Improving the Availability and Use of Home-Based Records: challenges and lessons learned

Annual West Africa EPI Managers' Meeting

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JSI
John Snow, Inc.

Presentation Outline

1. Definition of terms
2. Context
3. Card/Home-Based Record Users
4. Summary of country HBR revision experiences (Nigeria, Liberia, Benin, DRC)
5. Needs/Suggestions for improvements
6. Lessons learned

Definition of terms

The Home-Based Record (HBR) is known by various names:

- Vaccination card, child health book, road-to-health card, child health passport, infant immunization record, carnet de santé, carte de vaccination, le bon chemin de la santé etc….

The Home-Based Record is:

- A medical document (usually in hard copy but sometimes electronic).
- Delivered by medical personnel (at national, provincial or operational level).
- A historic record of services/care administered to an individual (e.g. vaccinations) by the health system.
- Kept in the household by the beneficiary or his/her parent or caregiver.

Context

- Efforts to improve the design, availability and use of HBRs for immunization have been financed by the Bill et Melinda Gates Foundation (including technical support being provided by JSI globally and for lessons in a few countries: Benin, DRC, Zimbabwe, Nepal).
- In addition to support for redesign, the focus also includes identification of low cost interventions that can contribute to improving the availability and use of HBRs.
- Challenges and lessons learned from this support.

When widely available and effectively used, home-based records provide…

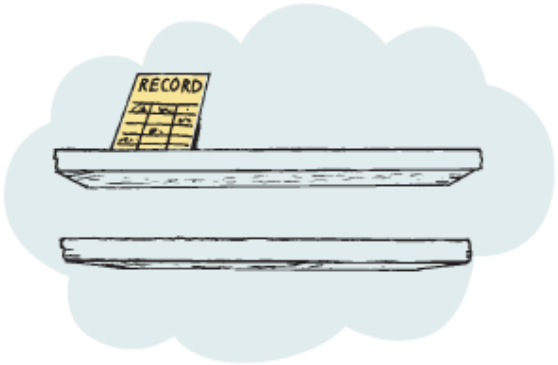
Care Reminders
A record of the care given and a reminder for future health care

Continuity of Care
A way to provide effective continuous care for health care workers.

Evidence of Services
A source of individual patient data to cross check during national surveys

Reduced Inefficiency
Data that reduces unnecessary re-vaccination and minimizes missed opportunities for vaccination

When undervalued, home-based records cannot function as a critical data tool:



Supply & Stock Outs

They are not readily available in the right place, right time and right quantity.

Under Utilized

They are not valued, retained and used by caregivers to support healthcare decisions.

Poor Functional Design

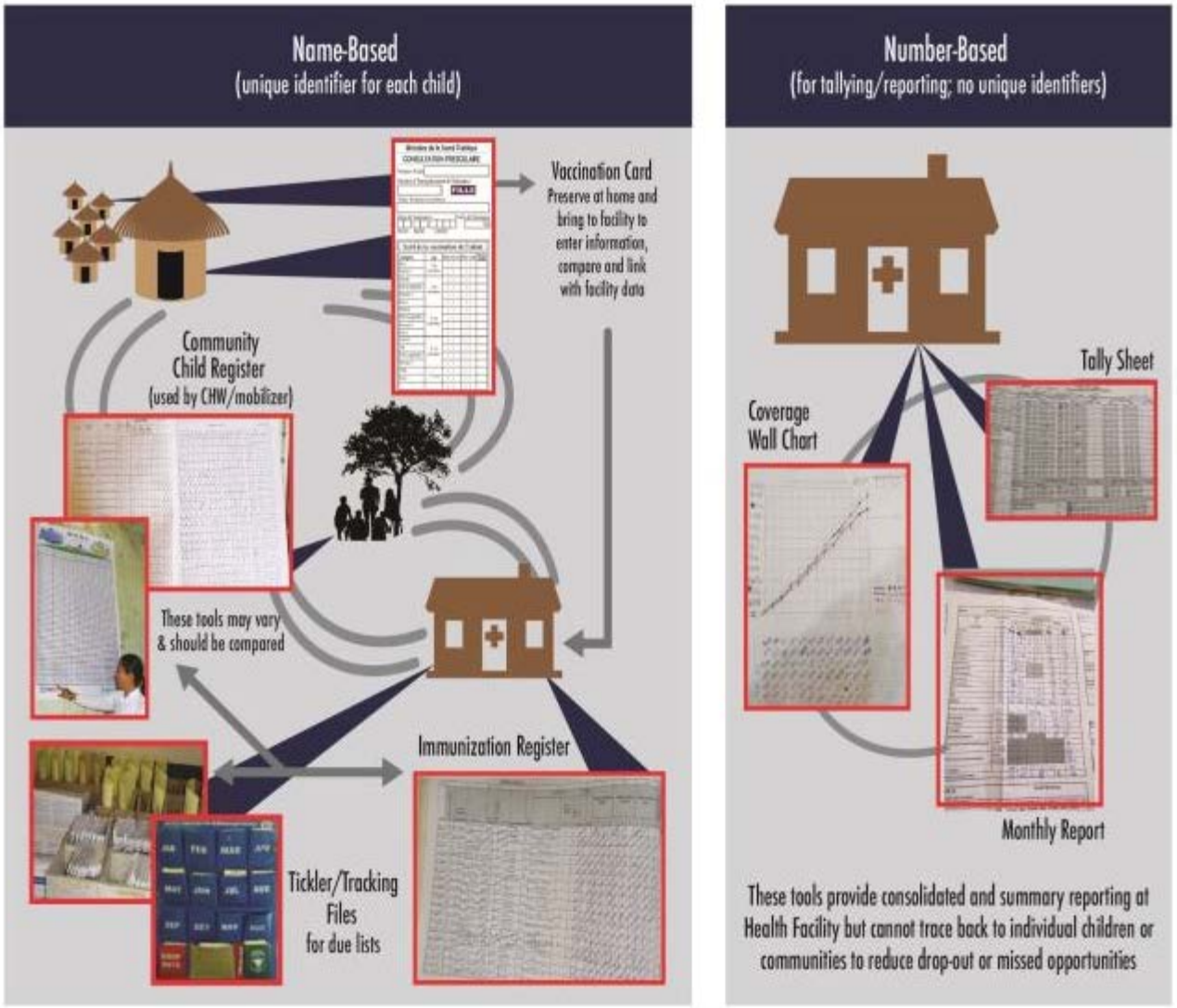
The design is ineffective, failing to prioritize recording and information needs.

