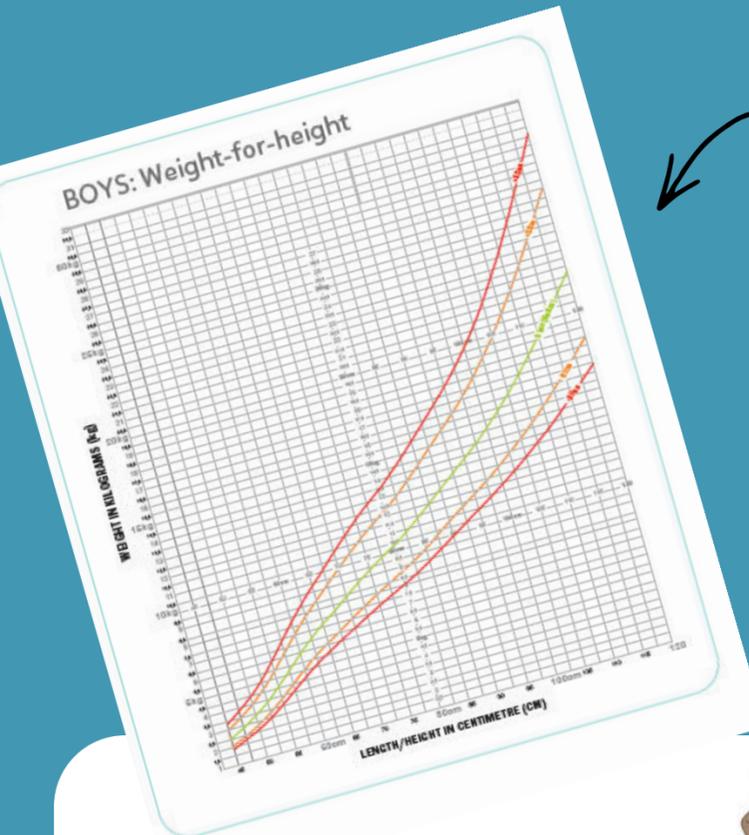


Healthcare

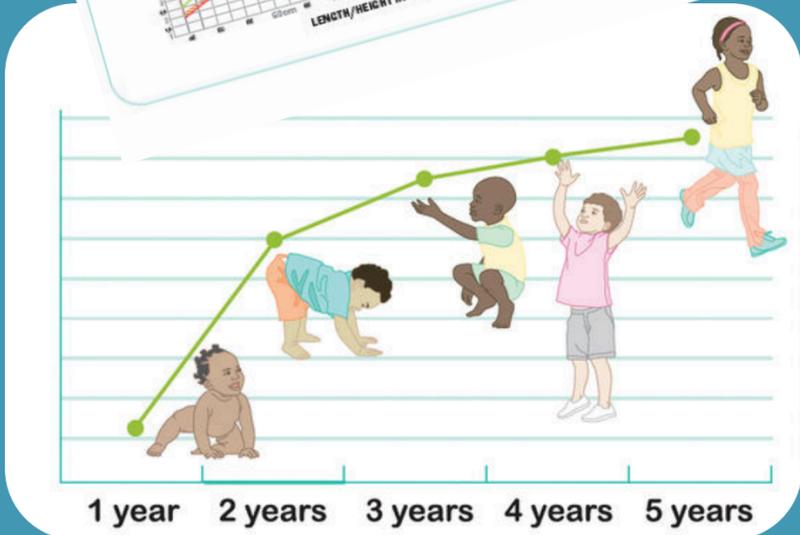


Extra Care





Record of:
 Weight reference
 Height reference
 Vaccinations dosage & Date
 Mid-upper arm circumference MUAC
 Developmental Screening
 Head circumference
 Vitamin A & Deworming



