High Risk Pregnancy Referral Cards

Bomet County dissemination of research results

November 2021

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What and where

- The ambition is to ***reach 250,000 lives*** in ***4 counties*** in Kenya with relatively high maternal mortality.
- The project aimed to assess the potential impact through the use of high risk pregnancy referral cards by ***midwives, community health extension workers (CHEWs), volunteers (CHVs) and birth companions*** to identify at-risk pregnancies and make timely referrals from the community to the health system
- The project duration will be 12 months.

Background information on counties of choice:

Low resource settings still experience unacceptably high numbers of death from pregnancy and/or childbirth-related complications. The main causes of maternal morbidity and mortality in these settings are the interplay of social, cultural, economic, access to skilled health care, knowledge and health seeking behaviour, coupled with a high fertility rate and inadequate and under-funded health services.

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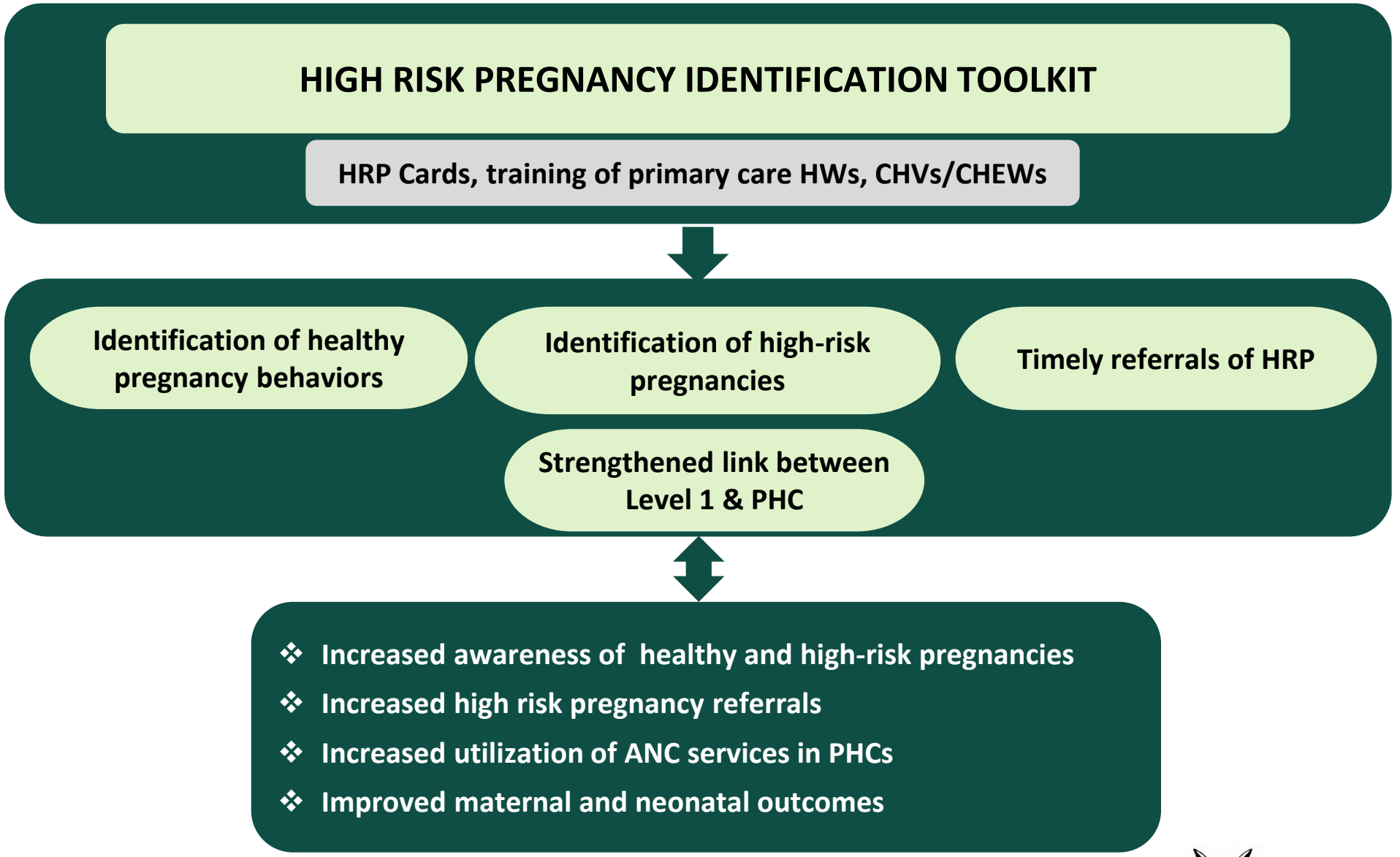
Conceptual framework