The HBR is one of several name-based and number-based tools used in EPI to monitor and report vaccination targets

Each of these tools plays an important role; but the HBR is an important name-based tool linking health centers, the community and the household (parents).

Good use of all of these tools enables data triangulation and quality improvement

Data Triangulation (with HBR)



graphic created by JSI

These tools and formats may vary between countries.

Although some tools may contain similar information, each tool provides distinct information that assists with data consolidation and reporting by name and/or number.

This graphic provides a visual representation of how these tools inter-relate and are complementary.

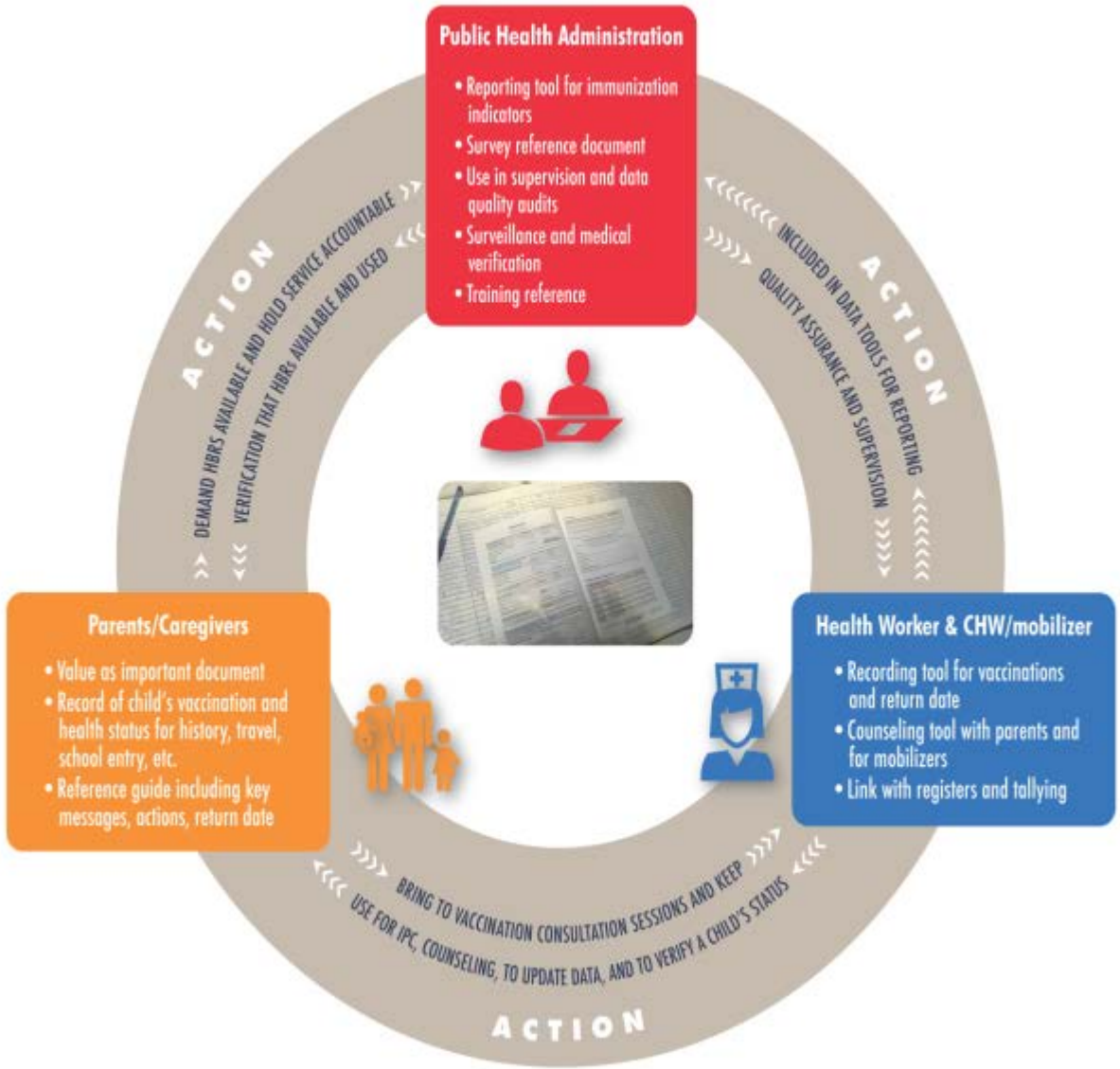
HBR Users

To play its role, the HBR should:

1. Be available on time and in sufficient quantities at the service delivery level

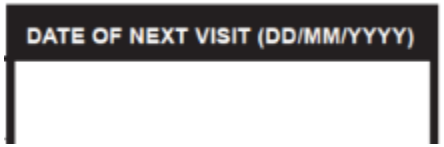
2. Adopted, valued, and conserved by parents

3. Correctly used by health workers

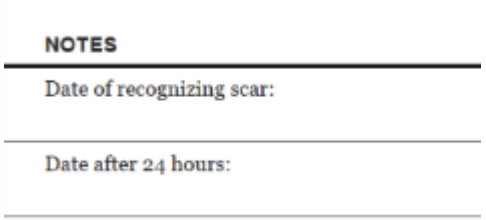


Consider these design guidelines when critiquing the effectiveness of a home-based record.

