ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Dissemination Event, 19th of September 2024

WiFi

Network: EventITG

Password: alertevent

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Dissemination Event, 19th of September 2024

WELCOME

Prof. Lut Lynen, Director at the Institute of Tropical Medicine, Antwerp

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

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Keynote lecture

Prof. Marleen Temmerman, Aga Khan University, Nairobi Kenya

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Dissemination Event

Prof. Claudia Hanson

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

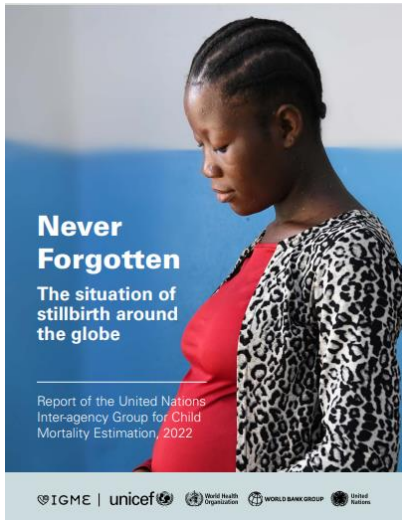
A hospital maternity-based quality improvement and implementation science project in Benin, Malawi, Tanzania and Uganda

19 Sept 2024 / Claudia Hanson

https://alert.ki.se/

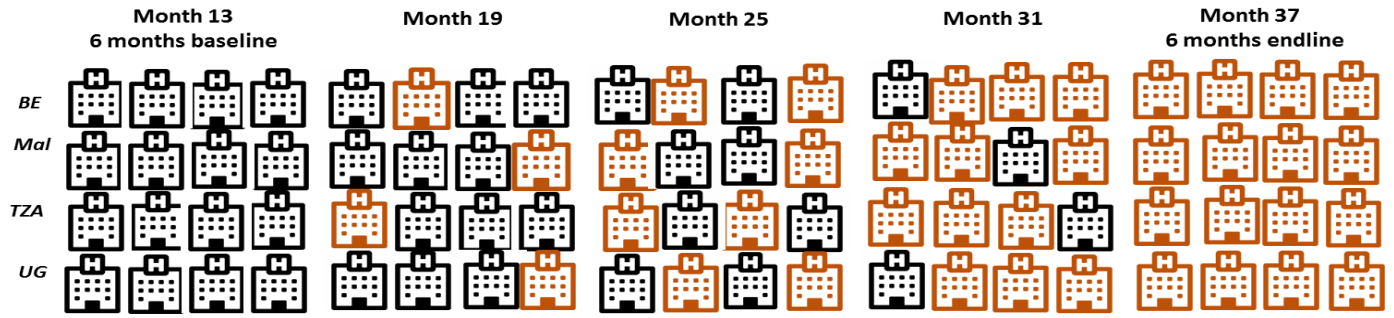
Why ALERT

- Staggering 3 million stillbirths and early perinatal deaths
  - Half of the deaths could be prevented by improved intrapartum care
- Hospitals are key providers of childbirth care
  - Including referral cases
- Multi-faceted interventions are recommended
  - Preferred to address multiple health system constraints



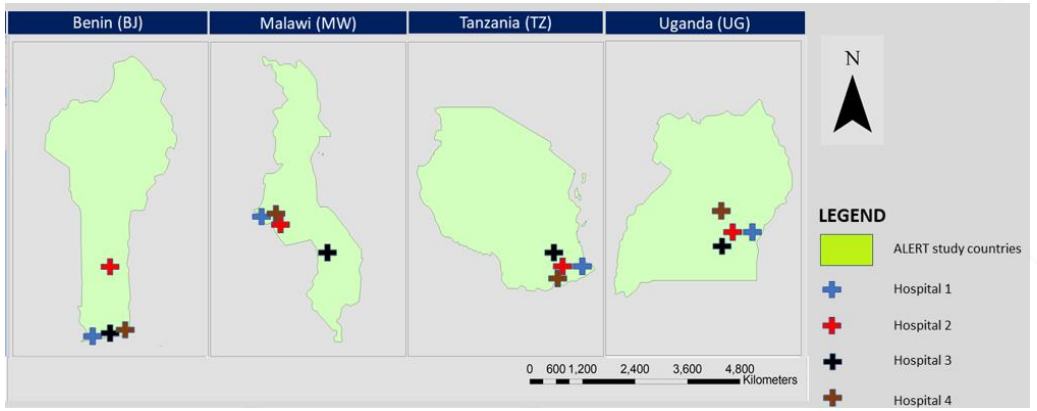
What did we do?

- We **co-designed and implemented a 4-component intervention**
- We evaluated ALERT using a **stepped-wedge design**



- We did a **nested realist evaluation** to understand what works, for whom, and under which conditions
- We performed an **economic evaluation**

Where did we work?

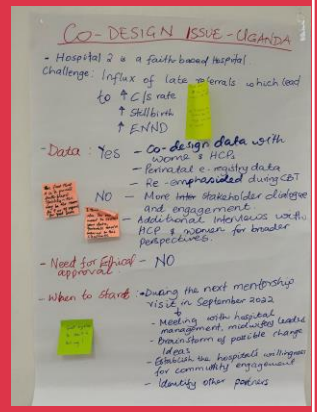


	Benin	Malawi	Tanzania	Uganda
GDP	3,300	1,500	2,600	2,200
Number of births	27,245	46,996	21,454	37,916
Age	22	25	24	24
Referred (%)	53	23	6	18
Caesarean Birth (%)	45	18	29	29

Our 4-component ALERT intervention

Co-design

Identification of “key” issues



Training

Co-design informed

Mortality & Responsiveness targeted

Quality Improvement

Following up the co-design issues and the training

Leadership mentoring

Supporting the quality improvement and leadership capacities

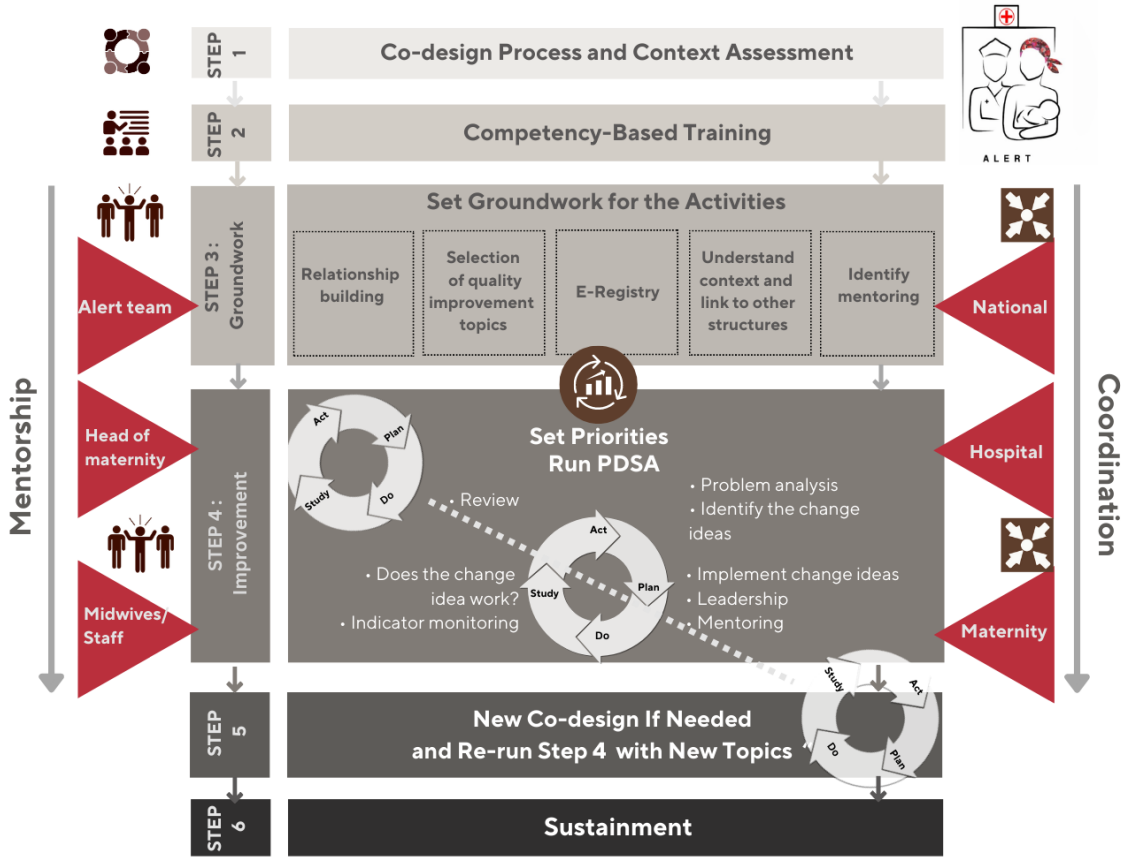
The ALERT intervention was based on the idea to be ….

- *Relevant* (through co-design) Increase k*nowledge* (through competency-based training)

PLUS

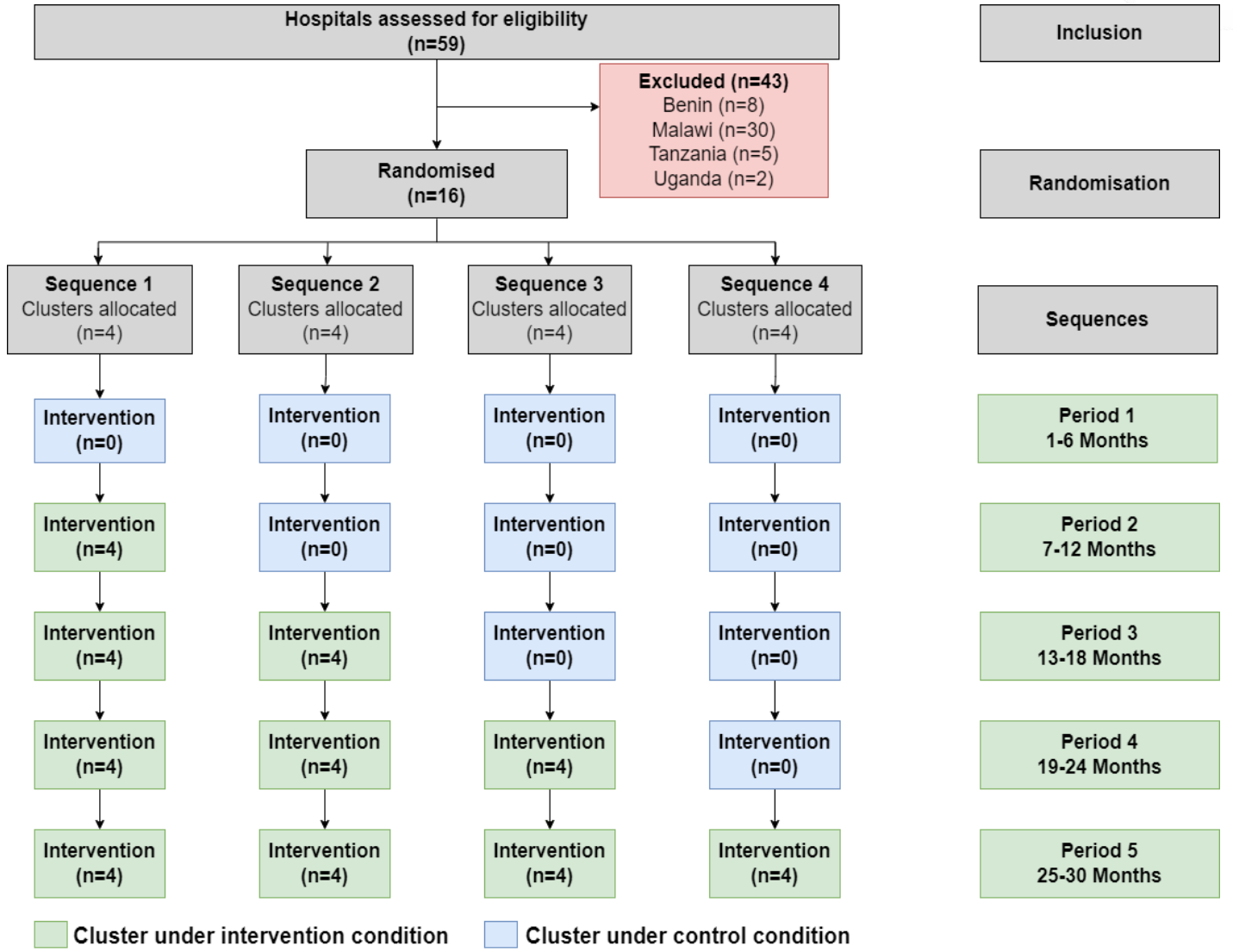
- *Continuous support* (through quality improvement and mentoring) to empower midwifery providers