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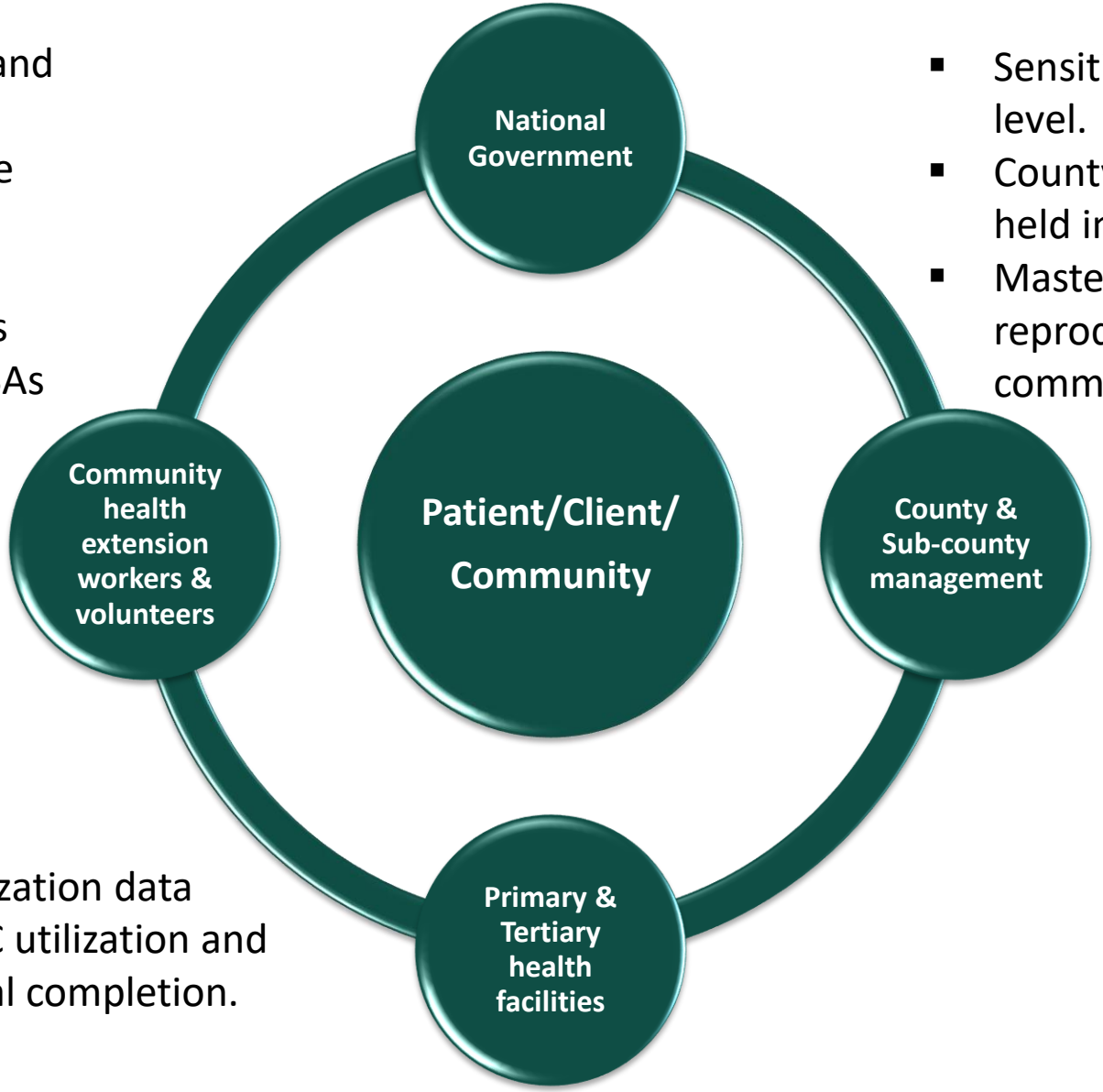
Project stakeholders

- Community health volunteers and Traditional Birth Attendants (TBAs) trained on the use of the HRP cards.
- Trainings of CHVs and TBAs are planned in each of the counties
- Reorientation sessions with TBAs conducted.



- Sensitization fora held at national level.
- County level engagement meetings held in all 4 counties
- Master TOT conducted with county reproductive health focal persons and community health strategists.

- Health facility utilization data abstracted on ANC utilization and community referral completion.

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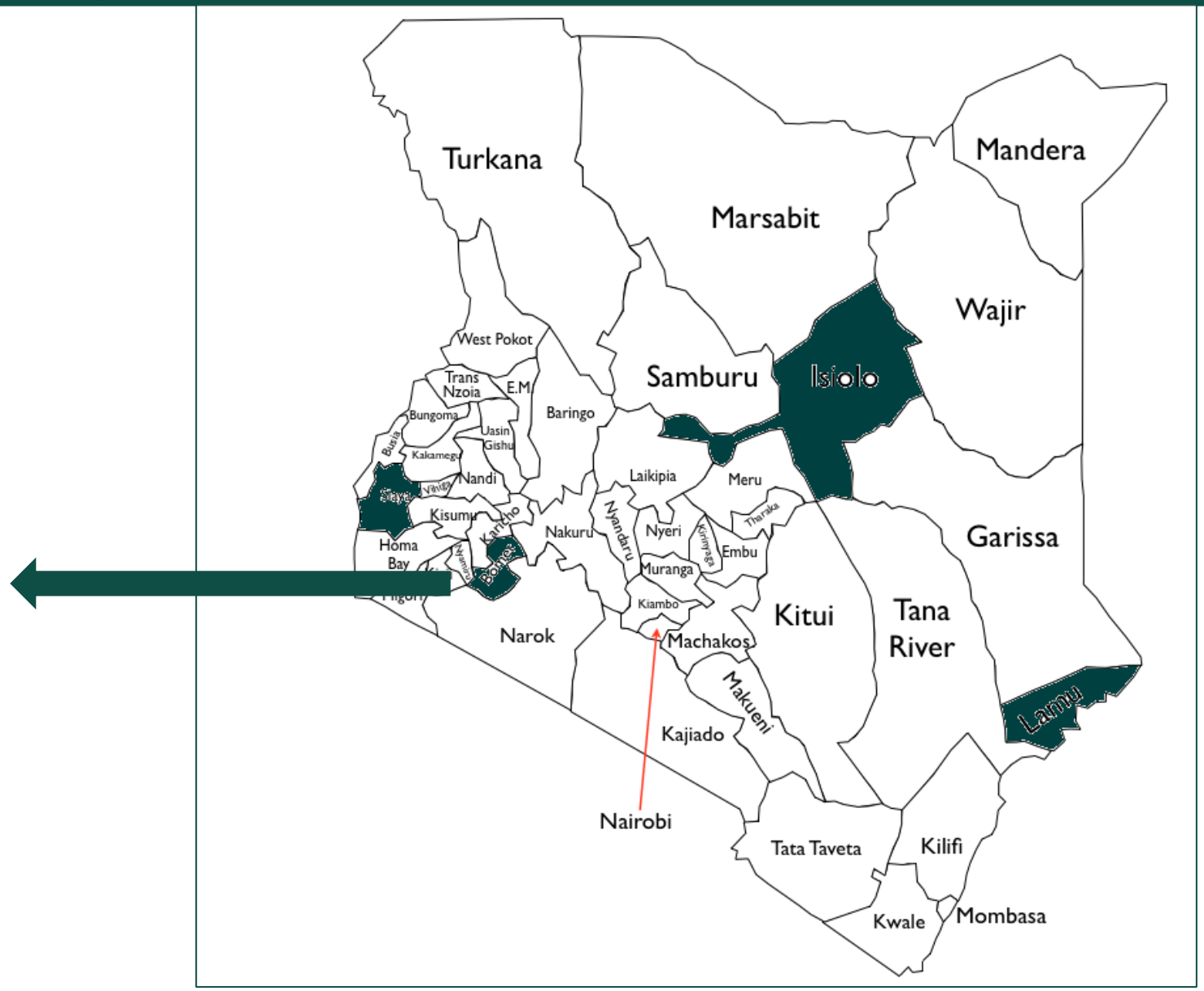
Project county selection