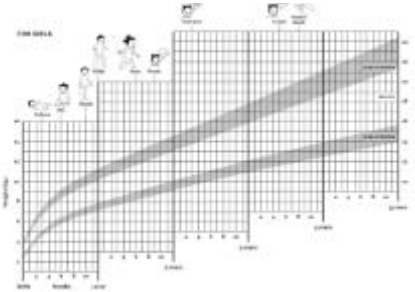
01 / Offer information hierarchy that accounts for needs of multiple users



02 / Make the 'date of next vaccination' highly visible

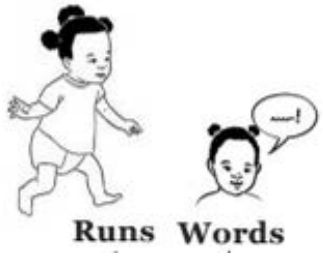


03 / Provide space for notes
& additional vaccinations



04 / Consider color, contrast, and format for reproduction

05 / Make the record recognizable as an official health document

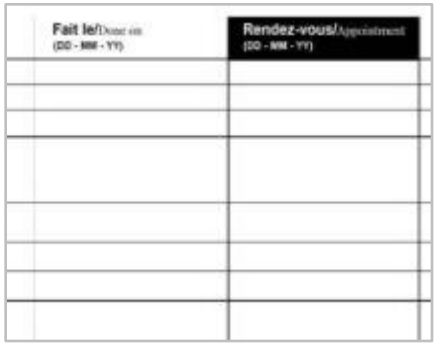


06 / Use illustration and imagery to support text descriptions

Prototypes Overview

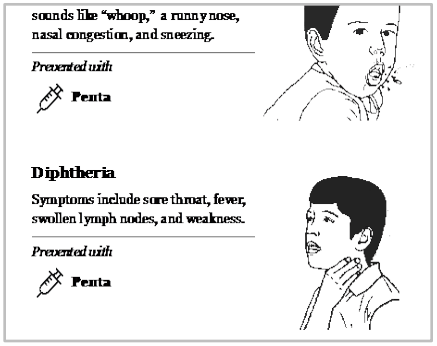
Salesforce × The Bill & Melinda Gates Foundation

A few key design decisions emerged at the workshop



Improved information hierarchy for caregivers and health workers

Teams grouped similar information, prioritized it and adjusted its flow to optimize the HBRs use for caregivers and health workers.



Added visuals to assist with disease and vaccination explanation

Teams added illustrations around vaccination and disease symptoms
to help bridge the literacy gap and communicate important information
to caregivers.

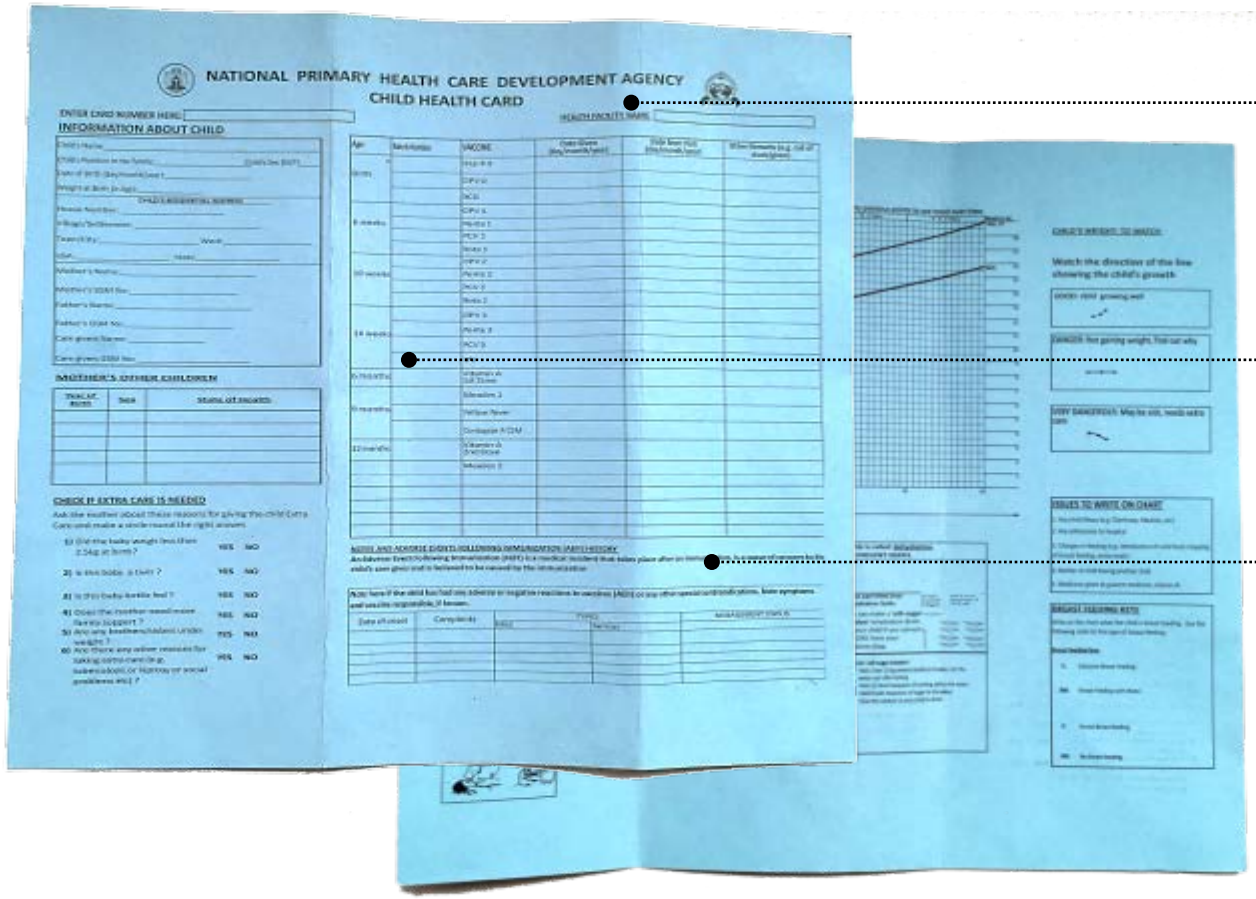
Expressing value and importance of cards to families and caregivers