Reduced perinatal mortality & Improved responsiveness



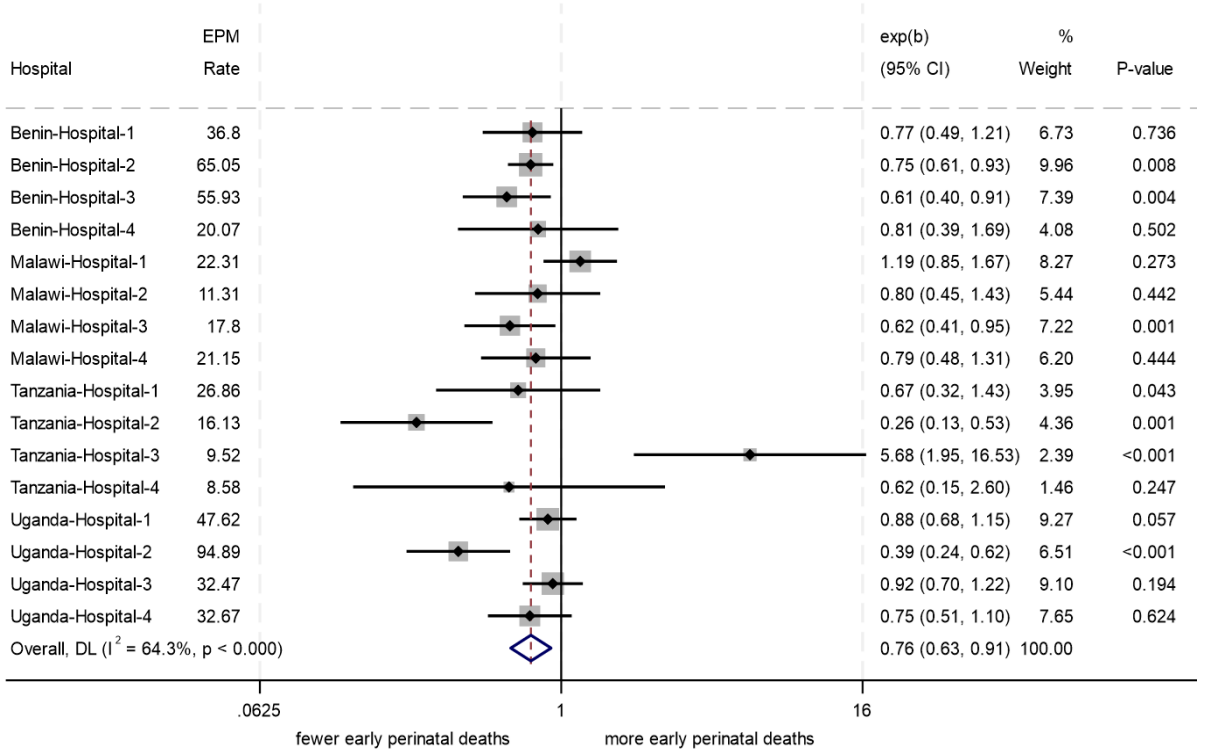
Results

- All 16 hospitals implemented the trial
- We had a 6-month COVID-19 delay throughout



What did we achieve?

	Odds Ratio	95% CI
Primary outcomes		
Perinatal deaths	0.76	0.63-0.91
Fresh stillbirths	0.88	0.68-1.13
Secondary outcomes		
Low APGAR <7	0.81	0.69-0.95
Caesarean section	1.14	1.01-1.27
Responsiveness	0.99*	0.51-1.92
Mistreatment	0.70*	0.41-1.21



So what?

We succeeded!

Highlights: 17 papers published so far

BMC Health Services Research

STUDY PROTOCOL Open Access

Action leveraging evidence to reduce perinatal mortality and morbidity (ALERT): study protocol for a stepped-wedge cluster-randomised trial in Benin, Malawi, Tanzania and Uganda

Open access Protocol

BMJ Open Strengthening capacity in hospitals to reduce perinatal morbidity and mortality through a codesigned intervention package: protocol for a realist evaluation as part of a stepped-wedge trial of the Action Leveraging Evidence to Reduce perinatal morTality and morbidity (ALERT) in sub-Saharan Africa project

OXFORD

Methodological reflections on health system-oriented assessment of maternity care in 16 hospitals in sub-Saharan Africa: an embedded case study

PLOS GLOBAL PUBLIC HEALTH

RESEARCH ARTICLE

Are midwives ready to provide quality evidence-based care after pre-service training? Curricula assessment in four countries—Benin, Malawi, Tanzania, and Uganda

frontiers | Frontiers in Global Women's Health

Provision and utilization of maternal health services during the COVID-19 pandemic in 16 hospitals in sub-Saharan Africa

BJOG An International Journal of Obstetrics and Gynaecology

RESEARCH ARTICLE

Basic science

Stillbirth mortality by Robson ten-group classification system: A cross-sectional registry of 80 663 births from 16 hospital in sub-Saharan Africa

BMC Pregnancy and Childbirth

RESEARCH Open Access

Women's and maternity care providers' perceptions of pain management during childbirth in hospitals in Southern Tanzania

nature medicine

Article

A time-stratified, case–crossover study of heat exposure and perinatal mortality from 16 hospitals in sub-Saharan Africa

Open access Protocol

BMJ Open Protocol for a scoping review to identify and map in-service education and training materials for midwifery care in sub-Saharan Africa from 2000 to 2020

PLOS GLOBAL PUBLIC HEALTH

RESEARCH ARTICLE

Midwifery care providers' childbirth and immediate newborn care competencies: A cross-sectional study in Benin, Malawi, Tanzania and Uganda

Reproductive Heal

STUDY PROTOCOL Open Acce

Assessment of midwifery care providers intrapartum care competencies, in four sub-Saharan countries: a mixed-method study protocol

BMC Medical Education

RESEARCH Open Access

Do in-service training materials for midwifery care providers in sub-Saharan Africa meet international competency standards? A scoping review 2000–2020

Original research

BMJ Global Health Understanding maternity care providers' use of data in Southern Tanzania

BMC Pregnancy and Childbirth

RESEARCH Open Access

"Letting themselves go during care" – exploring patient autonomy during co-designed intrapartum care in a Beninese maternity ward

ORIGINAL RESEARCH ARTICLE

Birth asphyxia and its association with grand multiparity and referral among hospital births: A prospective cross-sectional study in Benin, Malawi, Tanzania and Uganda

9 PhD students partially or fully on ALERT

Phillip's half-time with the ALERT team

13 April, 2023

- 3 completed
- 6 ongoing

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Dissemination Event

Dr. Effie Chipeta

ALERT co-design and lessons learned

Dr. Effie Chipeta

Kamuzu University, Malawi

https://alert.ki.se/

Genuinely collaborative processes

Definition suggested by Leask et al 2019:
"collaborative public health intervention development by academics working alongside other stakeholders"

Leask *et al. Research Involvement and Engagement* (2019) 5:2
https://doi.org/10.1186/s40900-018-0136-9

Research Involvement and Engagement

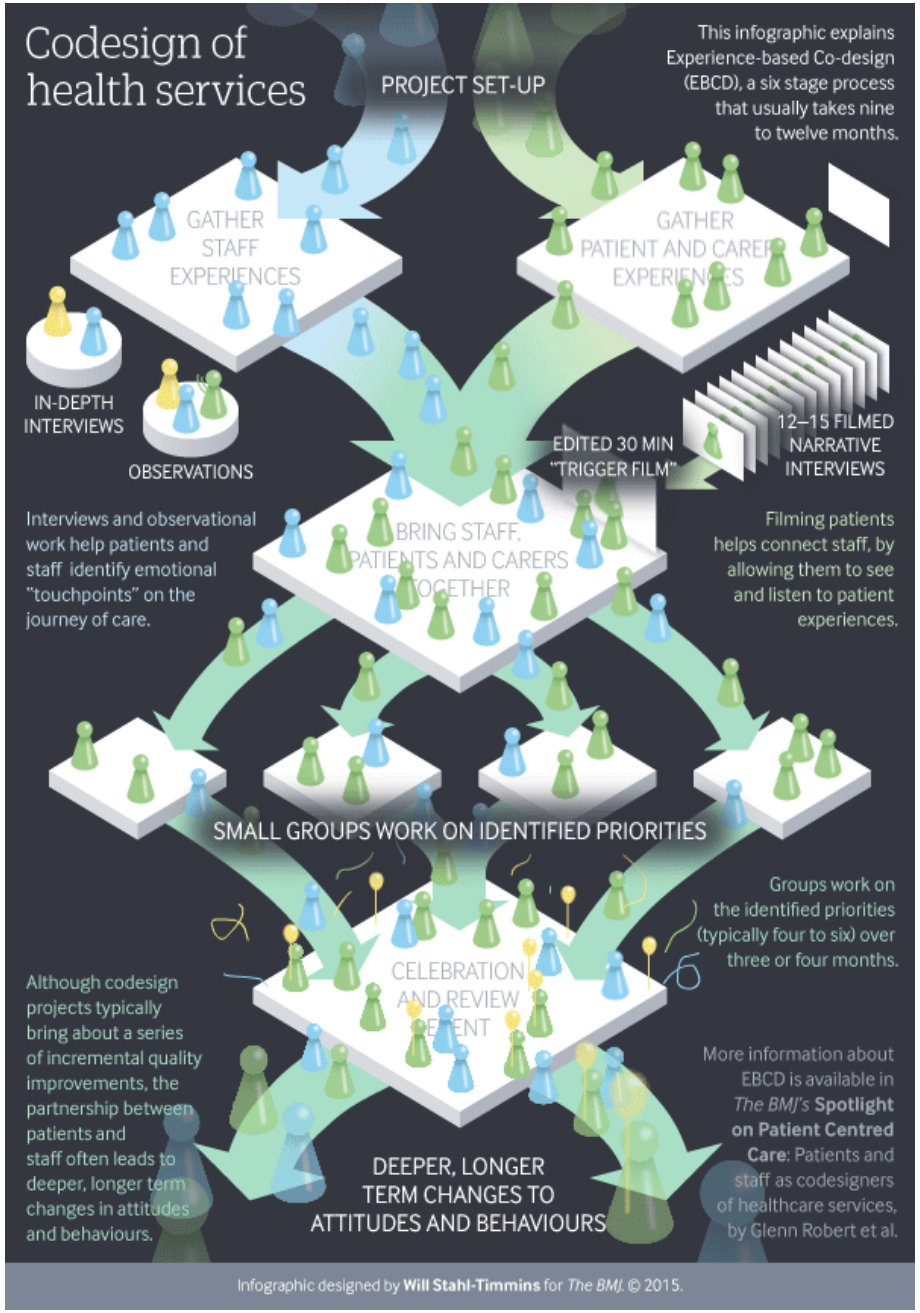
METHODOLOGY Open Access

Framework, principles and recommendations for utilising participatory methodologies in the co-creation and evaluation of public health interventions