Practical Example

Nutritional Assessment

Date	Weight	Height	Interpretation (IMCI)	Action (if any)	Health worker name
16/02/17	2.9kg	48cm	Red, Yellow, Green	Routine GMP	M. Khoza
23/03/17	4.1kg		Red, Yellow, Green	Exclusive breastfeeding counselling RTHB pages 4&5	Z. Kubeka
20/04/17	5kg		Red, Yellow, Green	Exclusive breastfeeding. Discourage mixed feeding.	Z. Kubeka
22/05/17	5.8kg		Red, Yellow, Green	Encourage to continue exclusive breastfeeding	S. Myeza
24/06/17	6.4kg		Red, Yellow, Green	Praise mother (continued exclusive breastfeeding)	S. Myeza
25/07/17	6.9kg	72cm	Red, Yellow, Green	Breastmilk expression RTHB pg 4	G. Nkozi
26/08/17	7.3kg	75cm	Red, Yellow, Green	Praise mother	S. Myeza
25/09/17	6.2kg	76cm	Red, Yellow, Green	Growth faltering. Exclusive feeding practice. Complementary feeding message on RTHB pg6	S. Myeza

"Filled in Nutritional Assessment table"

This describes the action that must be taken to help the child.

Practical Example

Developmental screening

	Hearing/communication	Vision and adaptive	Cognitive/behaviour	Motor skills	Caregiver concerns
6 weeks					
10 weeks					
14 weeks	<input checked="" type="checkbox"/> Startles to loud sounds	<input checked="" type="checkbox"/> Follows face or close objects with eyes	<input checked="" type="checkbox"/> Smiles at people	<input checked="" type="checkbox"/> Holds head upright when held against shoulder	
Date <u>16/05/17</u>				<input checked="" type="checkbox"/> Hands are open most of the time	
Sign <u>S. Myeza</u>					
6 months	<input checked="" type="checkbox"/> Moves eyes or head in direction of sounds	<input checked="" type="checkbox"/> Eyes move well together (no squint)	<input checked="" type="checkbox"/> Laughs aloud	<input checked="" type="checkbox"/> Grasps toy in each hand	Caregiver concerned about hearing. This was confirmed in observation as well. Referred to Doctor Kubeka.
Date <u>03/08/17</u>	<input checked="" type="checkbox"/> Responds by making sounds when talked to	<input checked="" type="checkbox"/> Recognises familiar faces	<input checked="" type="checkbox"/> Uses different cries or sounds to show hunger, tiredness, discomfort	<input checked="" type="checkbox"/> Lifts head when lying on tummy	
Sign <u>S. Myeza</u>					
9 months	<input type="checkbox"/> Babbles ('ma-ma', 'da-da')	<input type="checkbox"/> Eyes focus on far objects	<input type="checkbox"/> Throws, bangs toys/objects	<input type="checkbox"/> Sits without support	
Date <u> / / </u>	<input type="checkbox"/> Turns when called		<input type="checkbox"/> Reacts when caregiver leaves, calms	<input type="checkbox"/> Moves objects from hand to hand	

"Filled in Developmental Screening table"

Practical Example

Vitamin A and deworming doses

	Vitamin A	Date	Signature	Mebendazole	Date	Signature
6 months	100 000IU	24/7/10	D. Jukwana			
12 months	200 000IU	31/1/11	P. Mazibuko	100mg bd for 3 days	31/1/11	P. Mazibuko
18 months	200 000IU	22/7/11	D. Jukwana	100mg bd for 3 days	22/7/11	D. Jukwana

Starting from 24 months, every child should receive Vitamin A and mebendazole every six months (up to 5 years of age).
 Record when these doses are given, and the return date below.

Vitamin A (200 000IU)			Mebendazole (500 mg stat)		
Date	Signature	Return date	Date	Signature	Return date
21/1/12	C. Ntswane	10/07/12			
29/12/12	C. Ntswane	01/07/13			

The healthcare worker will record the dates on which the child received each dose.

Deworming medicine

The healthcare worker will record the RETURN dates for the next doses.