Bomet County

Main economic activity	
Total population	963,723
Women of reproductive age (WRA)	229,615
Estimated N° of pregnant women (2018)	35,596
N° of PHCs (level 2 & 3)	186



*source: Kenya DHIS 2018

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Project objectives and milestones

Project Objectives

- To increase awareness on healthy pregnancy amongst pregnant and women of reproductive age.
- To increase identification of at-risk pregnancies both at the community and primary health care level.
- To increase the number of at-risk pregnant women seeking appropriate medical support in time (during pregnancy and/or delivery).

Research objective

To assess the effectiveness of the use of HRP cards in identifying and referring at-risk pregnancies at community and primary health care level

Specifically:

- To determine the effect of use of HRP cards on awareness of healthy and at-risk pregnancy in the community
- To determine the association between use of HRP cards and high-risk pregnancy referrals to primary health care facilities
- To determine the association between the use of high-risk pregnancy referral cards and utilization of ante natal care services at primary health care level
- To determine the proportion of at-risk pregnancies correctly identified using the high-risk pregnancy referral cards at facility and community level

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Project timelines

Pre-Covid period; unrestricted movement	Detection of Covid cases in country and dawn to dusk curfew and restriction in movement	Reduced curfew hours and relatively eased movement restrictions in county

Oct 2019	Nov	Dec	Jan 2020	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec 2020

Baseline survey	Initial implementation	Minimal implementation, no regular household visits	Resumed implementation and household visits	End line survey

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Project Implementation

- A master training-of-trainers (TOT) was conducted with county reproductive health focal persons, county community health strategists and some community health assistants.

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Project Implementation

- National and county inception meetings
- Baseline and end line surveys: about 30 Kenya Red Cross volunteers trained to conduct surveys in the two sub counties (Sotik and Bomet Central).
- CHVs assisted in mapping out households.
- About 3000 women from each of the sub counties interviewed at baseline and end line.

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Training of Community Health Volunteers

- A total of 200 Community Health Volunteers (CHVs) and 35 Traditional Birth Attendants (TBAs) from Bomet Central sub county were trained on the use of the HRP cards.

- Re-orientation sessions were held with Traditional birth Attendants to re-train them to be Birth Companions.

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HRP Cards Content and quality

- Health workers felt that HRP cards were well summarised.
- CHVs confirmed durability of the HRP cards material – Waterproof and tearproof.
- HRP cards colour code was self explanatory- green for good habits and red for danger signs and risks

"…This provides a very tailored messaging that CHVs can easily pass and communicate in the community. It was so good when I saw it that, you mean the whole information that we've been having can be simplified given out in a method that is easily understood by the clients with the pictures…"
County Chief Medical Officer Bomet

"…It is durable. In fact, when I saw it, I wanted to know 'what is this material?' and I was happy. It cannot tare off. …Even for me I've been having a copy of the card, walking with it in my bag all the time and unlike the other books it has never gotten torn. It has never lost some pages. It has remained as new as it was in the beginning. I think this is the best material ever." ***County Reproductive Health Coordinator Bomet***

Role of CHVs and TBAs

Roles in HRP project

- Educating the community on healthy habits in pregnancy
- Educating the community on risks and danger signs in pregnancy
- Identifying and referring women with risks in pregnancy
- Accompanying women with danger signs to the health facility instead of conducting deliveries

"…We feel that we gained knowledge because previously we were TBAs, and we could conduct deliveries at home without protective equipment like gloves. We used to handle the expectant mothers with bare hands. After re-training we understood that every mother should deliver at the hospital and when the mothers call us, we usually accompany them to the facility instead …"

TBA Bomet central CU

Mother to mother support groups (MTM)

CHVs organized MTM support groups with assistance from Kenya Red Cross.

A total of 276 women enrolled to MTM groups

MTM provided a platform to:

- Discuss health problems and pass on important health information.
- Sensitize pregnant women on healthy habits.
- Sensitize on risks and danger signs in pregnancy using the HRP cards.
- Organize saving scheme for birth preparedness

"…I tell you, mothers whom we had placed in support group, they are quite different from the mothers who are not involved in the support group. If you compare the two, the ones who were in support group and the ones who are not in the support group, you will realize that this one is more knowledgeable than the one who is not in the support group."

CHV Bomet central CU

Male sensitization fora

- CHVs organized male sensitization forums to sensitize men on the high-risk pregnancy project.
- Male forums were held once a month in each community unit with a meeting having as many as sixty men in attendance
- Health workers reported increase in number of men accompanying women to ANC clinic

"You know you could go for a session with the men, and they could ask you questions that they were never open to asking, they could not open up to someone else about pregnancy. But when we were there with the sub-county team, together with the project coordinators, they could ask questions that you would feel that this project is really working for them" ***CHA Singorwet CU, Bomet***

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Survey of knowledge among women or reproductive age

Demographic Characteristics

- Total of 6,863 women of reproductive age interviewed (baseline and end line)
- Majority of participants aged between 25-35 years. Less than 10% were above 45 years.
- Overall, about 99% of the women had attended primary school education.
- Differences detected in education profile

	Baseline	End line
Bomet central (intervention)	1561 (50)	2018 (54)
Sotik (control)	1543 (50)	1741 (46)