Calum F. Leask[1,2*], Marlene Sandlund[3], Dawn A. Skelton[1], Teatske M. Altenburg[4], Greet Cardon[5], Mai J. M. Chinapaw[4], Ilse De Bourdeaudhuij[5], Maite Verloigne[5], Sebastien F. M. Chastin[1,5] and on behalf of the GrandStand, Safe Step and Teenage Girls on the Move Research Groups

- Co-design
- Co-creation
- Co-production
- Experience based co-design
- Design-thinking
- Participatory designs

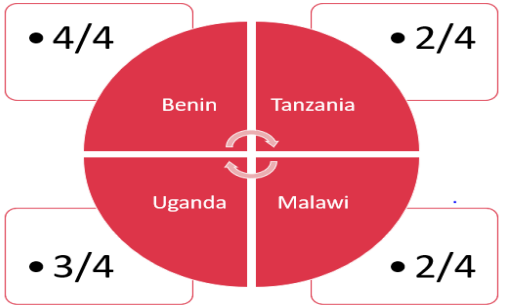
- Collaboration between
- Researchers and Stakeholders:
  - The public
  - Patients
  - Providers
  - Donors/Policymakers

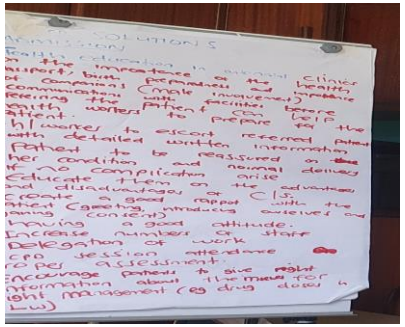


Co-design in steps

ALERT

1. Project set up
2. Gathering **staff** experiences through observation and in-depth interviews with **women** and **companion**
3. Bringing staff, women and companions together. Share results of the formative study and solicit feedback
4. Identify shared priorities for improvement
5. Develop solutions to implement and monitor with stakeholders
6. Review of co-design feedback to identify opportunities for change and entry /action points to inform intervention development process
    - Continuous contact and engagement between stakeholders to identify new needs.





ALERT

Formative Phase

-In-depth interviews with mothers and companions

-Observations of midwifery providers during care processes

Co-design workshops in all countries

-Brainstorming, Prioritization, Critiquing and pitching possible solutions

Informed the intervention development processes

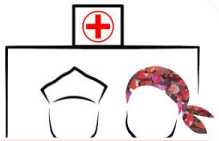
Intervention implementation/ Trial phase

-feedback loops; Identification of new needs

Data collection tools in 7 parts

- Interviews with
  - mothers,
  - providers and
  - companions
- Observations
  - Shadowing midwives
  - Go along women
- Co-design workshops with women and providers after preliminary analysis
- Interview with WP2 data collectors

An example of problems identified for implementation



Identified problem description	Types of qualitative findings
Diverse views between maternity providers on the need **of pain management in labour**	Views on the use of non-pharmacological pain relief Information about labour progress
Construction of **delivery rooms and equipment do not facilitate respectful care, e.g. no partitions, positioning of beds, uncomfortable delivery bed, lack of available beds for all women, no adequate equipment/supplies to recover the blood**	This emerged under the theme **' Care preferences for women during labour'** **Respectful care,** midwifery care providers approach, communication and interactions during labour were highlighted
Limited understanding of the **benefits of companionship for parturient women**	**Companionship - what it meant in different settings** **Roles /tasks of companions** **Contextual challenges to include a companion in labour wards**

Theme: Care preferences for women in labour - Respectful care

Perceptions around companionship in labour

- Limited understanding of the benefits of Companionship in labour
  - *Health workers only recognize companions when there is need for food and when the patient is being uncooperative. Otherwise companions feel that their role in not essential and are not supported by providers (Co-design workshop)*
- Companionship
  - Roles /tasks of companions
    - *We were never trained/oriented on the roles, we keep asking each other especially those that were admitted to the facility earlier before we came. (Companions: Co-design workshop)*
- Contextual challenges to include a companion in labour
  - **MALAWI CASE STUDY:**
    - -Construction of delivery rooms do not facilitate respectful care
    - Eg. No partitions to facilitate privacy; Inadequate beds
    - - Male companions are not allowed due to lack of privacy
    - -Long distance from companion shelter to maternity

What did we achieve?

- Informed the design of competency based trainings in the hospitals

- Co-created improvement topics/change ideas implemented at facility level. Focusing on low cost, impactful and sustainable solutions to improve quality of care

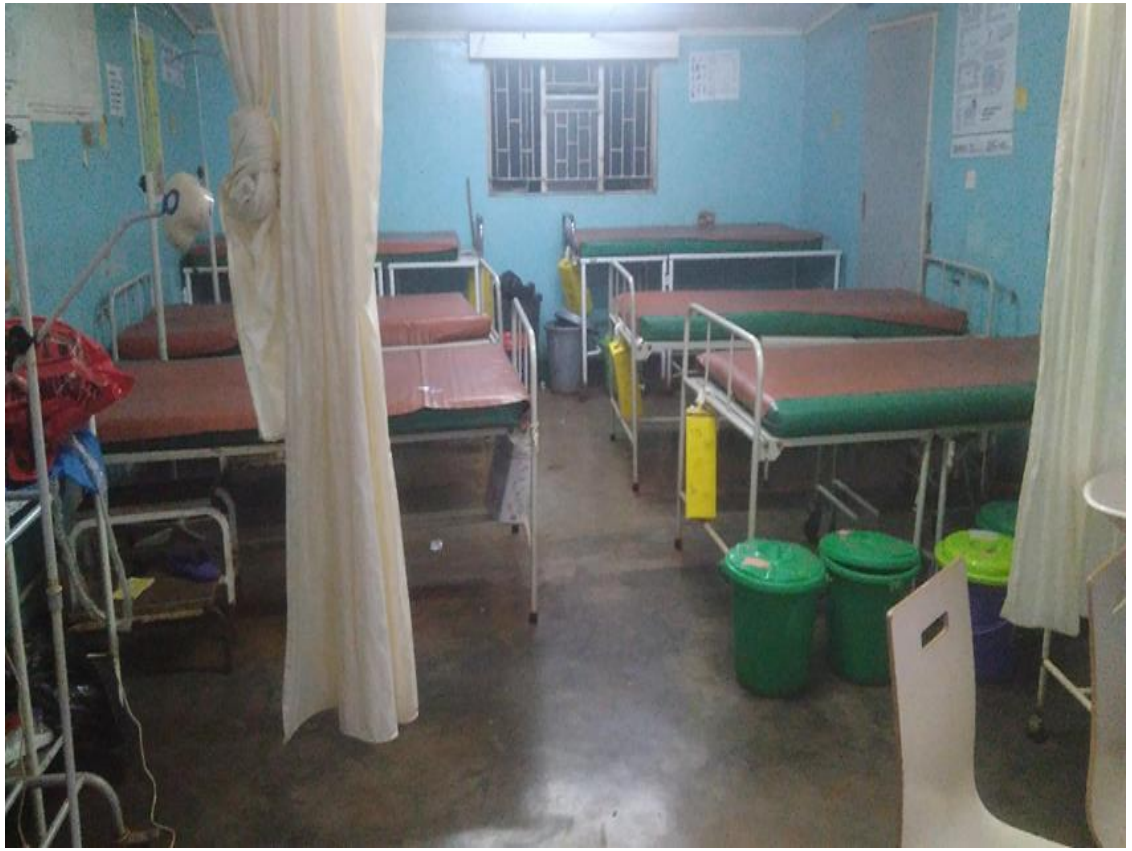
- Continued identification and exploration new needs

Problem	Implemented change idea
Admission is not according to standards and there is no job-aid to support triage and no appropriate place which allows appropriate admission procedures for a positive experience	- Establish SOPs of admission of women in labour to ensure wellness of the mother and baby - Prepare area for admission of women in labour - Prepare SOPs for admitting a woman in labour including triaging - Train providers on SOPs and monitor the use

Malawi Case Study: Mitundu labour ward (Hospital 3)

Demarcartions of the labour ward space into birthing cubicles allowed for companionship during labour and ensured privacy

Before



After

What have we learnt?

Novel insights leading to user-centred solutions

Direct contact with end-users

Tailored interventions

Identification of key priority issues to inform intervention development

Understanding the context and current challenges.

Co-design processes were incorporated in all intervention implementation phases

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QUESTIONS AND ANSWERS – PART 1

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Dissemination Event

Prof. Kidanto Hussein

Developing, implementing and using a Perinatal e-registry

Professor Kidanto Hussein

Aga Khan University, Tanzania

https://alert.ki.se/

Why did we need an electronic patient registry?

1. Methodology development

- Understand the processes and needs in terms of training and support for quality perinatal data

2. Intervention implementation monitoring

- Indicators were developed to help monitor the implementation of the intervention

3. Evaluating the trial

- Primary outcome: perinatal mortality

How did we develop the e-registry?

Principles of data collection

Mother-held ANC card

Labour ward documentation

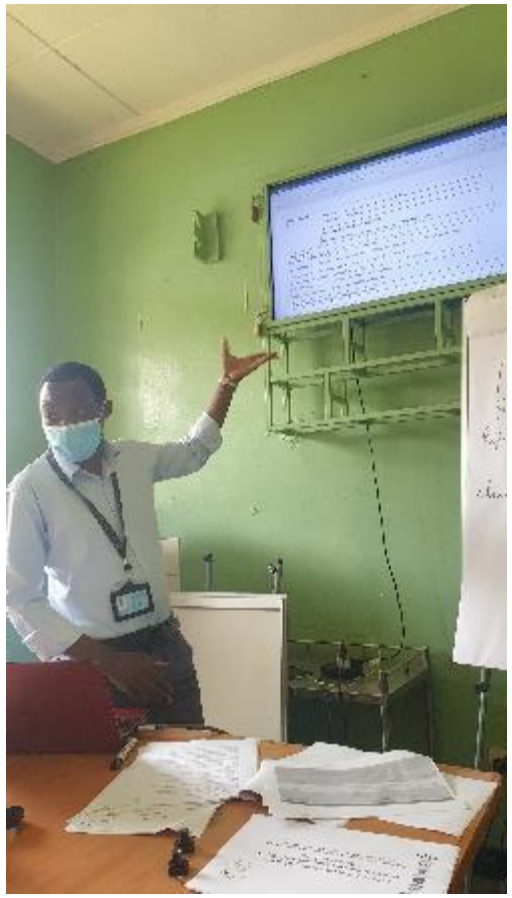
Postnatal ward documentation

Maternity

Postnatal ward

Data clerk or health provider compiles and enters into a tablet-based application