"Filled Vitamin A and deworming dosage table"

WHAT WOULD COMPLETE LOOK LIKE?

Vitamin A and deworming

Vitamin A	Date	Signature	Mebendazole
100 000IU	10.01.18	[Signature]	100mg bd for 3 days
200 000IU	18/01/2024	[Signature]	100mg bd for 3 days
200 000IU	15/01/2024	[Signature]	100mg bd for 3 days

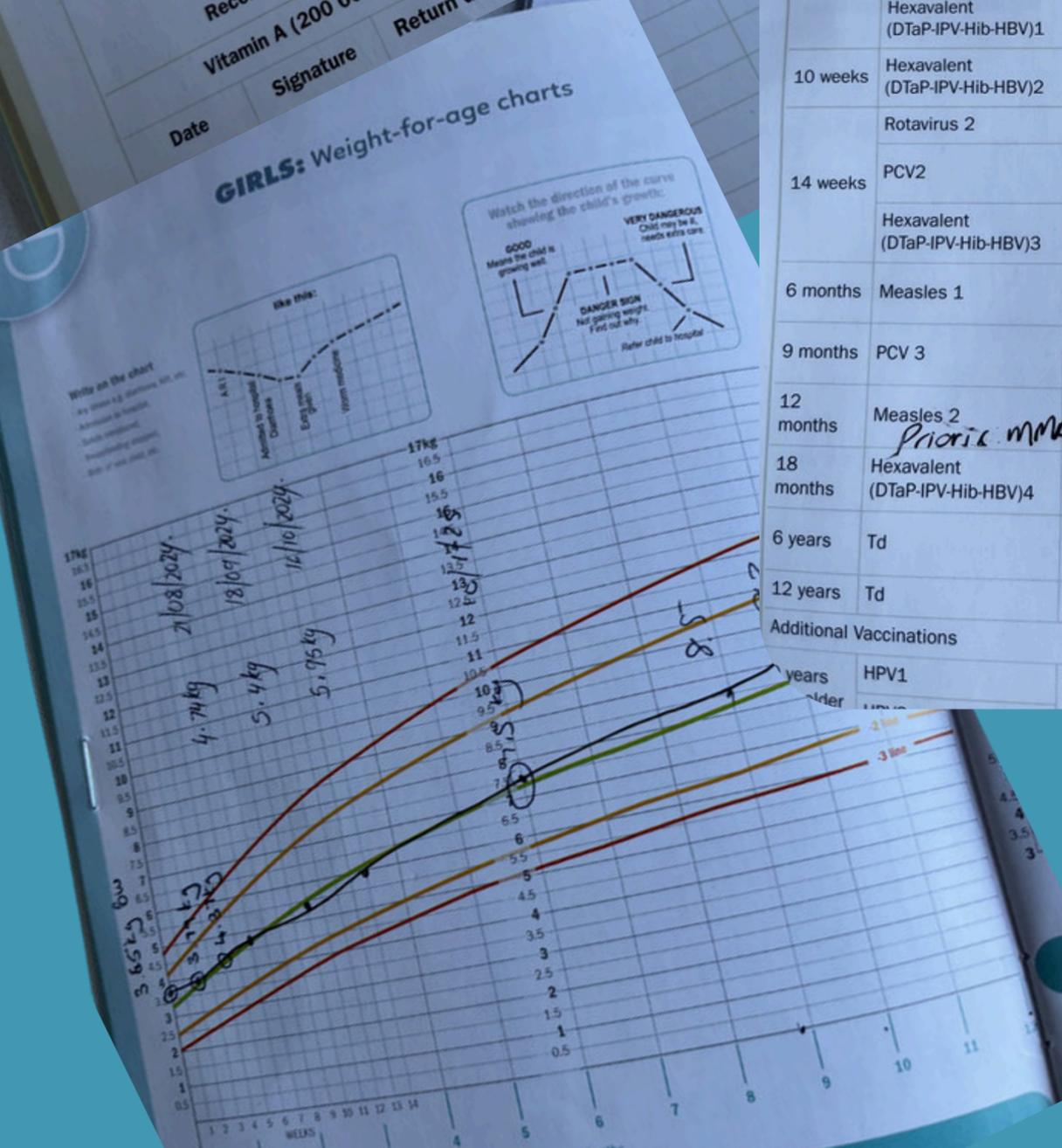
Starting from 24 months, every child should receive Vitamin A and mebendazole every six months (up to 5 years of age). Record when these doses are given, and the return date below