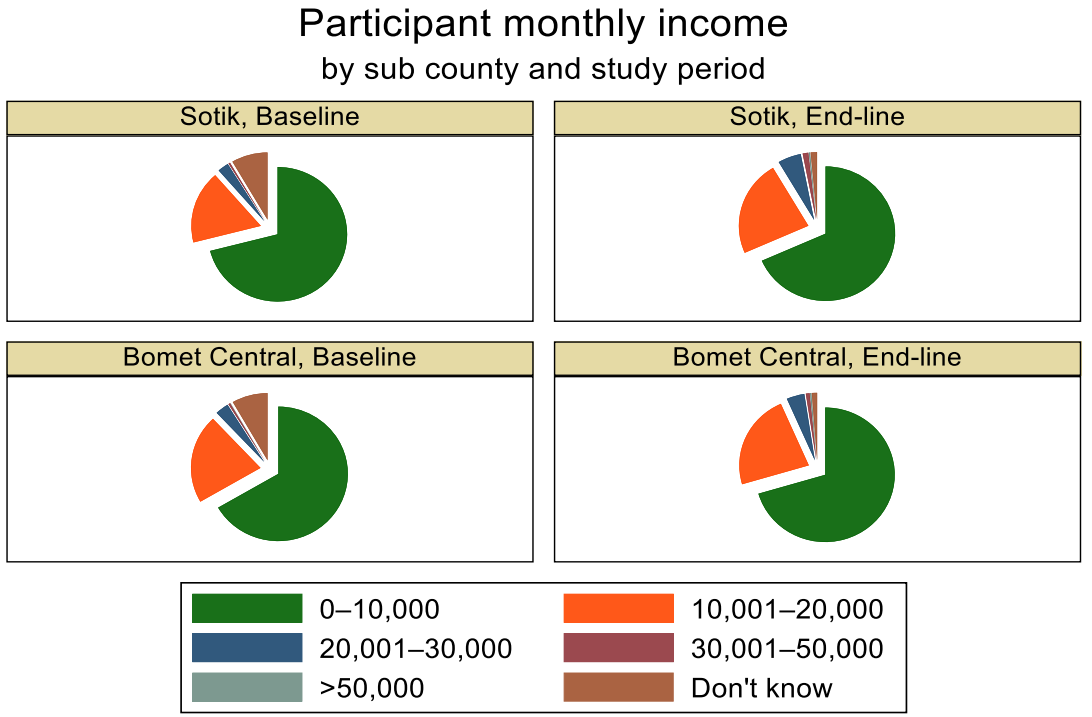
Demographic Characteristics

Characteristic	Baseline	End line
Age: range Median	 18 – 49 yrs 30 yrs	 18 – 49 yrs 29 yrs
Highest Education level: Attended primary Completed secondary	 58% 31%	 50% 38%
Family size range	1-16	1-18
Average income	75% below 10,000	70% below 10,000
No. of children range	1 - 14	
Marital status	75% married	
Living near primary health facility (HF)	95%	92%
<2km from HF	66%	52%

Survey Results

Demographic Characteristics Cont…

- Increase in proportion of employed and self employed women at end line. Two in every five women were unemployed in both sites.
- Overall, more than two thirds of the women were married and living with their husbands.
- The mean family/household size was 6 members with a maximum of 14 household members.
- One percent of the participants had more than ten children.