First step: Training of Data Collectors and Piloting

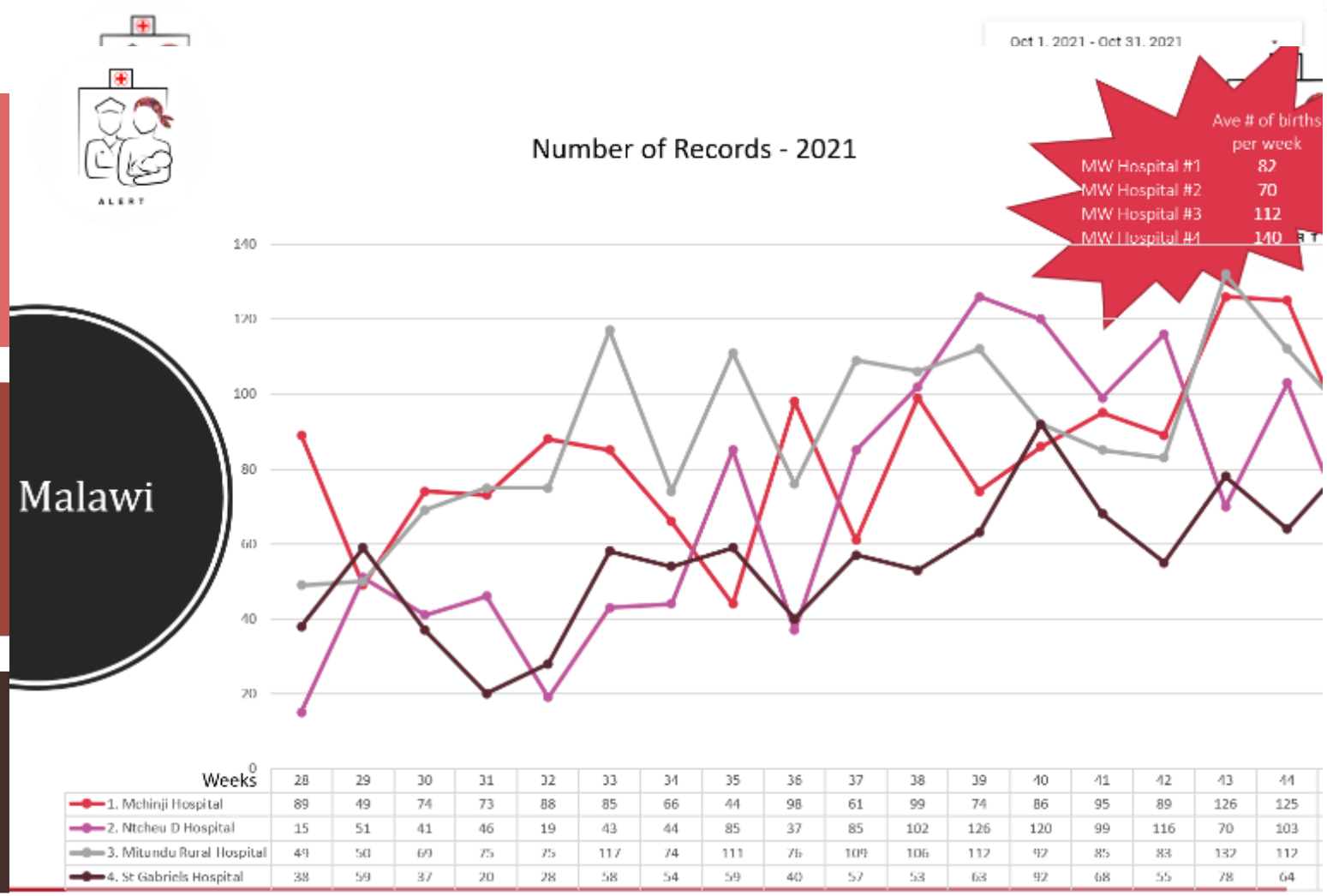


utomated dashboard

tata-do file to run data uality checks

Veekly zoom meeting with ummary slides

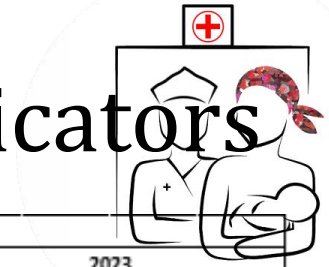
Malawi



Data quality checks – **internal** validation

Rule Name	Rule Logic (Show discrepancy only if...)	Code	Total Discrepancies	
1	Missing date of admission - flgq1date	isblankormissingcode ([q1date])	12	
2	Onset of labor is no labor but mode of birth is not CS Baby 2 - flglab2	([q13onq] = 3) AND ([q24amode] = 1 or [q24amode] = 3 or [q24amode] = 4 or [q24amode] = 5) AND ([q25babies]=2 or [q25babies]=3)	0	
3	Onset of labor is no labor but mode of birth is not CS - flglab	([q13onq] = 3) AND ([q24mode] = 1 or [q24mode] = 3 or [q24mode] = 4 or [q24mode] = 5)	19	
4	Missing date of admission - flgq1date	isblankormissingcode ([q1date])	12	
5	Mode of delivery is missing - flgmodedel	isblankormissingcode ([q24mode])	9	
6	Apgar score at 5 minutes is missing - flgapgar5min	isblankormissingcode ([q30apg])	26	
7	Apgar score at 5 minutes is missing for baby2 - flgapgar5min2	isblankormissingcode ([q30aapg]) AND ([q25babies]=2 OR [q25babies]=3)	1	
8	Apgar score at 5 minutes is missing for baby3 - flgapgar5min3	isblankormissingcode ([q30bapg]) AND ([q25babies]=3)	0	
9	Missing date/time of start of labour - flgq14date3	isblankormissingcode ([q14start]) AND ([q13onq] = '1' or [q13onq] = '2')	18	
10	Missing date/time to decision if there	isblankormissingcode ([q19awhen]) AND [q18anom] =	0	

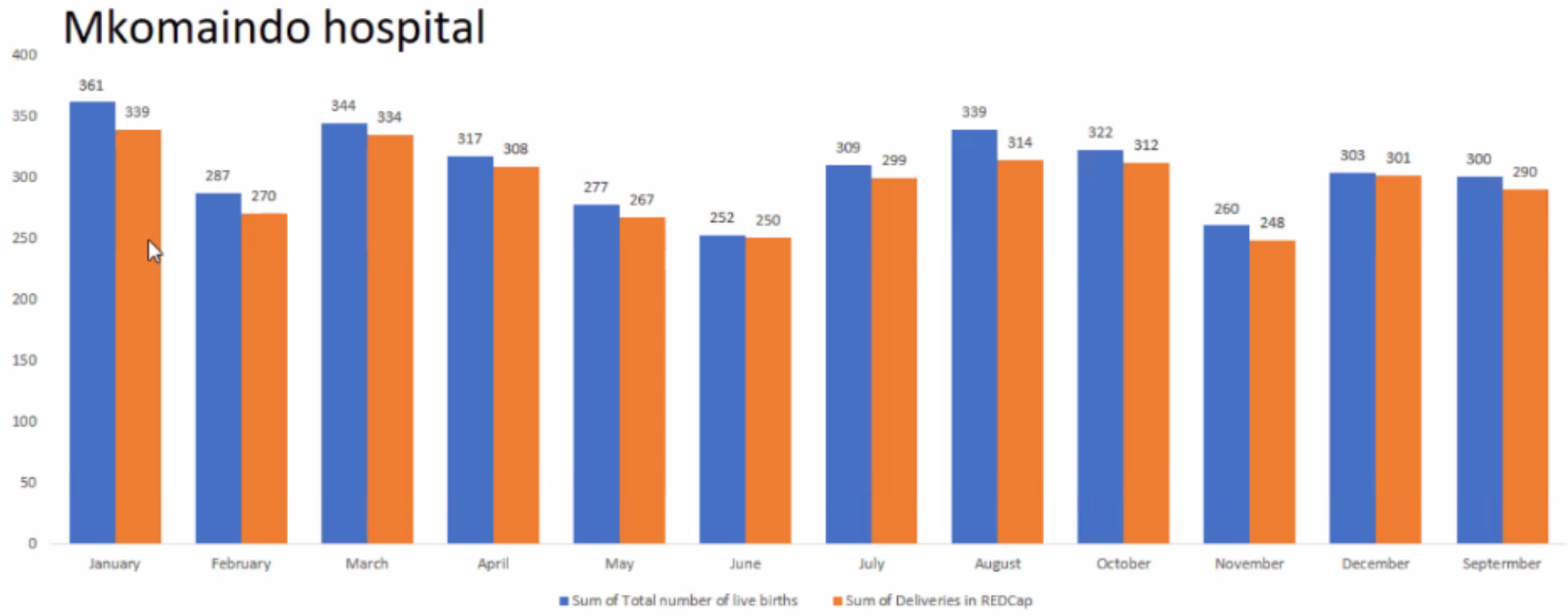
Established quality checks: Dashboard with key indicators



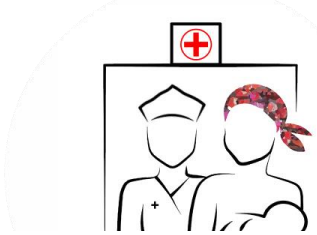
		ADMISSIONS STANDARDS AND PROCEDURES: INDICATOR -ADMISSION VARIABLES WITHOUT MISSING DATA																					
		2021						2022												2023			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21A L	E R2T
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
INDICATOR 1	q1date_m	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q2ref_m	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q2aqta_m	100	99.7	100	98.9	100	99.7	99.8	100	100	99.8	99.8	100	100	100	100	99.7	99.7	100	100	100	99.2	100
	q3age_m	98.8	99.4	99.7	99.4	99.9	99.5	99.5	99.5	99.7	99.6	99.8	99.9	99.7	99.9	99.9	99.9	100	99.9	99.9	100	100	100
	q4grav_m	100	99.8	100	99.9	100	100	99.7	99.9	99.8	100	100	99.9	100	100	100	99.9	99.9	100	100	99.9	100	100
	q5out_m	98.7	100	99.8	99.1	98.1	99.3	98.9	99.5	99.5	99.4	100	99.7	99.4	99.8	99.9	100	100	100	100	99.8	99.8	99.8
	q6par_m	98.7	100	99.8	99.9	99.9	99.9	98.9	100	99.9	99.9	100	100	99.9	100	99.9	100	100	100	100	99.7	99.8	99.8
	q7ces_m	99	100	100	100	99.8	99.9	98.9	100	99.9	99.9	100	100	99.9	100	99.9	100	100	100	100	99.7	99.8	99.8
	q8anc_m	97.2	98.5	97.4	98.3	98.8	99	98.9	98.7	98.3	99	98.8	99.1	98.5	99	99.7	99.5	99.3	99.2	99.6	99.5	100	100
	q9dob_m	71.5	65.2	79	71.1	68.3	69	86.9	85.6	82.4	82.2	79.3	79.2	89	86.6	76.6	74.2	77.9	92.9	94.1	96.3	82.4	84.9
	q9aga_m	97.3	94.9	98	98.4	98.7	97.9	98.4	97.8	98.1	98.6	99	98.9	99.1	98.6	98.8	99.5	99.4	98.9	98.9	99.4	99.5	99.7
	q10syp_m	100	100	100	100	100	100	100	100	100	99.8	100	100	100	99.9	100	100	99.9	100	99.9	100	100	100
	q11hiv_m	100	100	100	100	100	100	100	100	100	99.8	99.9	100	100	100	100	100	99.9	100	100	100	100	100
	q12acom_	100	100	100	100	100	100	100	99.9	100	100	100	100	100	100	100	100	99.9	100	100	100	100	100
	q12bcom_	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q12ccom_	100	100	100	99.9	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q12dcom_	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.9	100
	q12ecom_	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q12fcom_	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q12gcom_	100	100	100	100	100	100	99.9	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.9
	q12hcom_	99.9	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	q12icom_	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	ind1_sum	99	99.2	99	98.9	98.5	99.1	99.4	99	99.1	98.9	99	98.8	98.7	99	98	97.7	99.6	99.2	99.5	99.8	99.7	99.6
INDICATOR 2	q16fet_p	91.9	94.5	95.1	92.9	95	93.4	94.2	94	96.3	97.2	96.3	95.5	94.5	94.2	93.3	93.8	95.9	95.4	94.7	97.1	97.4	96.1
INDICATOR 3	q18_0fhm	66.4	69.2	70.5	69.7	75.9	67.3	58.1	65.6	67.3	73.8	74	73.2	78.1	68.2	65	67.4	69.2	75.4	66.3	66.7	68.3	67.7
INDICATOR 4	q21secfet_	37.4	45.9	51	45.3	46.9	44.8	37.4	43.4	49.5	46.5	47.2	45.7	48.2	37.6	34	33.2	35.4	38.8	31.5	31.4	34.8	37.3
INDICATOR 5	q20sec_p	54.4	60.3	64.1	52.4	55.8	62.8	54.4	61.3	62.5	63	62.9	60.5	63	50.7	47.1	49	52.9	51.5	42.6	45.8	48.4	53.5
INDICATOR 7	del_time																						
INDICATOR8	q36breast	67.1	59.5	66.2	68.3	57.4	63.5	64.8	64	58	50.8	50	50.4	55.8	47.2	59.7	60.6	55.7	43.8	60.6	63.6	60.4	64.4
INDICATOR 9	q39comp1	35.4	26.4	32.1	35.3	34.1	34.1	32.7	30.5	29.8	34.7	45.4	50.1	35	35.6	44.8	48.8	56.8	63.3	44	65.1	78.7	77.6
	q39comp2	15.7	12.6	13.4	14.5	15.4	13.6	12.4	11.3	12.1	13.1	13.9	12.2	11.5	11	11.1	22.1	28.8	35.2	22.5	38.3	40.7	39.3
INDICATOR 10	antibvag	1.3	0.5	0.7	0.6	0.3	0.8	1.3	0.8	0.7	0.4	1.2	1.1	1.3	0.9	1.4	1.2	1	0.9	0.3	0.7	0.2	0.5
INDICATOR 11	freshheart	75	81.8	72.7	65	81.8	61.5	50	100	84.6	80	66.7	59.3	50	30	45.5	52.6	52.6	53.8	57.9	40	63.6	80
INDICATOR 12	resapg	71.4	62.3	67	52.9	61	68.8	59	76.1	68.5	72.7	68.8	63.8	62.5	70.8	59	64	63	60	53.2	63.5	59.4	66.7