Vitamin A (200 000IU)

Date	Signature	Return date	Signature

Immunisations
EPI (Expanded Programme of Immunisation) Schedule

Child's Name	Child's Date of Birth	Age	Vaccine	Route & Site	Batch no.	Date given	Signature
		Birth	BCG	Intradermal Right arm	1000000003	11/01/2024	[Signature]
			OPV0	Oral	1000000003	11/01/2024	[Signature]
			OPV1	Oral	1000000003	21/01/2024	[Signature]
			Rotavirus 1	Oral	AA 21/01/2024	21/01/2024	[Signature]
		6 weeks	PCV1	IM Right thigh		21/08/2024	[Signature]
			Hexavalent (DTaP-IPV-Hib-HBV)1	IM Left thigh		21/01/2024	[Signature]
		10 weeks	Hexavalent (DTaP-IPV-Hib-HBV)2	IM Left thigh		18/01/2024	[Signature]
			Rotavirus 2	Oral	AA 10/01/2024	10/01/2024	[Signature]
		14 weeks	PCV2	IM Right thigh		16/01/2024	[Signature]
			Hexavalent (DTaP-IPV-Hib-HBV)3	IM Left thigh		16/01/2024	[Signature]
		6 months	Measles 1	S/C Right thigh		10.01.2024	[Signature]
		9 months	PCV 3	IM Right Thigh		20/10/2024	[Signature]
		12 months	Measles 2	S/C Right arm		10/01/2024	[Signature]
		18 months	Hexavalent (DTaP-IPV-Hib-HBV)4	IM Left arm		15/10/2024	[Signature]
		6 years	Td	IM Left arm			
		12 years	Td	Left arm			
Additional Vaccinations							
		years	HPV1	IM Non-			



Age	Date	Feeding advice p4	Growth monitoring p23	Development p23	Head circumference p25	Immunisation p27	Vitamin A p28	Deworming p28	Oral Health p29	TB screen p40	Consider HIV p40	Next date
3-6 days												
6 weeks												
10 weeks												
14 weeks												
4 months												
5 months												
6 months												
7 months												
8 months												
9 months												
10 months												
11 months												
12 months												
14 months												
16 months												
18 months												
20 months												
22 months												
2 years												
2 and a half years												
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20 years												

**WHAT WOULD COMPLETE LOOK LIKE
THE DATA WILL TELL US MORE**

*shared with permission



SETTING THE SCENE IN SOUTH AFRICA



1 in 4 children in South Africa are stunted.



Growth faltering often begins before it is visible or recognised and by the time its visible we have a problem.



Growth monitoring is one of the few early warning systems we already have. The nature of nurturing care is that this is not just a health issue.



While we might assume Implementation gaps in services, this study shows us these implementation gaps and presents the opportunity to respond.