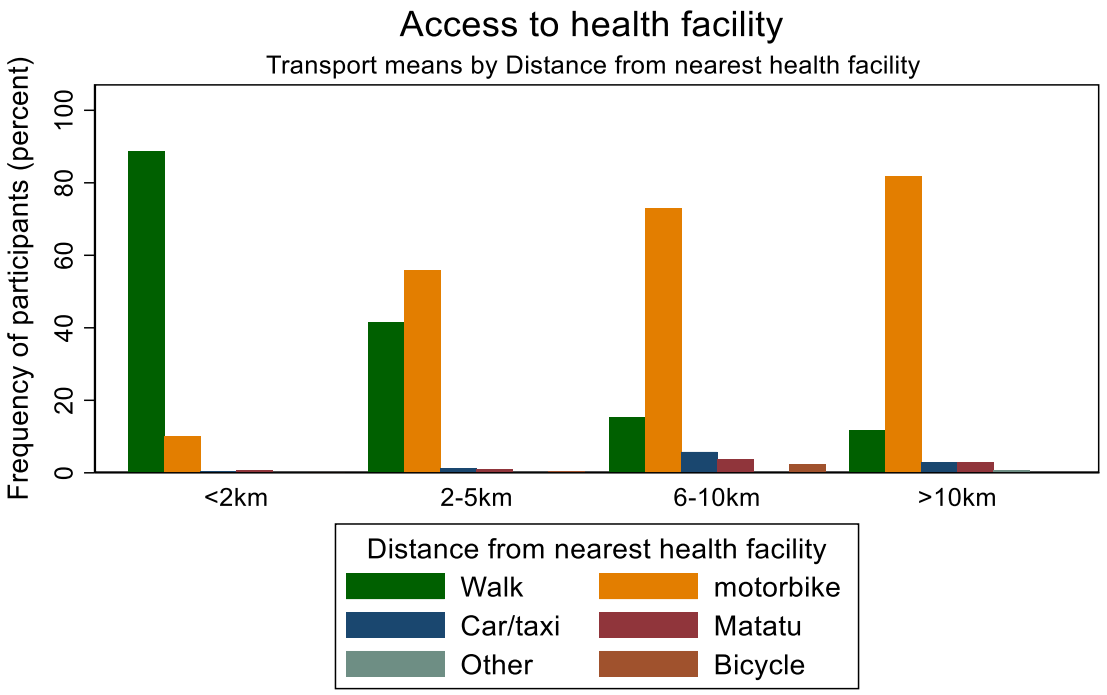
Number of children

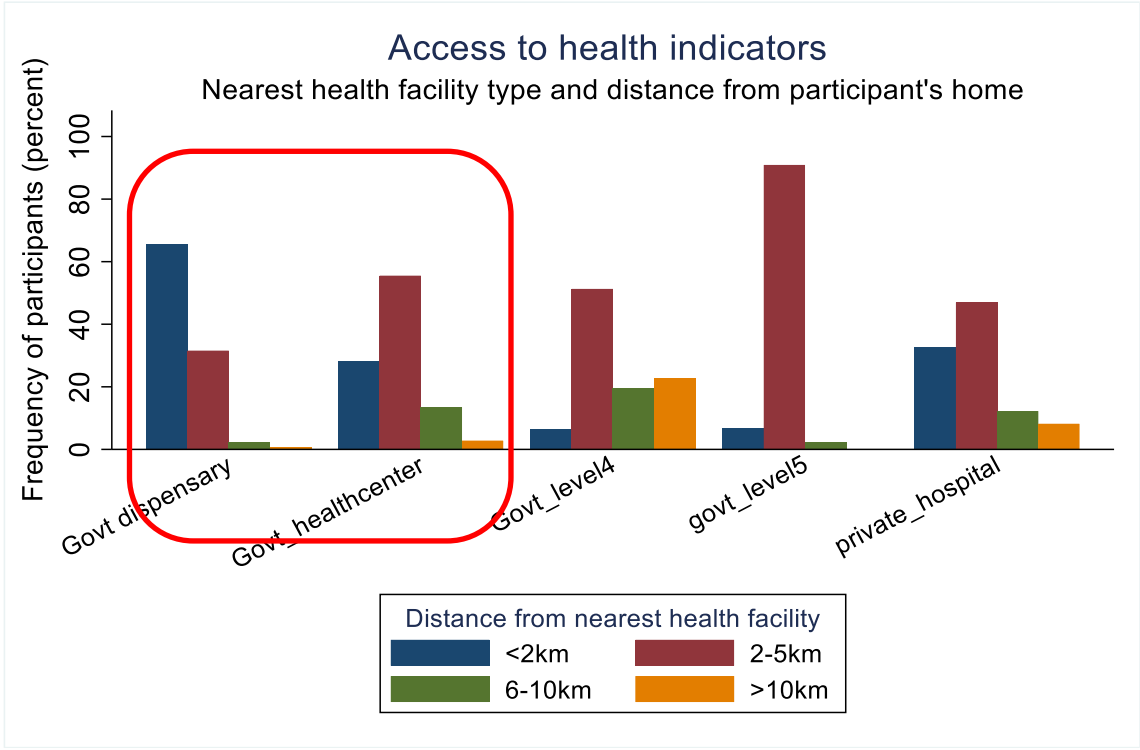
Characteristic	Intervention (Bomet Central)		Control (Sotik)	
	Baseline	End line	Baseline	End line
No children	160 (10)	246 (12)	135 (9)	225 (13)
1-3 children	777 (50)	997 (49)	784 (51)	884 (51)
4-9 children	607 (39)	753 (37)	612 (40)	619 (36)
>10 children	17 (1)	22 (1)	12 (1)	13 (1)

Survey results

Access to health facilities

- 6,423 (92%) participants from Bomet and Sotik, could easily access a public dispensary or health centre.
- Majority of the women lived less than 5kms from the public health facilities (91%)





Women in Sotik, the control site had to cover more distances to access health facilities in comparison to those in the intervention site

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Survey Results

- Significant increase in proportion of women who attended at least 4 ANC clinic visits during their previous pregnancy.

- About 10% significant reduction in home deliveries between baseline and end line in intervention site. No reduction in home deliveries in control site

Knowledge of CHVs and maternal healthcare utilization				
Characteristic	**Intervention (Bomet Central)**		**Control (Sotik)**	
	Baseline	**End line**	**Baseline**	**End line**
Heard of CHVs				
No	717 (46)	88 (4)	487 (31)	216 (12)
Yes	844 (54)	1930 (95)	1056 (68)	1525 (88)
Know area CHV				
No	365 (43)	120 (6)	335 (32)	148 (10)
Yes	479 (57)	1810 (94)	721 (68)	1377 (90)
Attended ANC (current pregnancy)				
No	29 (38)	51 (28)	27 (28)	55 (32)
Yes	48 (62)	132 (72)	69 (72)	93 (68)
Received advice on complications				
No	928 (59)	516 (26)	777 (50)	744 (43)
Yes	633 (41)	1502 (74)	766 (50)	997(57)
Advice on pregnancy complications				
By Nurse	569 (90)	1173 (78)	639 (83)	846 (85)
By CHV	4 (0)	595 (39)	5 (1)	53 (5)

Survey Results

Effect of High-Risk Pregnancy Cards on knowledge

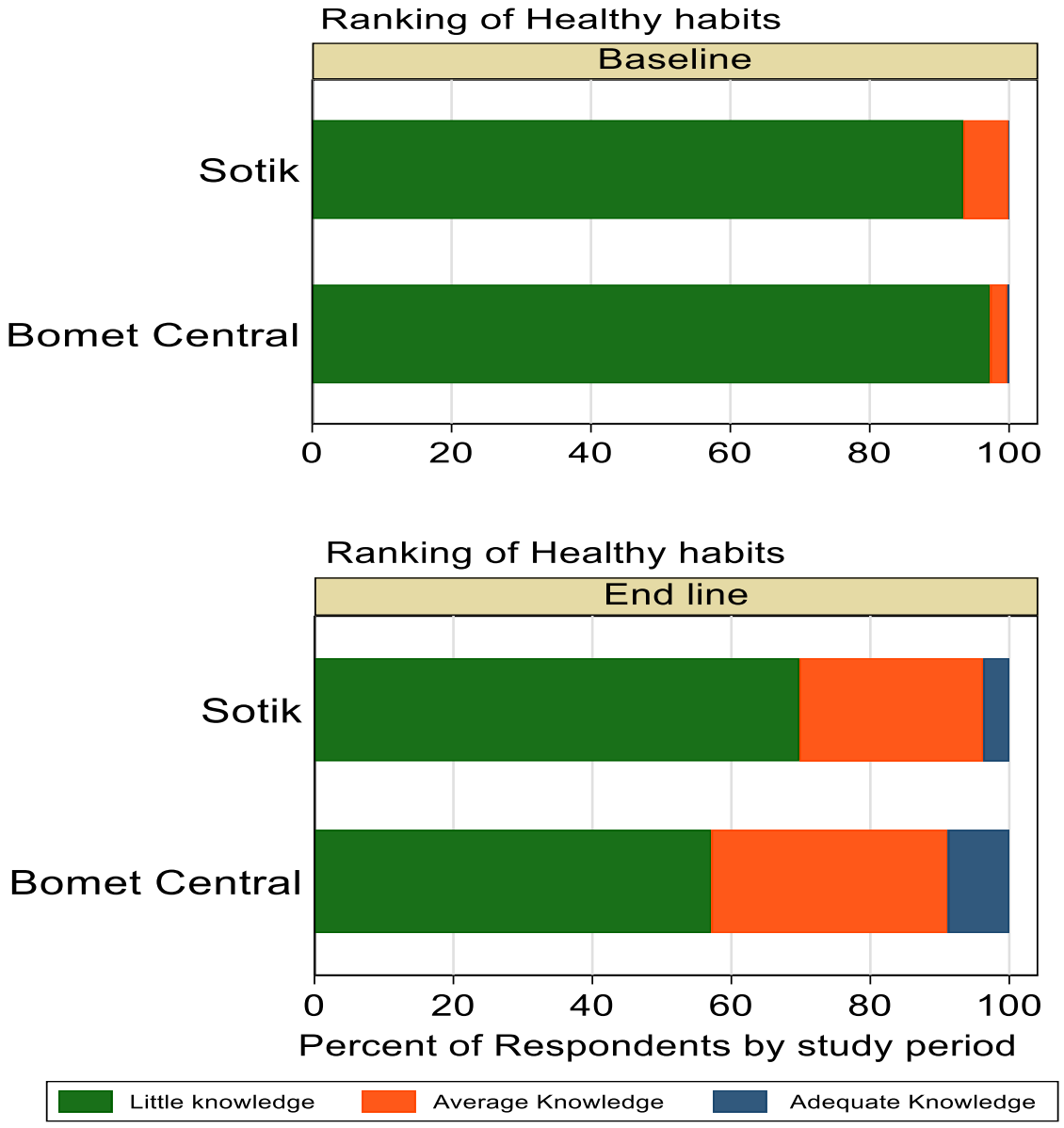
- Use of the HRP cards enhanced CHV's , the TBAs' and women's ability to identify multiple risks and danger signs in pregnancy
- Four out of every five women interviewed from intervention site saw and interacted with the HRP cards.
- More than two thirds (72%) received information on the HRP card from a CHV.