Data quality checks – **external** validation

Total number of live births in a hospital Vs in REDCap



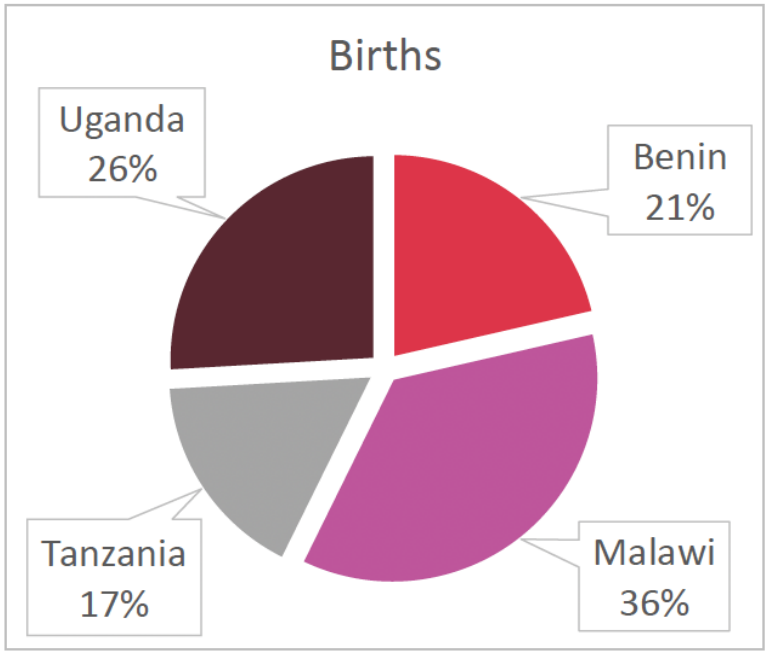
What did we capture in the e-registry?



150,130 Women

25.3 years

Mean parity 2.3



155,137 Babies

38.1 weeks

2932.6 g

Complications

Hypertensive disorders 7.5%
Diabetes 0.5%
Antepartum hemorrhage 1.4%
Postpartum hemorrhage 1.3%

Mode of birth

Vaginal birth 70.5%
Cesarean section 28.3%
Assisted vaginal birth 1.2%

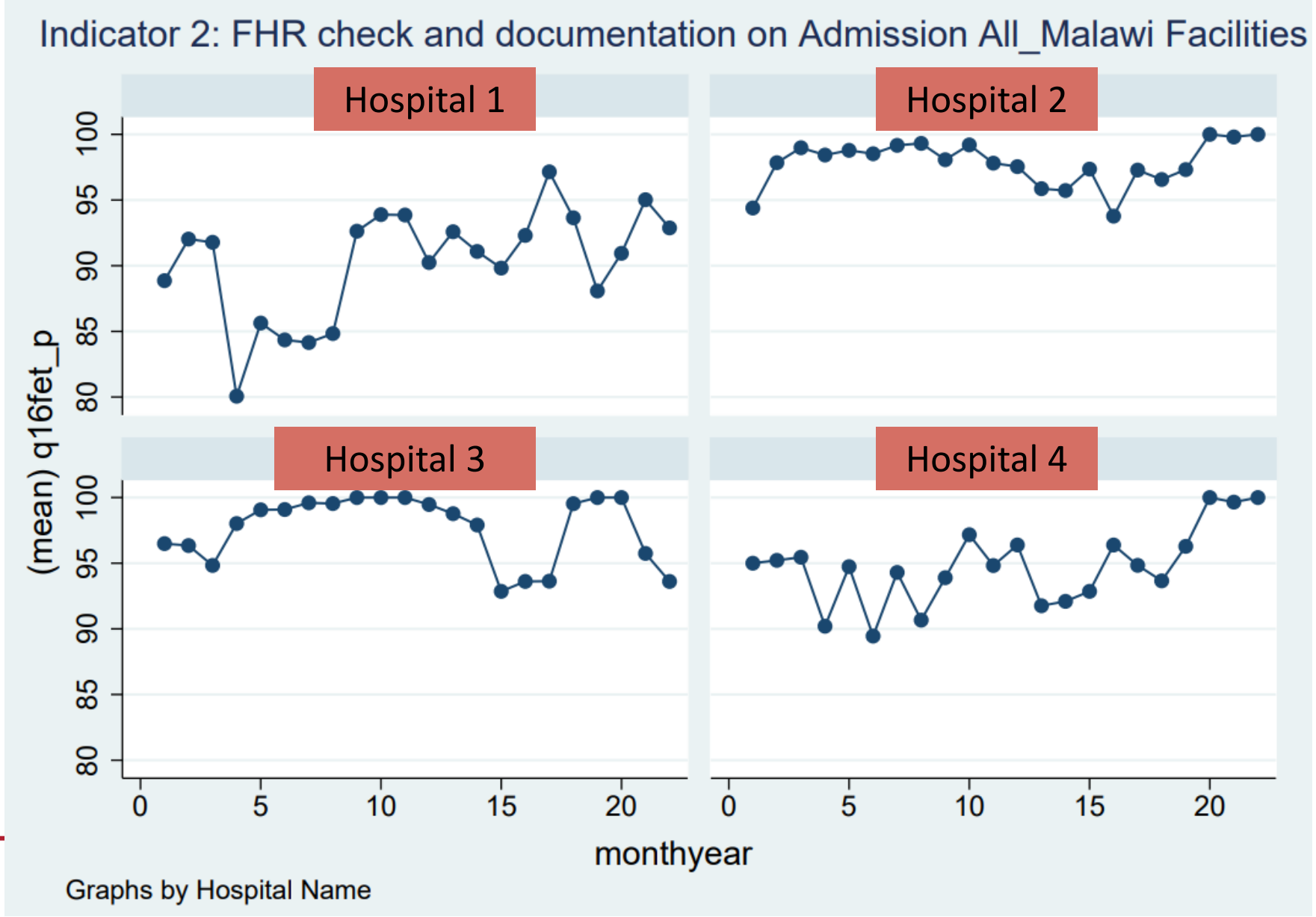
Outcome

Live babies 148,004
Antepartum stillbirths 2,478
Intrapartum stillbirths 3,098
Early neonatal deaths 1,557

How are the data used to improve quality of care?

Automated dashboard

Weekly zoom meeting with summary slides



How can the data be used further?

FRATERNITE

MORTALITE NEONATALE EN AFRIQUE SUB-SAHARIENNE P.2

Les vagues de chaleur augmentent le risque

Temps ensoleillé avec quelques nuages occasionnels et une température d'environ 25 degrés. C'est ce qu'indique la Météo ces jours-ci dans la plupart des villes du Bénin. Ce temps contraste avec la chaleur de 35 degrés vécue pendant les premiers mois de 2024, une période difficile pour les mères et leurs nouveaux-nés. «C'était une chaleur infernale. Je devais constamment mouiller mon linge pour apaiser mon corps, qui commençait à montrer des signes de miliaire, de petites éruptions cutanées dues à la chaleur», se souvient Lydia, enseignante dans le Zou, qui a accouché en mars 2024. Cette mère traversait une période critique sans même s'en rendre compte, si l'on s'en tient aux résultats de l'étude publiée dans la revue Nature Medicine par des chercheurs de l'Institut Karolinska en Suède, du Centre de recherche en reproduction humaine et démographie (Cerhud), et d'autres institutions. «Les bébés dont les mères ont été exposées à des températures élevées dans la semaine précédant l'accouchement, présentent un risque de décès périnatal de 34 %

ELIMINATOIRES CAN 2025 : BENIN 02- LIBYE 01 P.4

Les Guépards remettent les pendules à l'heure

3EME SESSION EXTRAORDINAIRE DE L'ASSEMBLEE NATIONALE P.3

Les travaux continuent le jeudi prochain

nature medicine

Article

https://doi.org/10.1038/s41591-024-03245-7

A time-stratified, case–crossover study of heat exposure and perinatal mortality from 16 hospitals in sub-Saharan Africa

Received: 24 December 2023

Accepted: 9 August 2024

Published online: 03 September 2024

Check for updates

Claudia Hanson[1,2,3,13] ✉, Jeroen de Bont[4,13], Kristi Sidney Annerstedt[1], Maria del Rosario Alsina[1], Federica Nobile[4,5], Nathalie Roos[6], Peter Waiswa[7], Andrea Pembe[8], Jean-Paul Dossou[9], Effie Chipeta[10], Lenka Benova[11], Hussein Kidanto[3], Cherie Part[2], Massimo Stafoggia[5], Veronique Filippi[2] & Petter Ljungman[4,12]

Key learnings

1. Feasible but needs careful crafting of support structures

- Need engagement of facility stakeholders together with experienced data managers

2. Use of tables appreciated

- Data collectors, nurses and midwives appreciate new technology

3. Data use: not simple

- Dashboards are underutilized without facilitation, writing papers needs time, capacity and support