POSITIONING CONCEPTS AS OPPORTUNITIES FOR INTERDISCIPLINARY WORK

Concept		Description	Source
Road to Health Book	Tool	<p>Part of the National Side by Side Campaign</p> <p>RTHB given to to caregivers after birth of each child</p> <p>Monitoring/ education tool used for child’s health and development – screening tool for stunting, growth measurements, immunisations, Vitamin A, deworming + other factors including HIV and TB status and oral health.</p> <p>Often collected annually by ECD centres or upon admission.</p>	Win, 2016; Kitenge & Govender, 2013, Mabesa et al, 2022; Naidoo et al, 2018; Win, 2016
Malnutrition	Nutritional Status	<p>Malnutrition: over-or undernutrition Undernutrition : stunted, wasted or underweight; World, African and South Africa prevalence. Stunting continues to be present in young children at centre level.</p> <p>Nutrition and hunger issues are on the rise and often children are sent to school knowing there is feeding occurring.</p>	Govender et al, 2021; Mabesa et al, 2022; Govender et al, 2021; Mabesa et al, 2022
Growth monitoring	Skill & Intervention	<p>Growth measurements are essential to establish child’s nutritional status and plan required intervention</p> <p>3 important measurements: height-for-age; weight-for-height; weight-for-age.</p> <p>Routinely conducted by health care workers.</p>	Kitenge & Govender, 2013, Mabesa et al, 2022; Naidoo et al, 2018; Win, 2016
Immunisation, Vitamin A and deworming	Area of child health / intervention	<p>The Expanded Programme on Immunisation in South Africa part of RtHB, listing which vaccinations are needed and when. Studies widely showcase that a Drop-off rate occurs between predetermined checks (9-18 months)</p>	Naidoo et al, 2013; Win, 2016

FRAMEWORK AND METHODS

01

Design: Quantitative, cross-sectional document review

Sample: 1,337 RtHBs from 85 ECD centres

Setting: Two sub-districts, Nelson Mandela Bay

Tool: Structured audit checklist aligned to RtHB

Analysis: Descriptive statistics (frequencies, means, SDs)

Table 1. Distribution of ECD centres and the RtHBs per sub-district.

Sub-district	Number of ECD centres	Number of RtHBs
A	50	842
B	0	0
C	35	495
Total	85	1337

Why ECD centres?

They are one of the key community spaces where children, caregivers, and their records converge outside clinic settings.

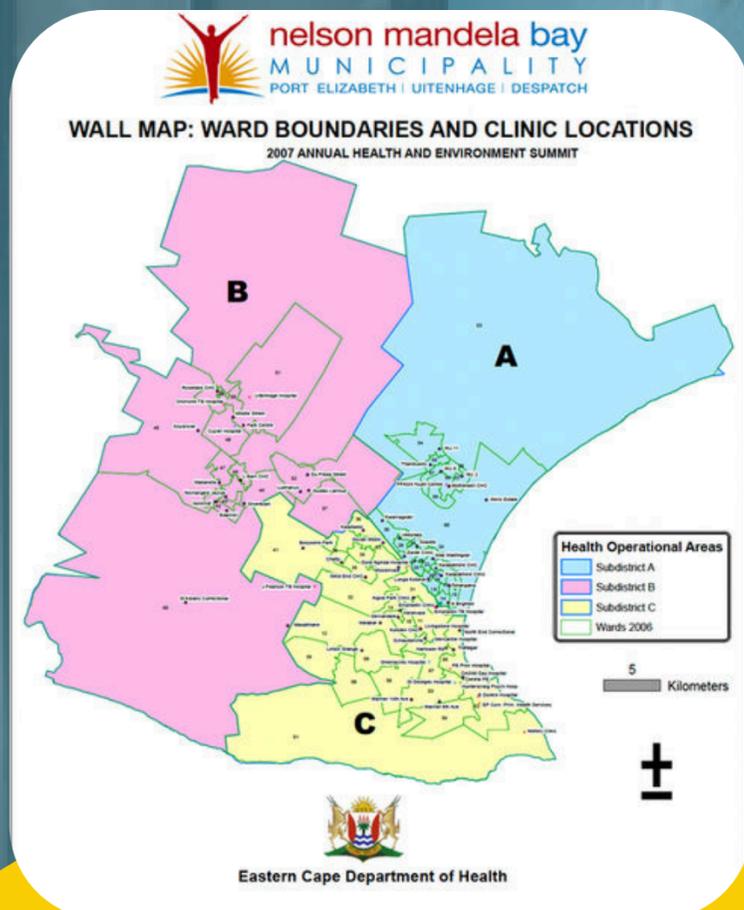


Table 3. Weight and height recorded, and weight-for-height graphs completed.