Teams added messaging and imagery (e.g., fully immunized stamp) throughout each record that help increase the value for families
and caregivers.

Considered usability of the HBR's form factor

Teams reconsidered and redesigned the form factor of their cards to make cards easier to handle and/or accommodated additional information.

Nigeria: Original Record



Unclear folds impede legibility
Writing and tables fall over the fold lines, making it unclear how to fold and store
the record. In addition, folds get worn over time making it difficult to read the underlying text.

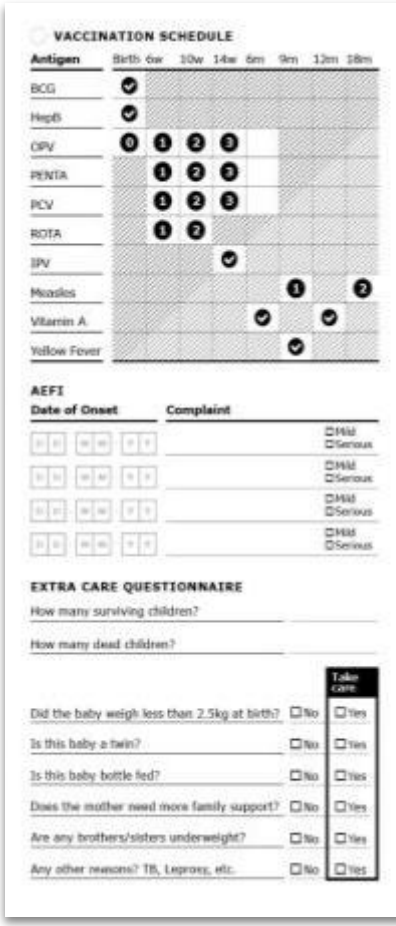
Empty data fields
Lengthy data fields like batch number are time consuming and rarely get filled out.

Small text is difficult to read
The font size it too small to read, especially in poor lighting conditions or without glasses.

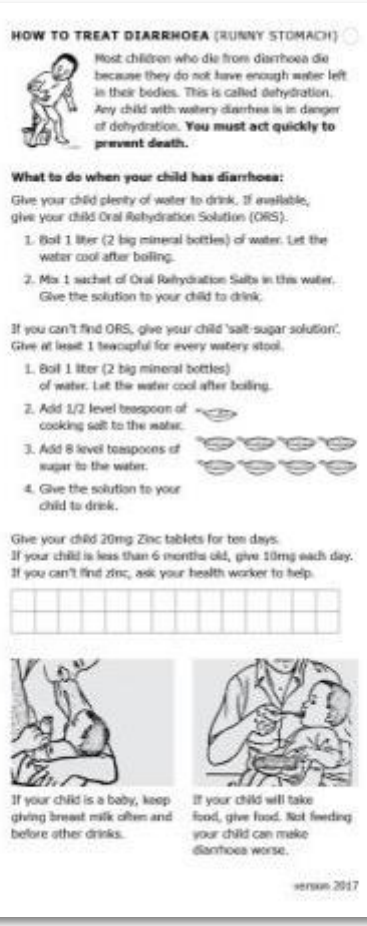
Nigeria:

Revised Record

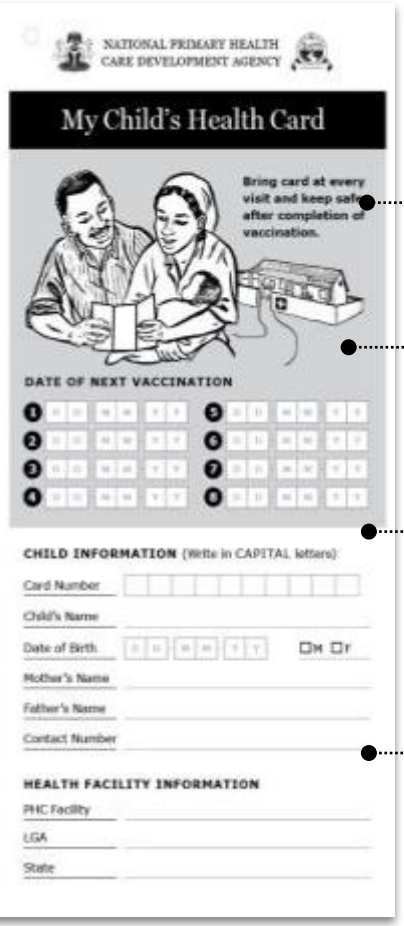
Trifold (outside)



Back Panel



Front Cover



Different information for different users
The outside of the card has information tailored to the caregiver, while the inside of the card is tailored to the health worker.