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Dissemination Event

Prof. Andrea B Pembe

Implementation of the four ALERT components: Fidelity and experiences

Professor Andrea B Pembe

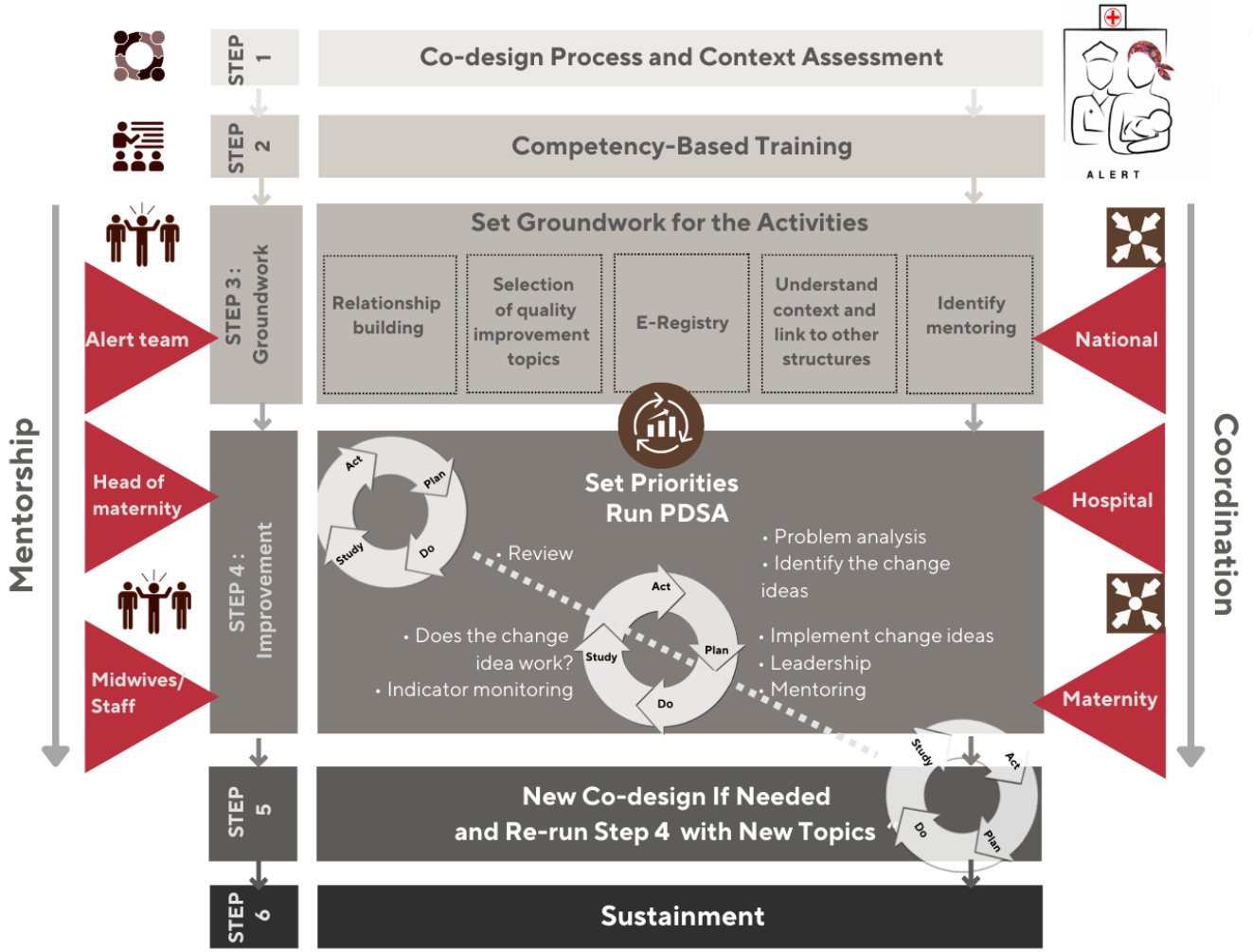
MUHAS, Tanzania

The four components of ALERT interventions ....

- *Relevant* (through co-design) Improved k*nowledge* (through competency-based training)

PLUS

- *Continuous support* (through quality improvement and mentoring) to empower midwifery providers



Co-design component

- Highly appreciated but needed time to feel confident and to fully appreciate the potential

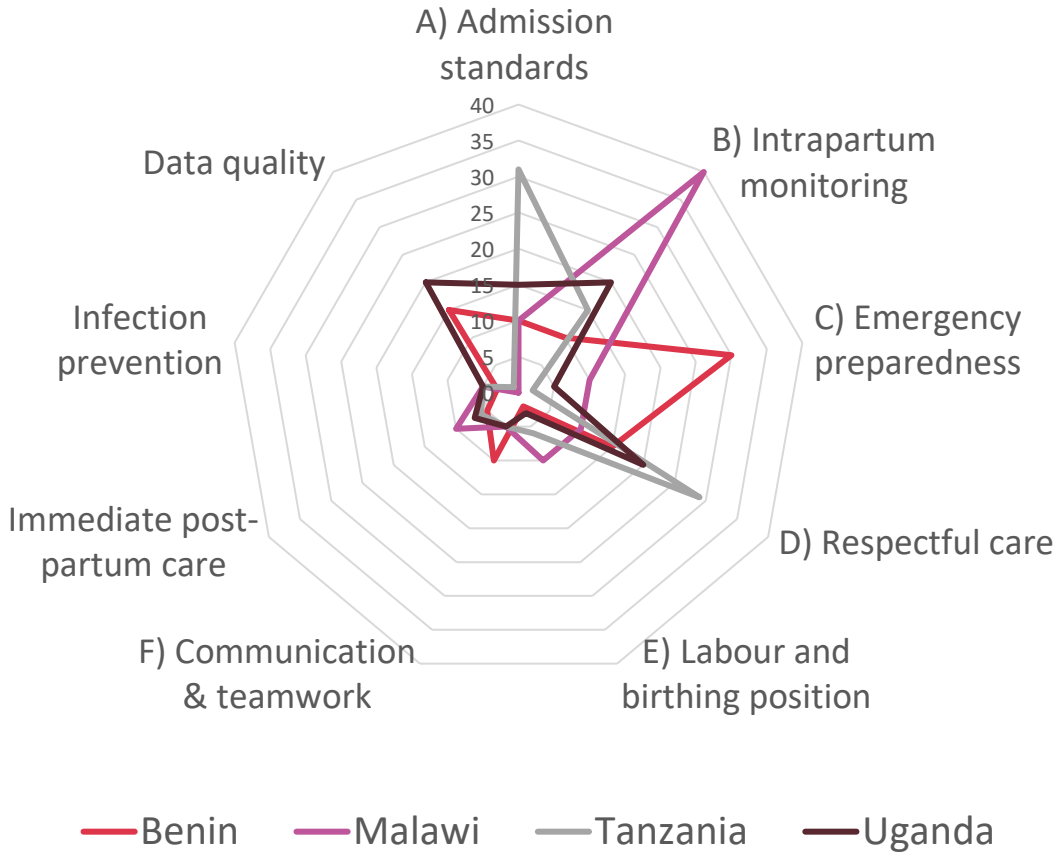
"We have learnt co-design on the way."

ALERT implementors

Co-design informed improvement topics

Core Modules	
Mortality-focused	**Responsiveness-Focused**
Admission standards & procedures	Respectful maternity care
Intrapartum monitoring	Mobility in labour and birth positioning
Emergency preparedness	Communication and teamwork
Optional	
Active management of third stage of labour and early newborn care	
Infection prevention and control in labour management	
Documentation and data for quality improvement	

The key implementation focus



Quality Improvement

”We did the training and after doing the training, we identified the gaps, I mean the participants proposed the strategies and then we ended there. We did not know that we were supposed to integrate in the QI component. So, so later we … were be able to put all the components together and make every team member understand them and how to blend them together from the start.”

ALERT implementors

- 64 different change ideas were developed
- Across the 16 hospitals:
- Initiation of
  - 25 in Benin
  - 34 in Malawi
  - 35 in Tanzania
  - 84 in Uganda

Mentoring cascade

ALERT cascade Level 1

WP3 Steering team

Expert midwives in country teams

ALERT cascade Level 2

Maternity Nurse in charge /Surveillantes in study hospitals

Matrons/Principal nursing officer /Maîtresse sage femme in study hospitals

ALERT cascade Level 3

Providers of midwifery care in study hospitals

Mentoring

"Explanation of mentoring was not difficult, but the implementation was, (as) this relationship is not well-established"

ALERT implementors

- A lot of support on bigger and smaller issues on WhatsApp or phone

Lesson learned in implementation of ALERT




- Support to the implementation team was needed and much appreciated
- The team loved the intervention although the context was not easy,…
  - Time constraints, many problems, power issues, etc
  - High staff turnover, limited support from hospital managers, etc

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Prof. Bruno Marchal

Realist process evaluation of ALERT: What worked and why?

Professor Bruno Marchal

Institute of Tropical Medicine

Realist process evaluation
What worked and why?

Overall objective

To understand *"**which components** of the ALERT intervention work (or not), **how, for whom,** in **which contexts** and **why**?"*

Methodological approach

- Realist evaluation

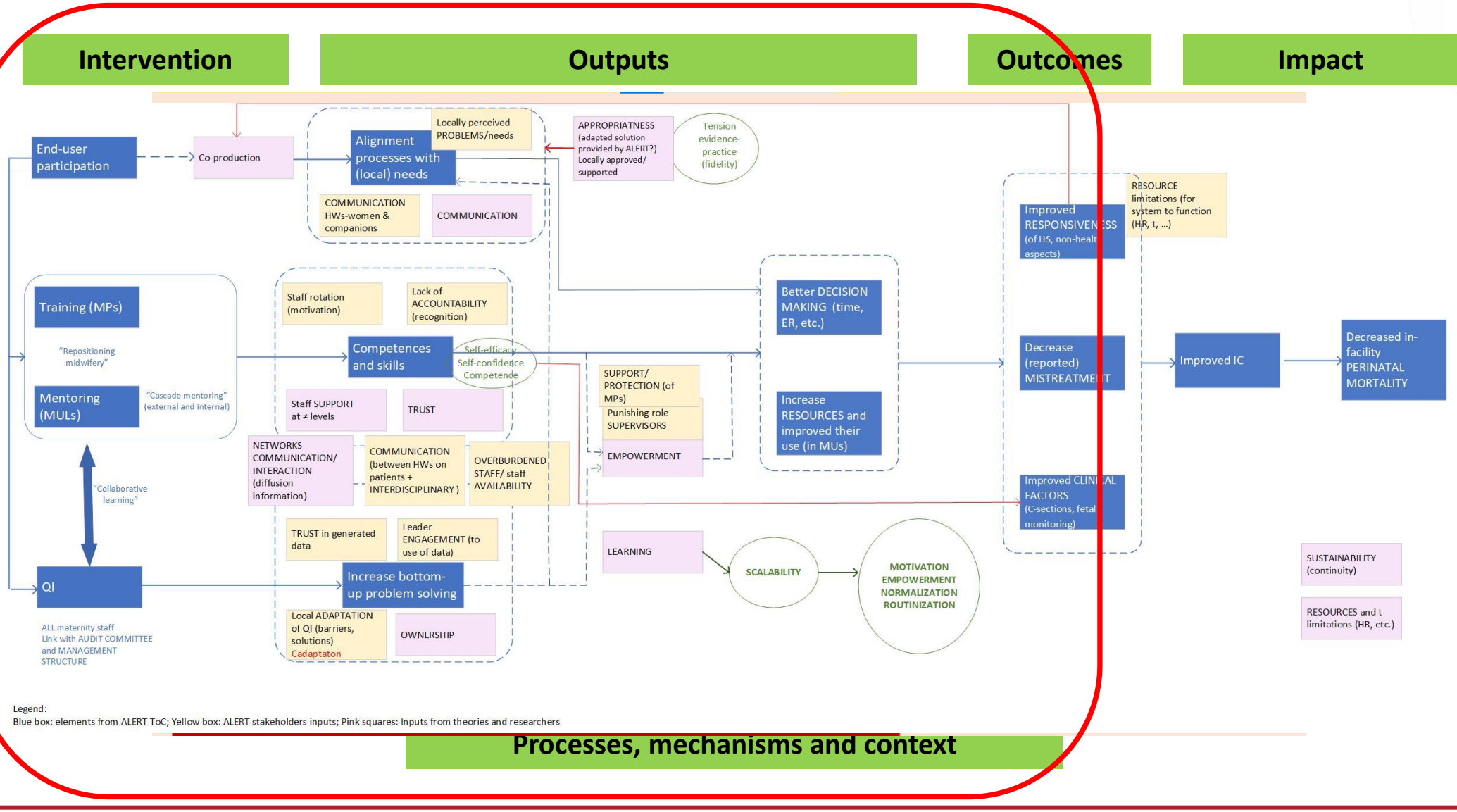
Study design

Multiple embedded case study

- Sites: Hospital 1 and 3 in each country

Data collection

- Critical events mapping
- In-depth interviews
- Observations and informal interviews
- Data from other WPs