Vaccination dates	Height recorded						Weight recorded					
	No		Yes		Total		No		Yes		Total	
Birth date	432	33%	888	67%	1320	100%	270	20%	1050	80%	1320	100%
Six Weeks	1274	96%	47	4%	1321	100%	456	35%	865	65%	1321	100%
Ten Weeks	1273	97%	37	3%	1310	100%	480	37%	830	63%	1310	100%
Fourteen Weeks	1282	97%	37	3%	1319	100%	496	38%	823	62%	1319	100%
Six Months	1244	97%	32	3%	1276	100%	794	62%	482	38%	1276	100%
Nine Months	1228	96%	49	4%	1277	100%	536	42%	741	58%	1277	100%
Twelve Months	1202	98%	24	2%	1226	100%	746	61%	480	39%	1226	100%
Eighteen Months	1127	97%	33	3%	1160	100%	531	46%	629	54%	1160	100%
Graphs completed accurately throughout												
	No		Yes		Total							
Weight graph	898	68%	422	32%	1320	100%						
Height graph	1268	96%	50	4%	1318	100%						
Weight-for-length/height graph	1279	97%	41	3%	1320	100%						

Table 4. Vaccinations, Deworming and Vitamin A Administered.

		No	>21 days	15–21 days	8–14 days	1–7 days	Same day	Total
At birth	BCG	35 3%	25 2%	12 1%	45 3%	801 60%	419 31%	1337 100%
	OPV 0	28 2%	18 1%	10 1%	43 3%	814 61%	424 32%	1337 100%
		No	3+ weeks late	2 weeks late	1 week late	Within 2-week target window	Too early	Total
6 weeks	OPV 1	23 2%	50 4%	29 2%	107 8%	1097 82%	31 2%	1337 100%
	RV 1	21 2%	48 4%	30 2%	108 8%	1097 82%	33 2%	1337 100%
	DTaP-IPV-Hib-HepB 1	23 2%	49 4%	29 2%	105 8%	1102 82%	29 2%	1337 100%
10 weeks	PCV 1	20 1%	50 4%	31 2%	109 8%	1097 82%	30 2%	1337 100%
	DTaP-IPV-Hib-HepB 2	27 2%	126 9%	67 5%	188 14%	915 68%	14 1%	1337 100%
14 weeks	RV 2	27 2%	208 16%	104 8%	212 16%	749 56%	36 3%	1336 100%
	DTaP-IPV-Hib-HepB 3	24 2%	239 18%	103 8%	213 16%	741 55%	16 1%	1336 100%
	PCV 2	33 2%	220 16%	105 8%	214 16%	747 56%	17 1%	1336 100%
6 months	Measles Vaccine 1	61 5%	886 66%	23 2%	64 5%	271 20%	32 2%	1337 100%
9 months	PCV 3	60 4%	336 25%	69 5%	128 10%	690 52%	54 4%	1337 100%
12 months	Measles Vaccine 2	111 8%	869 65%	25 2%	63 5%	253 19%	16 1%	1337 100%
18 months	DTaP-IPV-Hib-HepB 4	177 13%	389 29%	65 5%	121 9%	484 36%	101 8%	1337 100%
Deworming		Vitamin A						
No	541 58%	387 42%						
Yes	390 42%	545 58%						
Total	931 100%	932 100%						



RESULTS: WHAT WAS COMPLETED WELL ACCORDING TO THE APPRAISAL



Birth weight: Recorded in 80%
Early vaccinations: consistently documented.



What does this mean in reality for these children?

The system performs best and well documented at birth and early infancy.

RESULTS: WHAT ISNT GOING WELL ACCORDING TO THE APPRAISAL



Documentation declines as children get older.