Visual messaging for caregivers
Visuals help caregivers who cannot read understand the contents and importance of the record.

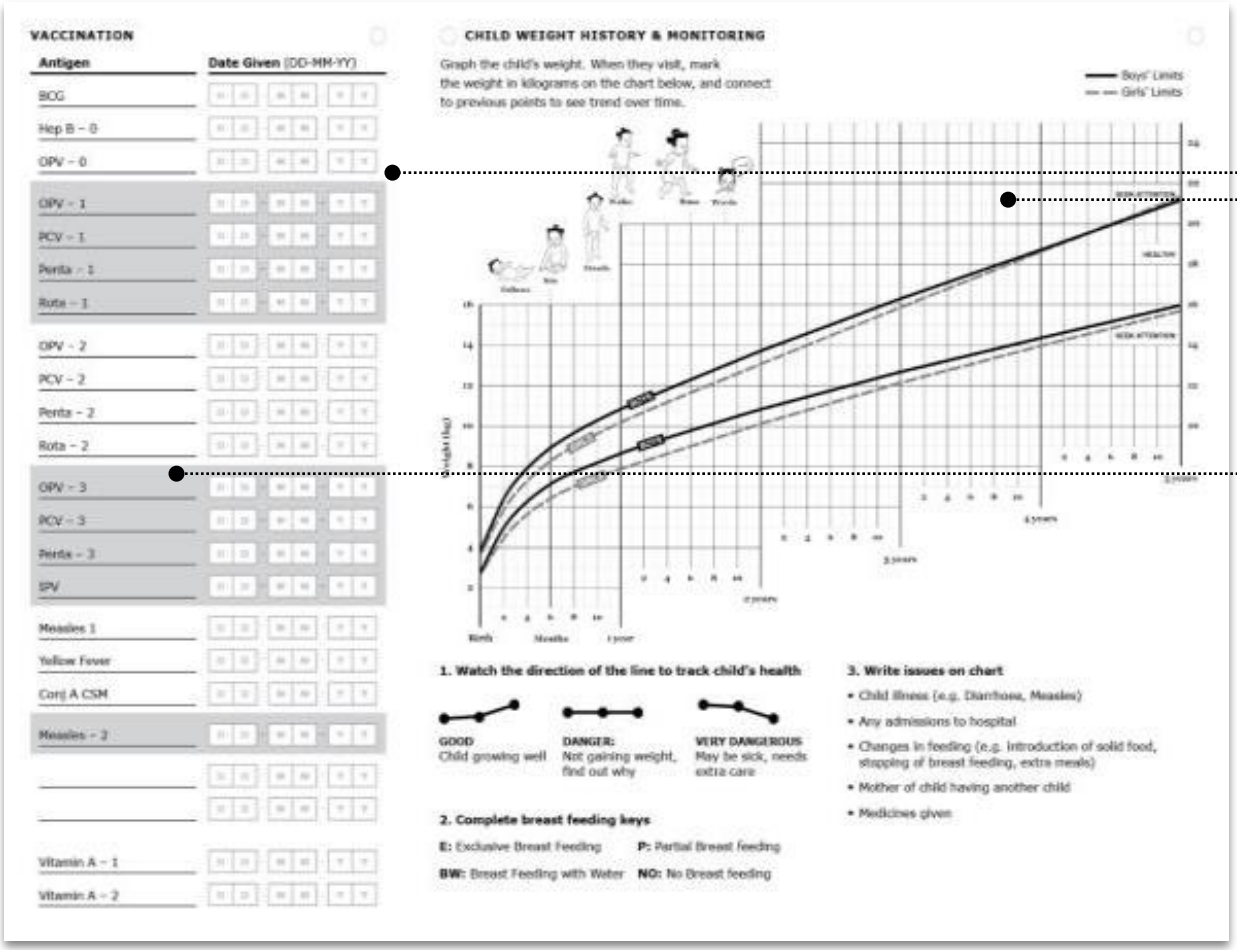
Hierarchy based on user needs
Caregivers need to know the date of their child's next vaccination, which is now clearly indicated on the cover of the record.

Improved usability
Reading the handwriting of another health worker is difficult and often leads to incorrect data. Clear instructions on how to fill forms help prevent errors.

Removed irrelevant information
Information like the child's address was removed to make space for more important information like the address of the health facility to return to.

Nigeria: Revised Record

Trifold (inside)