Intervention
Outputs
Outcomes
Impact
End-user participation
Co-production
Alignment processes with (local) needs
Locally perceived PROBLEMS/needs
APPROPRIATNESS (adapted solution provided by ALERT?) Locally approved/ supported
Tension evidence-practice (fidelity)
COMMUNICATION HWs-women & companions
COMMUNICATION
Training (MPs)
"Repositioning midwifery"
Mentoring (MULs)
"Cascade mentoring" (external and internal)
"Collaborative learning"
QI
ALL maternity staff
Link with AUDIT COMMITTEE and MANAGEMENT STRUCTURE
Staff rotation (motivation)
Lack of ACCOUNTABILITY (recognition)
Competences and skills
Self-efficacy
Self-confidence
Competende
Staff SUPPORT at ≠ levels
TRUST
NETWORKS COMMUNICATION/ INTERACTION (diffusion information)
COMMUNICATION (between HWs on patients + INTERDISCIPLINARY)
OVERBURDENED STAFF/ staff AVAILABILITY
TRUST in generated data
Leader ENGAGEMENT (to use of data)
Increase bottom-up problem solving
Local ADAPTATION of QI (barriers, solutions)
Cadaptaton
OWNERSHIP
SUPPORT/ PROTECTION (of MPs)
Punishing role SUPERVISORS
EMPOWERMENT
LEARNING
SCALABILITY
MOTIVATION
EMPOWERMENT
NORMALIZATION
ROUTINIZATION
Better DECISION MAKING (time, ER, etc.)
Increase RESOURCES and improved their use (in MUs)
Improved RESPONSIVENESS (of HS, non-healt aspects)
RESOURCE limitations (for system to function (HR, t, ...)
Decrease (reported) MISTREATMENT
Improved CLINICAL FACTORS (C-sections, fetal monitoring)
Improved IC
Decreased in-facility PERINATAL MORTALITY
SUSTAINABILITY (continuity)
RESOURCES and t limitations (HR, etc.)
Legend:
Blue box: elements from ALERT ToC; Yellow box: ALERT stakeholders inputs; Pink squares: Inputs from theories and researchers
Processes, mechanisms and context

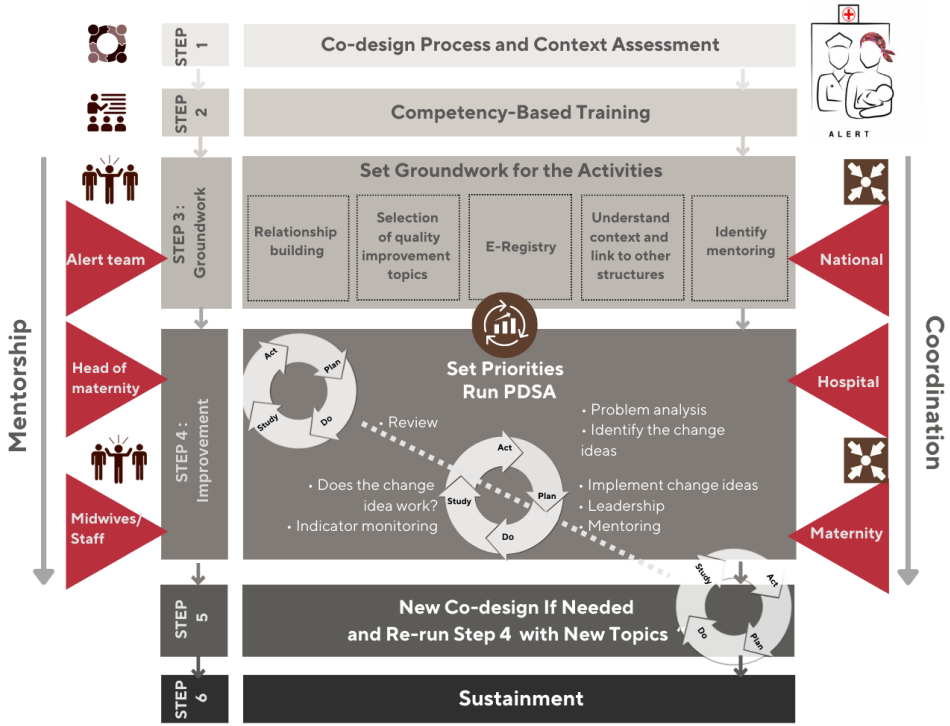
Preliminary results from Hospitals 1 in Benin and Malawi

Planned intervention

- **Four** connected but discrete **components**
  - Co-design, competency-based training, leadership mentoring, quality improvement

Actual intervention

- In both countries: **adaptations and 'merging' of activities** between components
  - Due to local needs, capacity and resources, COVID-19 and time constraints



Preliminary results H1 in Benin and Malawi

Examples

Co-design component in Benin

Implementation

Largely according to plan

Outputs

- **Identification of problems** affecting quality of intrapartum care
- Co-production of **solutions**
- **Prioritisation** for the competency-based training and mentoring component
- **Alignment** with local needs
- (A decrease in violence and shouting by providers towards women and their companions)

Context

- Poor reputation of the hospital
- Sub-optimal relations between cadres

Mechanisms of adoption

Management team embraced this component

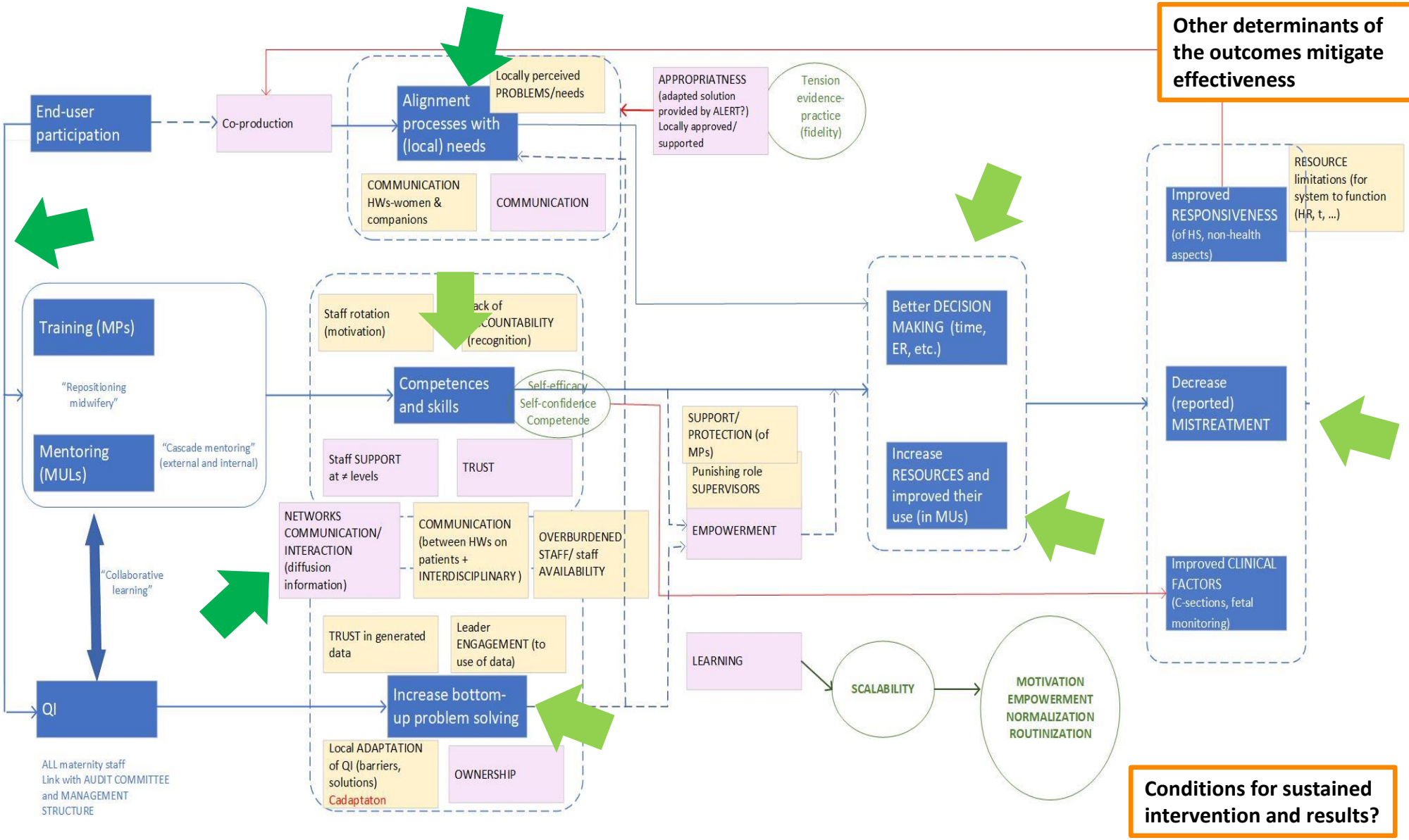
- Perceived pressure from patient platform

Midwives were committed

- Fear of complaints requests for explanation

Community members

- Appreciated the chance to obtain 'voice'



Legend:
Blue box: elements from ALERT ToC; Yellow box: ALERT stakeholders inputs; Pink squares: Inputs from theories and researchers

Preliminary conclusions

Implementation

- Sub-optimal intensity and frequency
- Implementation **process:** engaged all relevant stakeholders

Co-design component shaped the 3 other components (as planned)

- **Alignment of training, mentoring and QI components** with local needs: achieved

Training, **mentoring** and **QI** led to outputs that contributed to improvement of quality of care

- The close interaction between the components created synergies

Effectiveness

- **Outputs**: qualitative evidence points to improvements in
  - alignment with local needs, competences and skills, bottom-up problem solving
  - (resource availability and better decision-making)
- **Impact/ outcomes**: see trial results

Preliminary conclusions

Context matters

- **the maternity ward**
  - sub-optimal working conditions, high staff turn-over, motivation, availability of resources
- **the hospital**
  - professional development opportunities, support of management team, general resource allocation to maternity
- **the local health system**
  - accessibility of services
- **the general context**
  - COVID-19, extreme weather events, social and economic determinants of health and of access to health care

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Rian Snijders

Costing of the ALERT intervention, its cost-effectiveness and patients' out-of-pocket expenditures