Length or height recorded in less than 5% after infancy



Weight-for-length or height graphs absent
Growth charts completed was very low (3%)



In some places they record weight but not height. Missing data. We should not be assuming growth.



In reality, this means that recording weight only is not going to find stunting or malnutrition.



These are the critical indicators for detecting stunting.
Vaccination, Vitamin A, Deworming
Vaccination:
Vitamin A: 58% recorded
Deworming: only 42% recorded

We can talk about incompleteness
Missed documentation represents missed prevention opportunities for preventing malnutrition.

The statistics speak for themselves
Because weight is the focus, and height measures (3%) are neglected, we miss the opportunity to detect. Often not plotted or recorded. We can't see trends.



What This Means for Early Learning

- Growth monitoring
- Incomplete data creates hidden developmental risk
- Height and weight together reveal early stunting
- ECD centres can actively review the Road to Health Booklet
- Centres can strengthen referral, caregiver engagement, and early identification
- Learning spaces can function as protective health hubs

WE SHOULD TALK ABOUT POLICY & PRACTICE IMPLICATIONS



Role and use of the RtHB as a scalable tool
Inadequate recording practices by health care system resulting in incomplete Rthb it fails to support preventing malnutrition and the reach potential is missed



Height for weight indicator needing to be prioritised for diagnostics of stunting as per WHO mandates.



WE SHOULD TALK ABOUT POLICY IMPLICATIONS



Empowering Caregivers and Professionals: through training focussed n the Rthb accurate completion. Training gaps in growth measurement and interpretation.



National Nutrition Guidelines for ECD Programmes Training Manual and Toolkit



Policy

RtHB is designed as an integrated tool, but usually implemented in silos. DBE and DSD policy and guidelines could draw in this tool

Infant and young child policies should continue to prioritise (IYCF update 2013)



AND WHERE ARE THE PRACTICAL OPPORTUNITIES



Health system

Nurses can take a proactive approach towards completeness and ensure weight and length are captured and charted.



Caregivers

Perceived as record holders, but not fully empowered as users with agency
Limited support to interpret or question missing data.
Caregiver education continues to yield results in completeness.

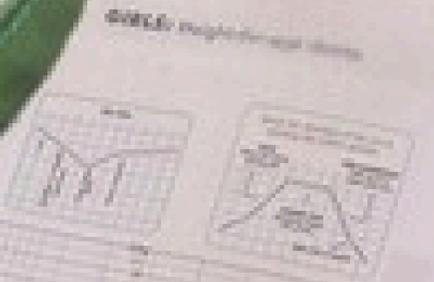


ECD centres (Basic Education)

Underutilised as sites for early identification and referral.
Potential hubs for caregiver education and record checking.
Roadshows and community based outreach Initiative.



Height Chart



REFERENCES

- Govender, I., Rangiah, S., Kaswa, R. and Nzaumvila, D., 2021. Malnutrition in children under the age of 5 years in a primary health care setting. *South African Family Practice*, 63(1).
- Kitenge, G. and Govender, I., 2013. Nurses' monitoring of the Road to Health Chart at primary healthcare level in Makhado, Limpopo province. *South African Family Practice*, 55(3), pp.275-280.
- Mabesa, T., Knight, S. and Nkwanyana, N., 2022. Completeness of the road-to-health card and factors affecting knowledge and practices of growth monitoring and promotion in caregivers of young children in KwaZulu-Natal. *South African Journal of Clinical Nutrition*, pp.1-9.
- Naidoo, H., Avenant, T. and Goga, A., 2018. Completeness of the Road-to-Health Booklet and Road-to-Health Card: Results of cross-sectional surveillance at a provincial tertiary hospital. *Southern African Journal of HIV Medicine*, 19(1).
- Win, T. 2016. An assessment of the 'road-to-health-booklet' based on knowledge/perceptions of the clinic nurses and conduct a record review of the completion of the booklets: University of the Witwatersrand.