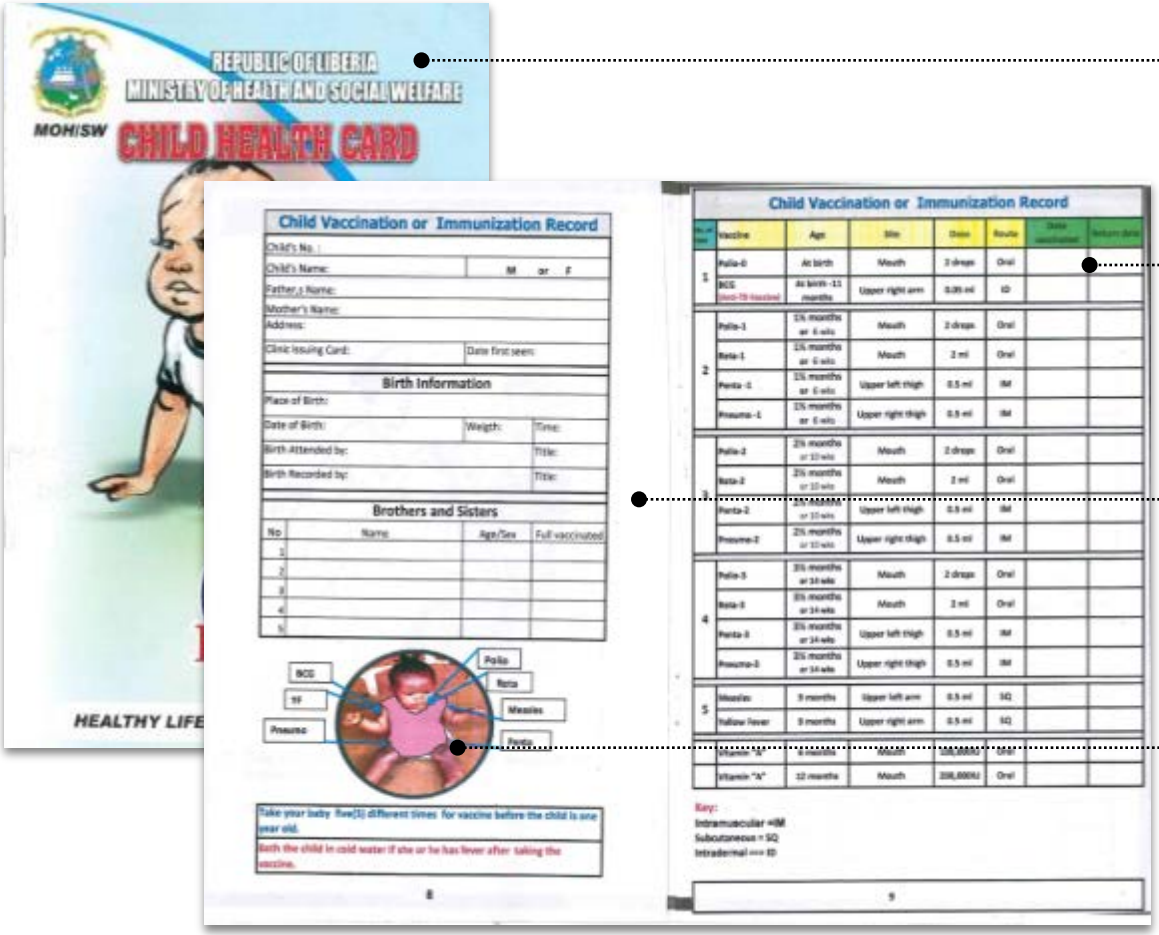
Improved usability

Input boxes for dates make it easier to read anothers' handwriting and a more clearly drawn growth chart is easier for the health worker to complete.

Organized by schedule, not by antigen

The antigens are organized by schedule given rather than antigen type, helping the health workers and caregivers know where they are at in the the schedule.

Liberia: Original Record



Expensive to produce
The large, color booklet is more expensive to produce than a more basic card.

Combined vaccination schedule and record
Information in the schedule is not tailored by user, making it easy for caregivers to overlook important information like return date.

Lack of information hierarchy
An unclear hierarchy of sections on the card makes it difficult to distinguish between types of information.

Unclear illustrations
Illustrations are not clear and are sometimes confusing to illiterate mothers.

Liberia: Revised Record

Fold

VACCINATION SCHEDULE

Vaccine	Dose	Route	Birth	6 WK	10 WK	14 WK	9 MO
Polio *fights polio*	2 drops	Oral	✓	✓	✓	✓	
BCG (up to 11 mo)‡ *fights tuberculosis*	0.05 ml	ID	✓				
Rota *fights diarrhea*	2 drops	Oral		✓	✓	✓	
Penta *fights pertussis, diphtheria, tetanus, hepatitis b, etc.*	0.5 ml	IM		✓	✓	✓	
Pneumo *fights pneumonia*	0.5 ml	IM		✓	✓	✓	
Measles *fights measles*	0.5 ml	SQ					✓
Yellow Fever *fights yellow fever*	0.5 ml	SQ					✓

ID - Intradermal
IM - Intramuscular
SQ - Subcautaneous

CHILD FULLY IMMUNIZED

Date DD / MM / YYYY

Signature _____

STAMP GOES HERE

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VACCINATION RECORD

VACCINE	DATE RECEIVED	RETURN DATE
Oral Polio 0	DD / MM / YYYY	DD / MM / YYYY
BCG (Anti-TB)	DD / MM / YYYY	DD / MM / YYYY
Oral Polio 1	DD / MM / YYYY	DD / MM / YYYY
Rota 1	DD / MM / YYYY	DD / MM / YYYY
Penta 1	DD / MM / YYYY	DD / MM / YYYY
Pneumo 1	DD / MM / YYYY	DD / MM / YYYY
Oral Polio 2	DD / MM / YYYY	DD / MM / YYYY
Rota 2	DD / MM / YYYY	DD / MM / YYYY
Penta 2	DD / MM / YYYY	DD / MM / YYYY
Pneumo 2	DD / MM / YYYY	DD / MM / YYYY
Oral Polio 3	DD / MM / YYYY	DD / MM / YYYY
Penta 3	DD / MM / YYYY	DD / MM / YYYY
Pneumo 3	DD / MM / YYYY	DD / MM / YYYY
IPV	DD / MM / YYYY	DD / MM / YYYY
Measles	DD / MM / YYYY	DD / MM / YYYY
Yellow Fever	DD / MM / YYYY	DD / MM / YYYY
Vitamin A 1	DD / MM / YYYY	DD / MM / YYYY
Vitamin A 2	DD / MM / YYYY	DD / MM / YYYY

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Smaller books save money
Reducing the overall size of the book saves money on production costs, helping to alleviate funding problems and stock outs.

Improving usability
By separating the vaccination schedule from the record, there is more space to clearly record vaccination information.

Adequate space for additional vaccines
Reorganized content to make room for separate vaccination related tables. Moving these to their own spread also ensured that there would be adequate space for writing.