Rian Snijders

ITM, Belgium

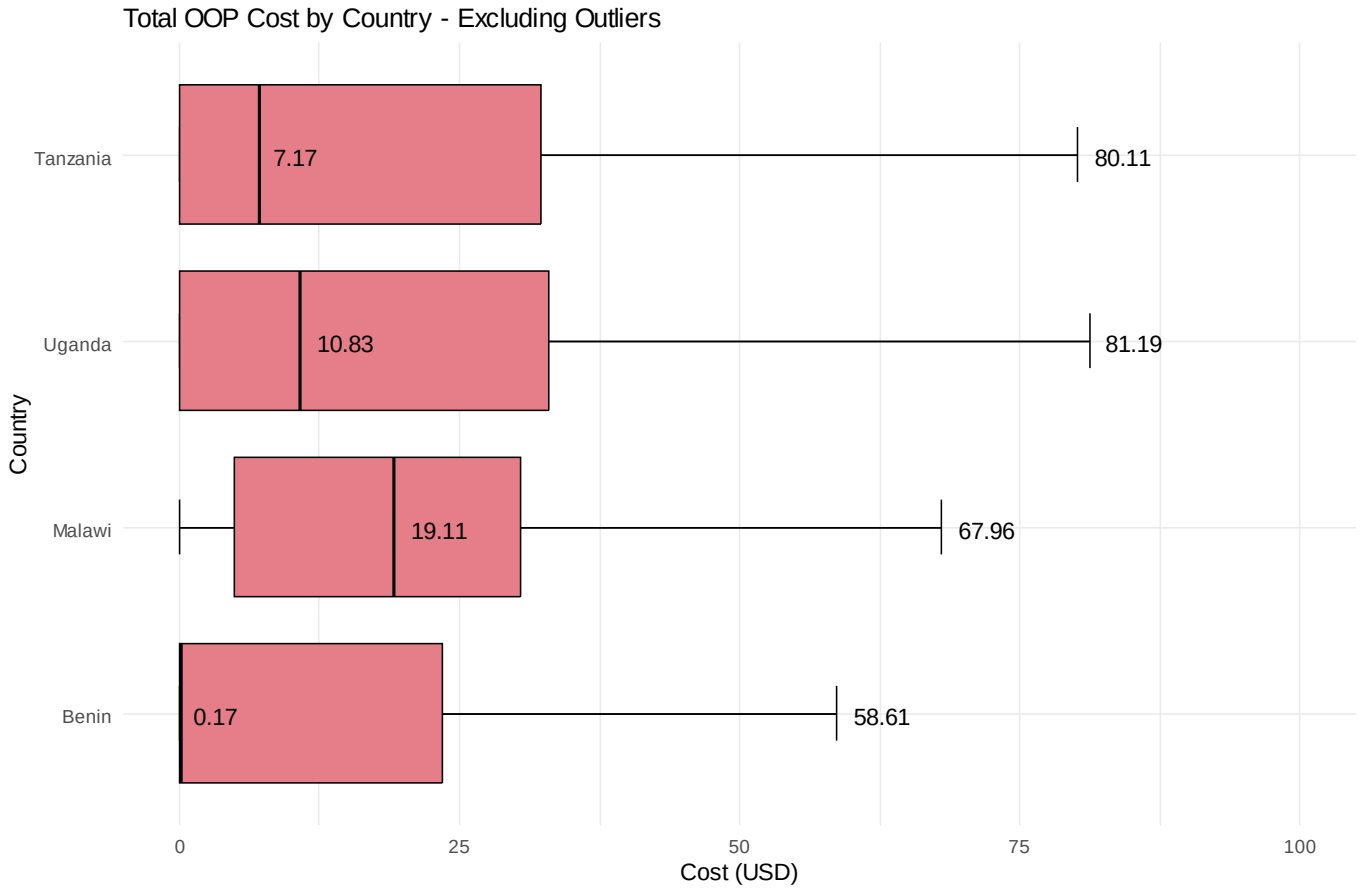
The objective: Analyse the costs and cost-effectiveness of the ALERT intervention

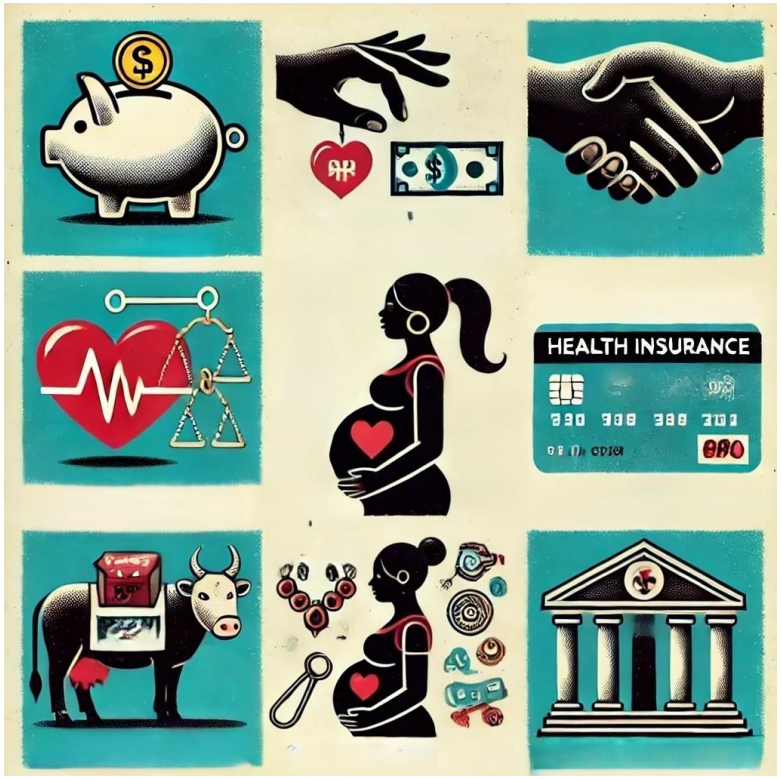
Resources used during contact	
17. Please specify number of cars used to travel to/from point of meeting	1
18. Did you travel from a previously registered ALERT activity?	(•) Yes ( ) No
18a. Travel time to reach destination took :	(•) 1- More than one hour ( ) 2- Less than one hour
18b. Please specify travel time (in hours) to point of meeting	2
18d. Please specify travel distance (in km) to point of meeting	68
19. The travel time to reach next destination will take	(•) 1- More than 1 hour ( ) 2- Less than 1 hour
19a. Please specify travel time (in HOURS) to next destination (could be Hospital/home/...)	3
19c. Please specify travel distance (in km) to next destination	156
20. Please specify Equipment/consumables used/brought by ALERT team Examples: Manuals, Projector, refreshments during meeting, etc.	none

Cost-effectiveness analysis (CEA)

	Cost	Effect
Standard care (SC) = Baseline	0	Average number of **perinatal deaths** before the ALERT intervention (WP6)
ALERT intervention	**Additional costs** due to the implementation of the ALERT intervention	Average number of **perinatal deaths** after implementation of the ALERT intervention (WP6)

Out-of-pocket expenses and coping strategies





Challenges and next steps

Challenges

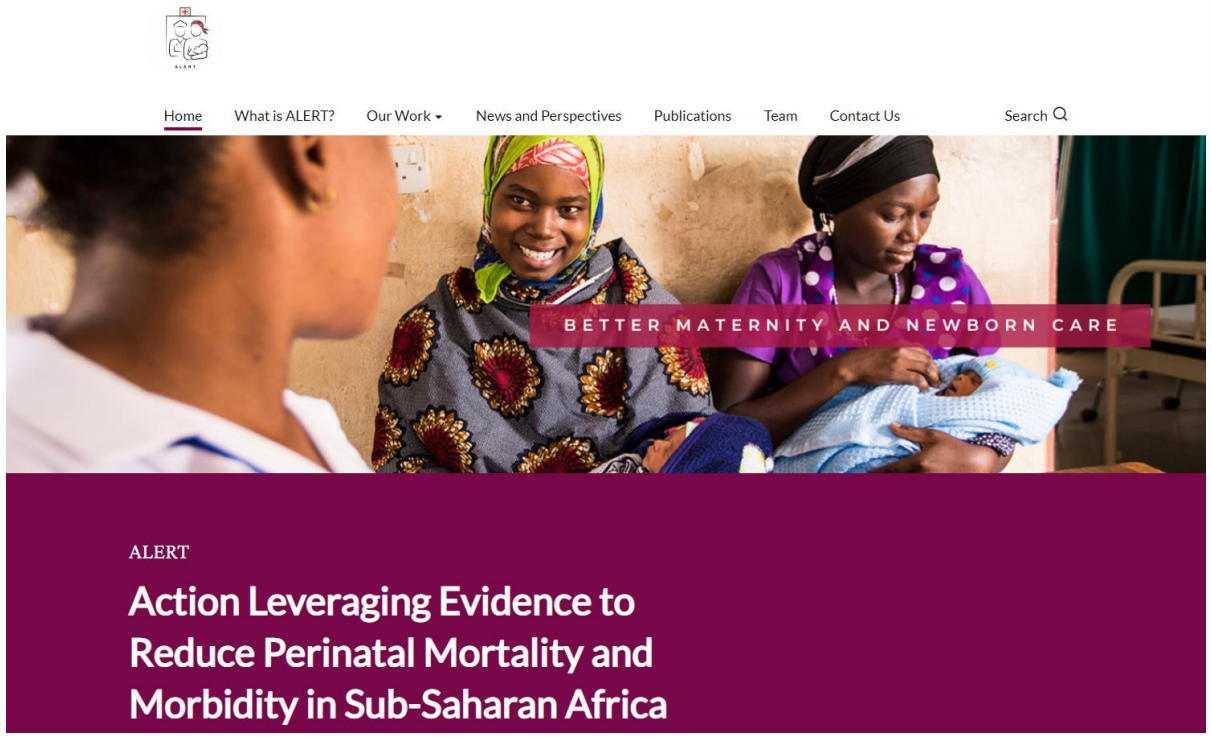
- Costing and cost-effectiveness
  - Implementation of an e-registry in a routine setting
  - Time investment mentorship (Informal contacts)
- Out-of-pocket expenses and socio-economic information
  - Reliance on exit interviews with post-partum women

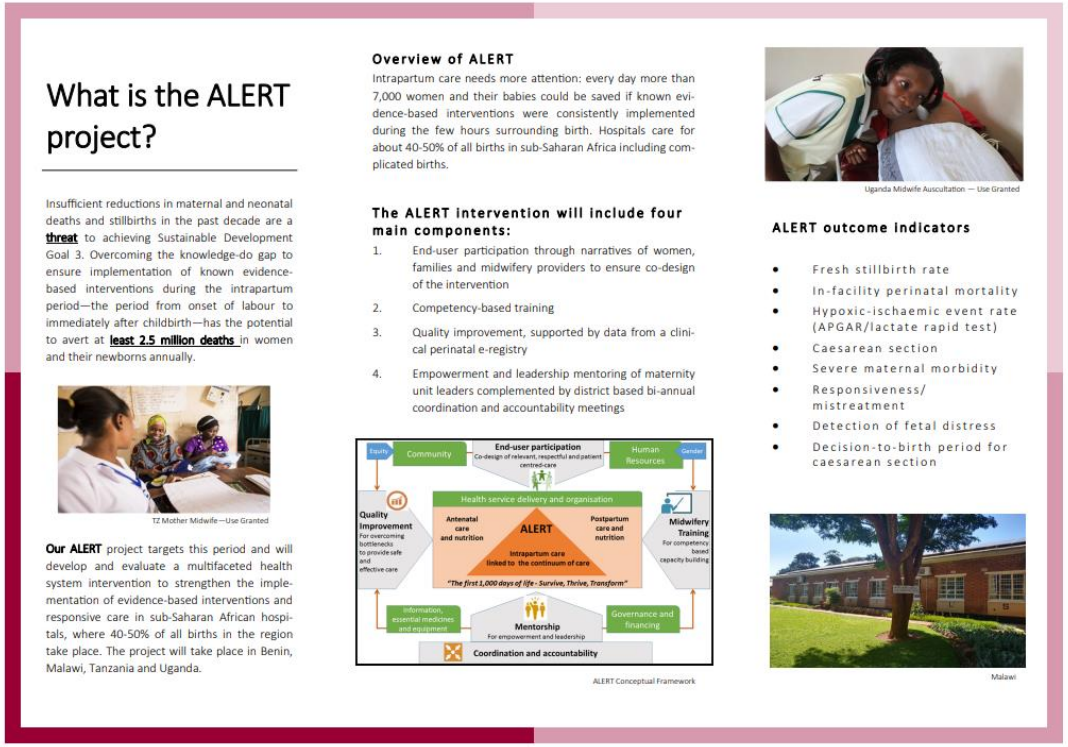
Next steps

- CEA and cost results to assess the intervention's scalability
- Analysis OOP and financial coping strategies

About ALERT

alert.ki.se **@ALERTprojectKI**





Thank you!

Karolinska Institutet

INSTITUTE OF TROPICAL MEDICINE ANTWERP

MUHAS

THE AGA KHAN UNIVERSITY

KAMUZU UNIVERSITY OF HEALTH SCIENCES

CERRHUD COTONOU

MHH

ALERT

ALERT – Action Leveraging Evidence to reduce perinatal Mortality and morbidity in Sub-Saharan Africa

Dissemination Event

QUESTIONS AND ANSWERS – PART 2