These CHVs have really been empowered. Their capacity has been elevated to another level, I tell you, if you are to interview them and ask them, "can you give me five danger sign on the spot" They will do it off head. So this book… to me initially I was of the idea, this will be the doctor's book, but the CHVs here have it and it is wonderful…It seems they are our village doctors now…" ***CHA Kapkoros Bomet***

Objective 1:increase awareness on healthy pregnancy amongst women of reproductive age

Knowledge on healthy habits in Pregnancy

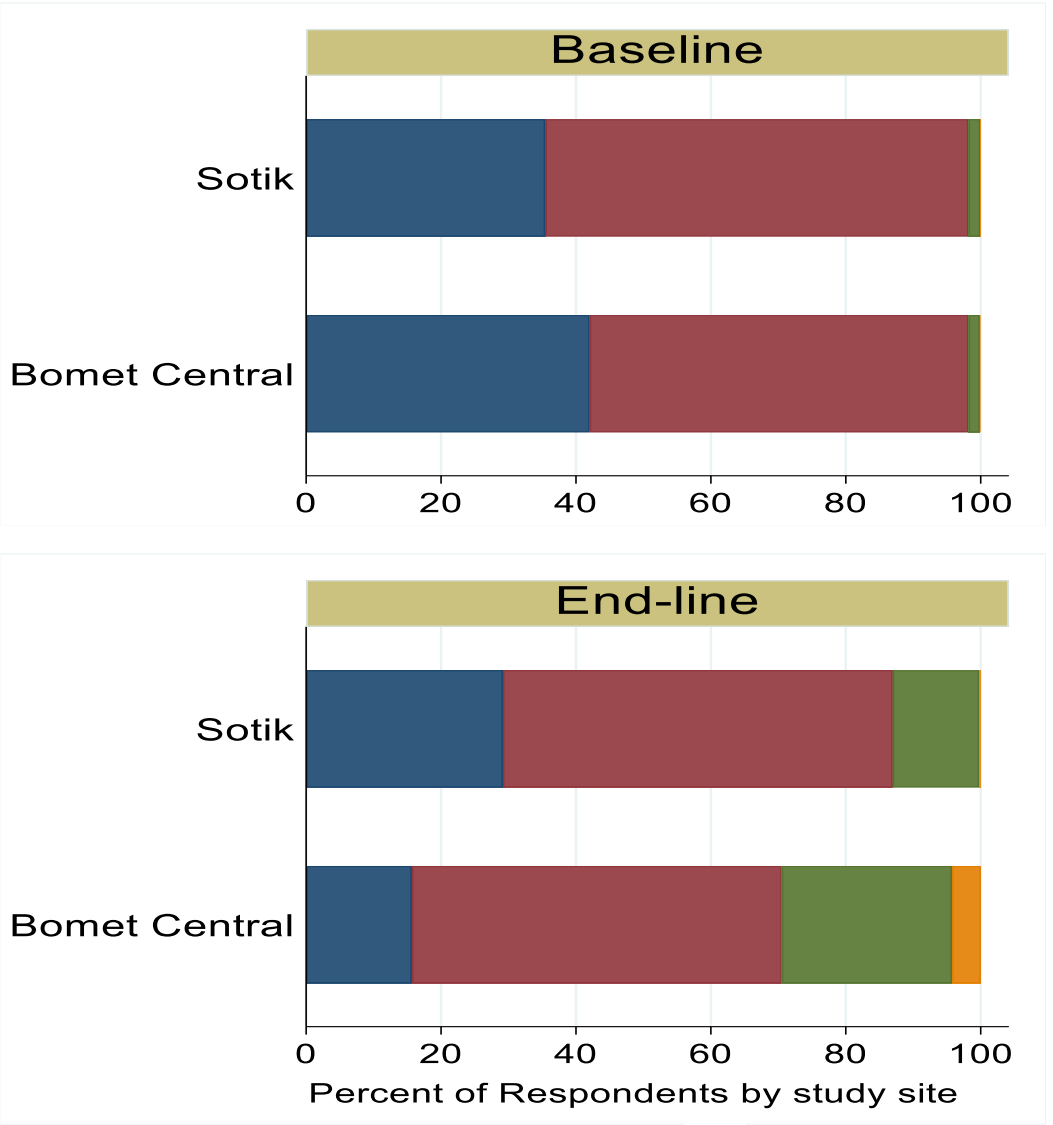
- The four most mentioned healthy habits in both sites were healthy eating, maintaining good hygiene, avoiding carrying heavy weights and attending ANC.
- There was 40% significant increase in knowledge of healthy habits in pregnancy from little to average and adequate knowledge in intervention site.
- We observed higher median number of healthy habits mentioned among those who has seen the HRP cards