Provide value and show accomplishment
A stamp or seal indicates when full immunization has been achieved, providing a sense of accomplishment and value to both the caregiver and health worker.

Liberia: Revised Record

VACCINATION MESSAGING

Pertussis

Symptoms include a cough that sounds like "whoop," a runny nose, nasal congestion, and sneezing.

Prevented with

Penta

Diphtheria

Symptoms include sore throat, fever, swollen lymph nodes, and weakness.

Prevented with

Penta

Hepatitis B

Symptoms are variable and include yellowing of the eyes, abdominal pain, and dark urine. Some people, particularly children, don't experience any symptoms.

Prevented with

Penta

8

Fold

VACCINATION MESSAGING

Tetanus

Tetanus is a potentially fatal bacterial infection that affets the nerves. A vaccine can easily prevent the infection, which has no cure.

Tetanus causes painful muscle contractions, particularly in the jaw and neck. It can interfere with the ability to breathe, eventually causing death.

Prevented with

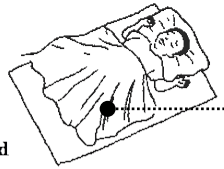
Penta

Haemophilius Type B

Hib may cause diseases such as meningitis (inflama tion of the coverings of the brain and spinal column), bloodstream infections, pneumonia, arthritis and infections of other parts of the body.

Prevented with

Penta



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Visual explanation of diseases

A visual explanation of diseases helps to bridge the illiteracy gap and allows caregivers to know what each immunization protects against.

Wash fruits, vegetables with clean water before eating.

Treat the drinking water with chlorine.

Updated illustrations

Clear illustrations are important aids for communicating to those who can't read. The team plans to test and iterate these illustrations based on feedback from caregivers and health workers.

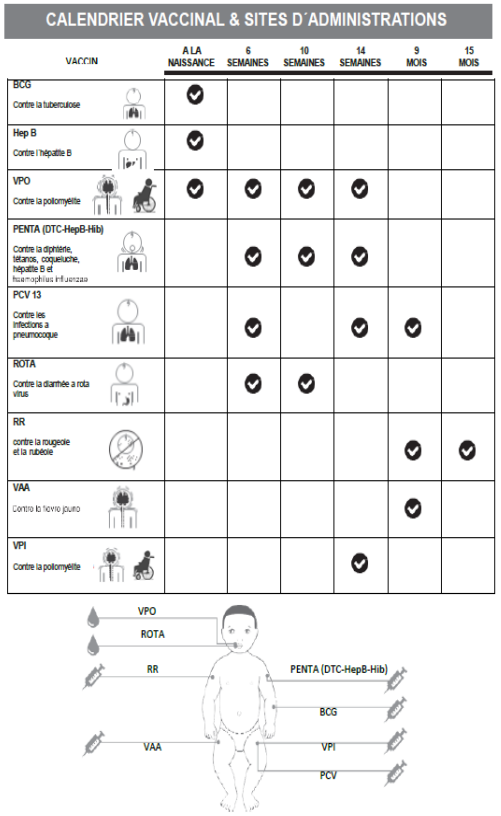
Summary of Benin HBR Workshop

- Update participants on the national policy on the child health card and the minimum package of information needed for each user;
- Consensus on the format and content of the vaccination section in the card (for the parents and nurses) and the « carte infantile » (used at the health facility by nurses for tracking);
- Consensus on the financing for the reproduction and distribution of the child health card and the « carte infantile » for vaccination;
- Strengthen the use of cards and their availability as part of the planning and improvement of data quality nationwide

Consensus workshop on the child health card (for parents) and the « carte infantile » kept at the HF) used in Benin

(MinSan/ANV, JSI, DWB, 28-30 Juin 2017)

CALENDRIER	VACCINS	DATE		N° LOT
		Rendez-vous	Reçue	
A LA NAISSANCE	BCG			
	VPO 0			
	Hép B			
6 SEMAINES	Penta 1 (DTC-Hep B-HIB)1			
	VPO 1			
	PCV13_1			
	ROTA 1			
10 SEMAINES	Penta 2 (DTC-Hep B-HIB)2			
	VPO 2			
	PCV13_2			
	ROTA 2			
14 SEMAINES	Penta 3 (DTC-Hep B-HIB)3			
	VPO 3			
	PCV13_3			
	VPI			
6 MOIS	Vitamine A			
	Fer/Acide folique			
9 MOIS	VAA (Fièvre jaune)			
	RR (Rougeole Rubéole)			
	Déparasitage			
	Fer/Acide folique			
	MIILD			
12 MOIS	Déparasitage			
	Vitamine A			
	Fer/Acide folique			
15 MOIS	RR (Rougeole Rubéole)			
.....	MenA (Méningite A)			
18 MOIS	Déparasitage			
	Vitamine A			
	Fer/Acide folique			
24 MOIS	Déparasitage			
	Vitamine A			
	Fer/Acide folique			
30 MOIS	Déparasitage			
	Vitamine A			
	Fer/Acide folique			



Card prototypes developed during the workshop

Redesign and improvement in use of HBR in DRC

- Revision in "vaccination" section of the Child Health (CPS) Card to update for new vaccines and health facility tracking
- Support to 2 Health Zones (HZ) to improve the availability and use of the CPS cards
- Study underway to understand reasons/ causes of vaccination drop-out and CPS card use challenges in the 2 HZs
- Revitalization in use of tickler files, with a detachable page (counterfoil) on the card, kept at the health center for tracking children by vaccination due date