Objective 1:increase awareness on risks and danger signs in pregnancy amongst women of reproductive age

Knowledge on Risks /danger signs in Pregnancy

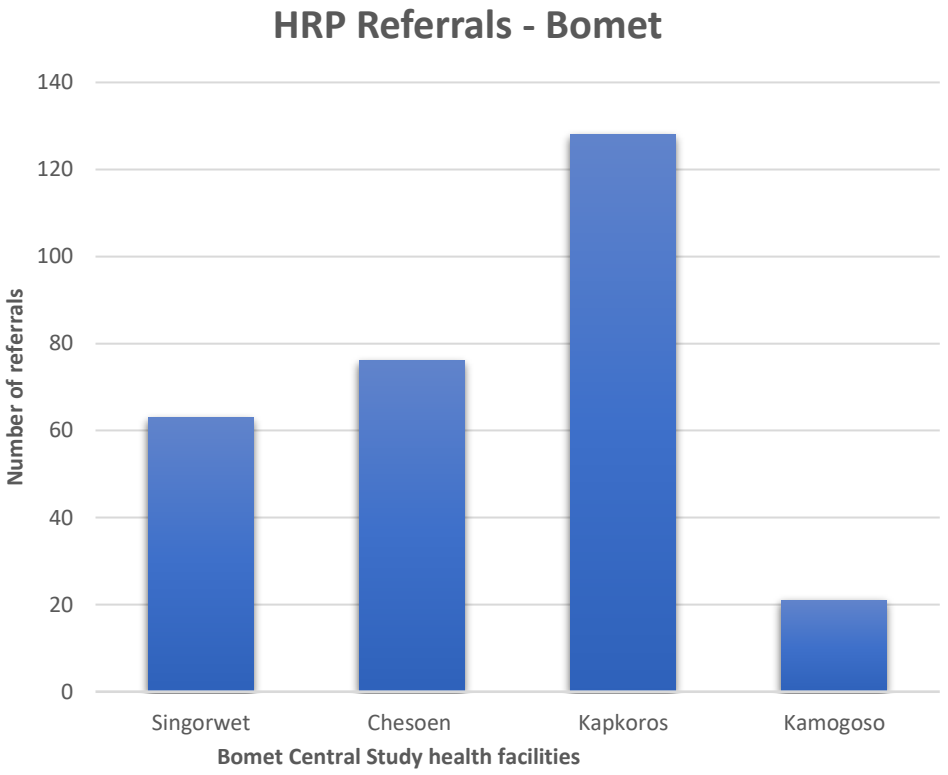
- Of the twenty-three risks/danger signs, excessive vomiting, fever, vaginal bleeding in pregnancy and anemia were the most mentioned risks.
- Overall, 26% significant increase in knowledge of risk and risky habits in pregnancy from no or little knowledge to average and adequate knowledge.
- 91% of women reported gaining new knowledge from the HRP card.



Objective 2:Increase identification of at-risk pregnancies both at the community and primary health care level

Knowledge on Risks /danger signs in Pregnancy

- CHVs identified and referred women with risks and danger signs to the health facilities.
- A total of 288 women with risks in pregnancy were managed and followed up by CHVs.
- A notable increase in number of referrals of at-risk pregnancies to the health facilities.
- Health workers reported a reduction in the number of high-risk complications in pregnancy which they attributed to the timely referrals precipitated by use of the HRP cards.



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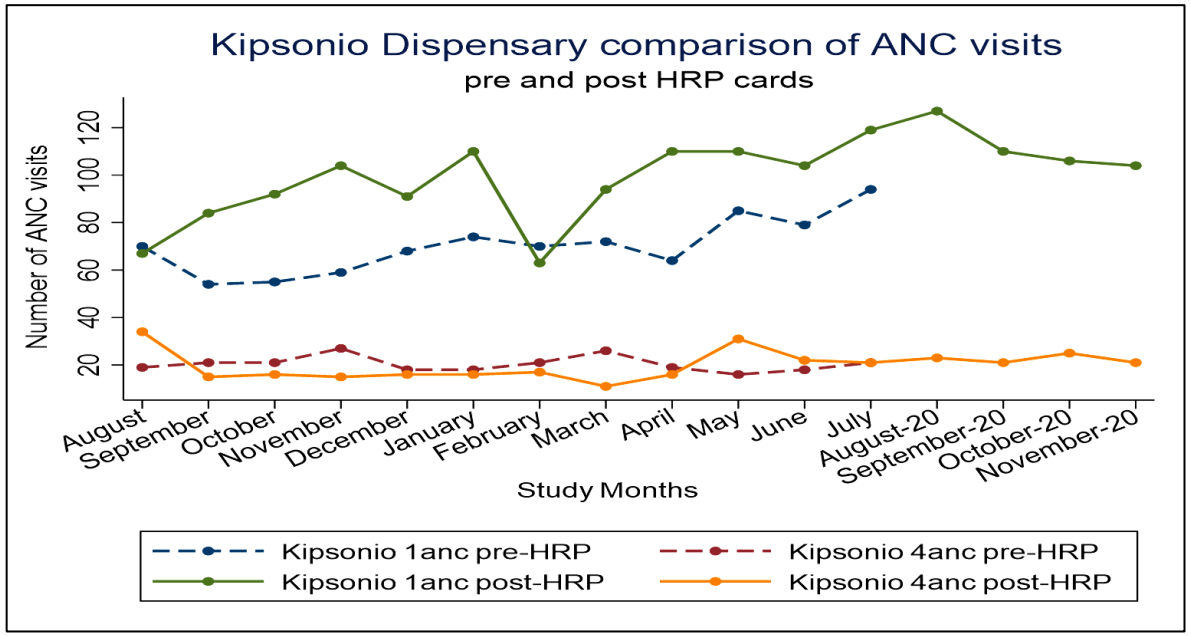
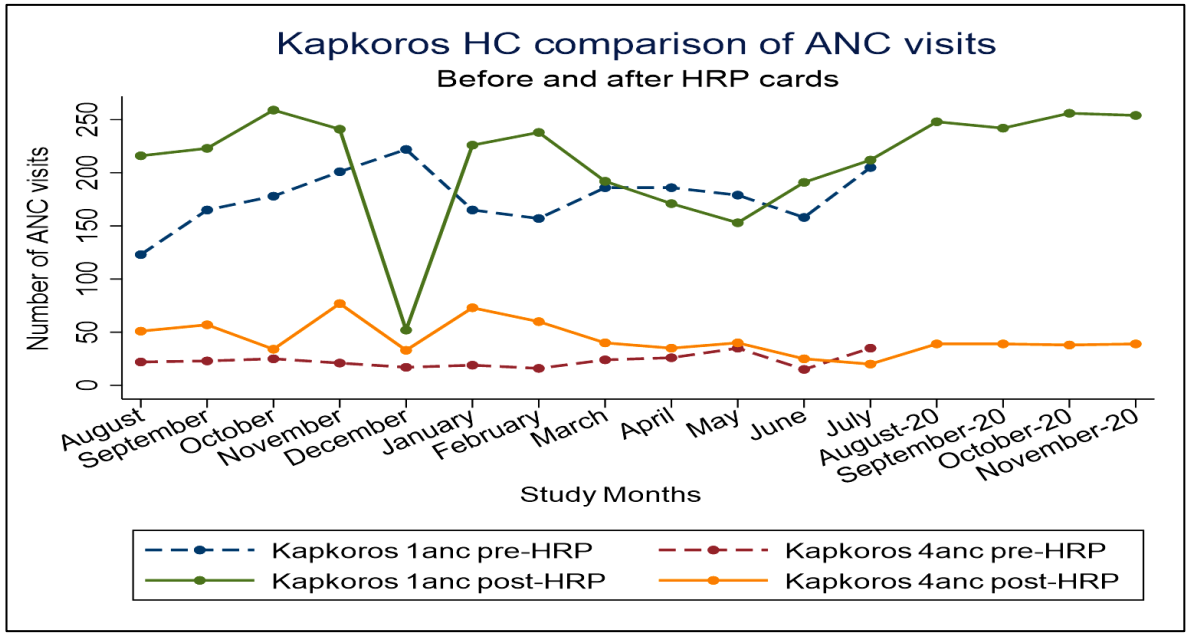
Objective 3:To increase the number of at-risk pregnant women seeking appropriate medical support in time

Utilization of ANC services

- We detected an overall increase in number of 1st and 4th ANC visits in study link facilities.
- Enhanced communication and link between community level health care and primary health facilities





- CHVs reported more completed referrals which facilitated proper follow up of women with risks in pregnancy to adhere to ANC visits.

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Qualitative interview insights

"…..the same TBAs who were conducting deliveries within the community are the ones that are escorting the mothers to come to the to the health facility from the community" – **County RH coordinator**

"We would like this HRP project to spread to the whole of Kenya because here it has helped very many mothers" - **CHV**

"….to be sincere…I really want to be honest. Initially I underestimated HRP project, I didn't know that it will grow to be something big in our community, because I am telling you, it has changed lives." - **CHA**

"I will talk to her slowly. Because this book is like my bible I will open where the high risk is, I show her and also she sees the pictures. Because you know they want you to show them the pictures and they say aha so this thing is true…" **- CHV**

"…because of this information, now our CHVs are informed, they have the knowledge. When they see something, they'll call you and ask you... Anytime of the day, 24 hours…even at night. They say, 'this mother is bleeding. An expectant mother is not supposed to bleed….I am bringing her to the hospital'" **– Health worker**

"this book has made me know a lot because in the past we were just doing deliveries even when the mother is going to die in your hands you continue. And this book has changed all that and earned us respect. It has earned us respect in the community. This book is good."- **TBA**

"this HRP book is like the bible that we carry to church. It has earned me respect in my village, and you are told if you are pregnant, go to sister Rose to give you advise on what you are suffering from even if it's a stomachache. You have given me a big name and a good name that only God knows"- **TBA**

Key Learnings

Behaviour change

- Reorientation and equipping of TBAs with HRP cards
- Change of roles and adoption of new practices.
- Reduction of home deliveries assisted by traditional birth attendants

Knowledge transfer

- Marked increase in knowledge among CHVs, Birth ambassadors, pregnant women and community members in general.
- Significant change in knowledge of healthy habits in pregnancy among WRA from between baseline and end line.
- Significant change in knowledge of risks and risk factors in pregnancy among WRA from between baseline and end line.

Increased ANC utilization

- Notable increase in the number of referrals of at-risk pregnancies to the health facilities.
- A reduction in the number of high-risk complications in pregnancy which they attributed to the timely referrals precipitated by use of the HRP cards

Enhanced link between CHVS and primary health facilities

- CHVs reporting more completed referrals which facilitated proper follow up of women with risks in pregnancy

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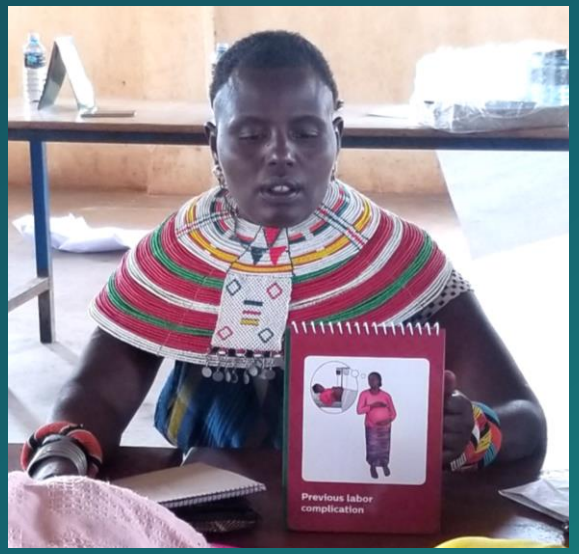

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