Issues for improvement: design

- Insufficient space to note important information
- Available space enables only one date to be entered for multiple vaccines given during one visit or age
- Many images and colors increase the printing cost
- Several sections (notably in integrated cards) are not often completed or updated
- Certain information that is not used is nonetheless expected and takes time to complete

Issues for improvement: operational aspects

- Poor HBR stock management due to lack of system for HBR stock monitoring
- Delay in the updating/redesign of HBR due to the involvement of several programs that have content in the card
- Financing often depends on donors
- Absence of a long-term sustainability plan for HBR printing and distribution
- Several different versions of cards or old cards still in use

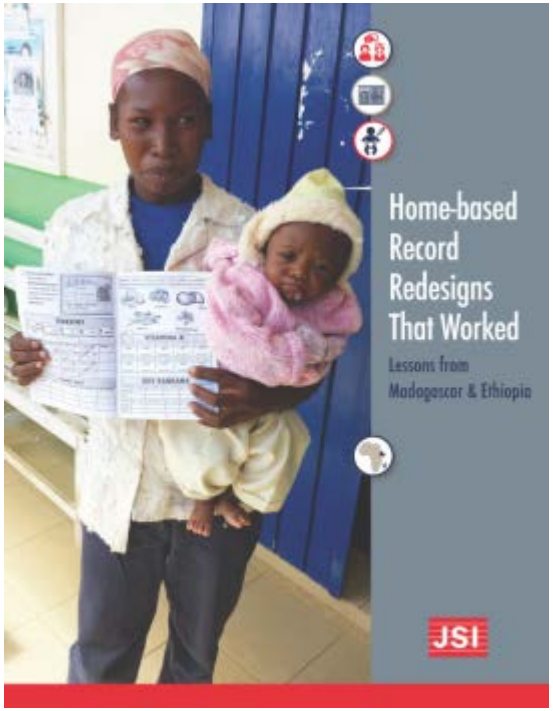
Suggestions for improvement: strengthen card retention and value

- Reinforce communication on the importance of HBRs with mobilizers and parents/caregivers
- Reduce missed opportunities by verifying card availability and requesting HBRs for all visits of the target population to the health facilities
- Ensure the long-term quality of the HBR by avoiding paper that tears or is easily destroyed
- Assure HBR supply through the national immunization and health programs' own budgets

Lessons learned and summary

- Countries should consider long-term planning and sustained funding for the HBRs and include their distribution throughout the health system
- Improving HBR availability and use is possible, but this requires addressing the challenges with HBR availability and the attention and engagement of immunization program managers and the health system
- Put in place a mechanism for HBR stock management and distribution to prevent stock outs
- Plenty of integration opportunities exist, but the different programs that have content in the HBR must also contribute to assuring the HBR availability and use (e.g. financing, training, monitoring and use of the data)

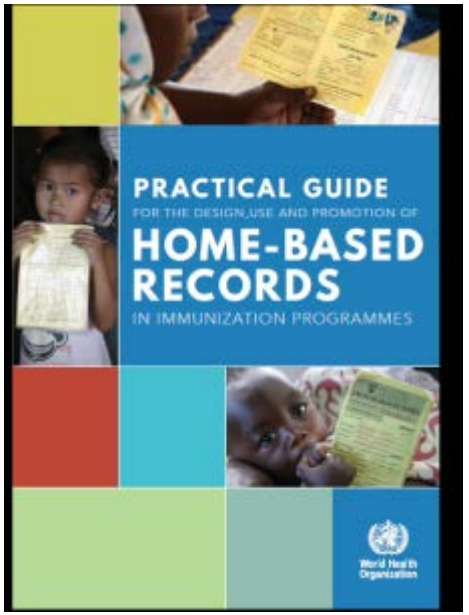
Resource: Documenting successful HBR redesign efforts



Case study report documenting the experiences of Madagascar and Ethiopia:

- Both countries redesigned their traditional vaccination cards into integrated communication tools
- Describes steps in the process, key points to consider, and the stakeholders involved
- Reference document to inform countries that may be interested in their own redesigns

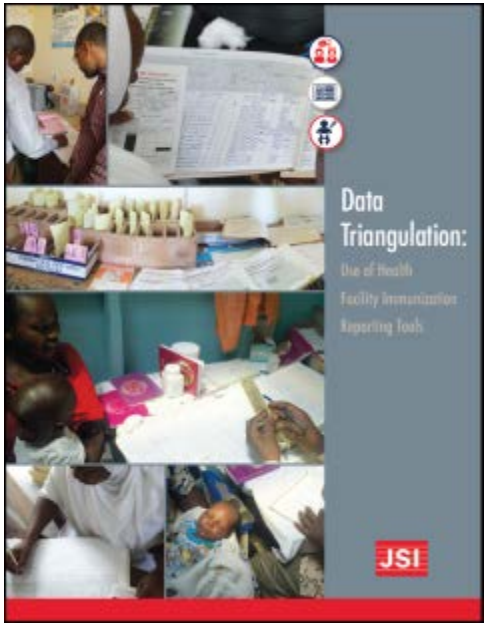
Resources for more information and guidance on the design and use of home-based records



WHO Practical Guide:
http://www.who.int/immunization/monitoring_surveillance/routine/homebasedrecords/en/

Articles, blog posts:
http://thepump.jsi.com/how-is-your-memory-due-dates-home-based-records-and-vaccination/
http://www.sciencedirect.com/science/article/pii/S0264410X14001613
http://bidinitiative.org/blog/opportunities-for-home-based-immunization-records/
https://www.ncbi.nlm.nih.gov/pubmed/27743647

Resources on cards:
immunizationcards.org
http://jsi.com/homebasedrecordsproject
https://www.technet-21.org/en/forums/discussions/immunization-data-quality-and-use-learning-from-the-field



Thanks for your attention