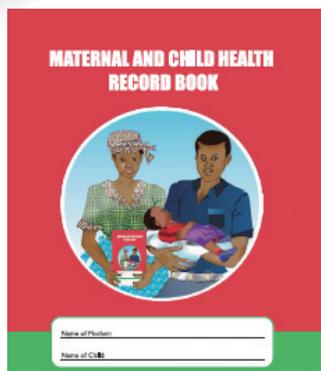




## GHANA: Testing comparative advantages of a new combined MCH Record Book to the existing separate record books



Maternal and Child Health Record Book, Ghana, 2018

### Background

Over the last decades, the Ghanaian health system has been employing two separate home-based records for maternal and child health, i.e. Maternal Health Records (MHR) and Child Health Records (CHR). The results of the Ghana Ensure Mothers and Babies Regular Access to Care Implementation Research Project (2012-16) highlighted the importance of linking MHR and CHR, and educating mothers in promoting continuum of care (CoC). In response to the recommendation, the Ministry of Health (MOH) and the Ghana Health Service developed the Maternal and Child Health Record Book (MCH RB), an integrated home-based record for both a mother and her child, with technical support from Japan International Cooperation Agency (JICA). Prior to its nationwide scaling-up, the MCH RB was piloted in the selected health facilities in three regions (i.e. Ashanti, Central, and Upper West) during the period from June 2017 to February 2018. The study aimed to examine expected comparative advantages of MCH RB over MHR and CHR.

### DID analysis based on panel data

This quasi-experimental study was designed as a difference-in-difference (DID) study. A pair of

districts matched for socio-economic indicators was selected in each of three pilot regions, to ensure homogeneity between them. Intervention and control facilities were randomly assigned in respective districts. A total of 1,200 women were selected from six strata i.e. antenatal care (ANC 1, ANC2, ANC3, ANC4), delivery and postnatal care (PNC). Of them, 318 women (27%) were unable to be contacted at the time of follow-up survey, primarily due to relocation from their original districts. Thus, the panel consisted of 440 women in the intervention group and 442 women in the control group. Structured interviews were conducted for the women, using a questionnaire on knowledge, attitude and practice (KAP) and satisfaction with services. The intervention group used MCH RB for six months, while the control group used MHR and CHR during the same period. Structured interviews were also conducted for health workers (N=120) at the intervention facilities after the intervention. Prior to the distribution of the MCH RB to women in the intervention group, 60 health workers working at interventions facilities participated in a two-day orientation on the contents of the MCH RB. Difference-in-difference (DID) linear regression models were employed to examine the impact of the MCH RB.

### Characteristics of respondents was examined utilizing the baseline data

Mean age of women between the intervention group (mean=26.63, sd=6.09) and the control group (mean=26.71, sd=6.49), mean parity between the intervention group (mean=2.77, sd=1.70) and the control group (mean=2.60, sd=1.64), did not produce a significant difference. While a majority of women completed lower secondary education (middle/junior high schools), approximately 30% women were illiterate in both groups. Marital status was different between the two groups, by showing significantly higher proportion of women either separated, divorced or never married in the control group (7.5%) than intervention group (2.1%) ( $P < 0.001$ ) (Table1).

### MCH RB as a promoter of CoC and better preparation for delivery and risks

In this study, CoC completion was defined as the utilizations of all key services: (i)  $\geq 4$  ANC visits;

Table 1. Characteristics of respondents in the baseline survey

	Intervention Group (n=440)	Control Group (n=442)	P value
Age (mean years (SD))	26.63 (6.09)	26.71 (6.49)	
Parity (mean years (SD))	2.77 (1.70)	2.60 (1.64)	
<b>Age</b>			
15 – 19	41 (9.3%)	56 (12.7%)	
20 – 34	347 (78.9%)	328 (74.2%)	
>34	52 (11.8%)	58 (13.1%)	
<b>Education</b>			
None	74 (16.8%)	80 (18.1%)	
Primary	79 (18.0%)	67 (15.2%)	
Middle/Junior High	210 (47.4%)	208 (47.1%)	
Secondary/Senior High, Vocational	48 (10.9%)	66 (14.9%)	
Tertiary or above	29 (6.6%)	21 (4.8%)	
<b>Literacy</b>			
cannot read and write	138 (31.4%)	113 (25.6%)	***
<b>Marital status</b>			
Married	339 (77.0%)	293 (66.3%)	
Cohabiting	92 (20.9%)	116 (26.2%)	
Separated/Divorced/Never married	9 (2.1%)	33 (7.5%)	
<b>Parity</b>			
First Pregnancy	122 (27.7%)	143 (32.4%)	

\*\*\*  $P < 0.001$



A mother and a child received MCH RB at a health center in Ashanti Region

(ii) delivery assisted by skilled birth attendant; and (iii) PNC within 48 hours after delivery, at two weeks and at six weeks for a mother and a child. CoC completion rate during last six months was significantly higher in the intervention group than in the control group at the time of follow-up (Intervention 76.8%, Control 62.9%,  $P < 0.001$ ).

DID analyses confirmed that MCH-related knowledge significantly increased more in the intervention group than in the control group. The proportion of women having correctly identified more than five danger signs during pregnancy significantly increased more in the intervention group than in the control group (Intervention from 25.7% to 60.5%, Control from 27.1% to 33.5%, DID 28.4%,  $P < 0.001$ ). Similarly, the proportion of women having correctly identified more than five danger signs during childhood (Intervention from 17.7% to 55.0%, Control from 17.0% to 29.6%, DID 24.7%,  $P < 0.01$ ) and women having known more than three things to prepare for delivery (Intervention from 45.9% to 78.2%, Control from 49.1% to 63.1%, DID 18.3%,  $P < 0.001$ ) significantly increased more in the intervention group than in the control group.

A significantly greater proportion of couples in the intervention group discussed delivery plan (Intervention from 71.5% to 83.6%, Control from 68.6% to 64.3%, DID 16.4%,  $P < 0.001$ ), and

prepared for delivery (Intervention from 73.2% to 94.2%, Control from 72.6% to 81.3%, DID 12.3%,  $P < 0.01$ ). A significantly greater proportion of women were encouraged by the family members to seek health services (Intervention from 77.3% to 94.7%, Control from 82.8% to 87.3%, DID 12.9%,  $P < 0.01$ ) (Table 2).

## Satisfaction among women and health workers

A significantly greater proportion of women having used MCH RB were "satisfied very much with the services last six months" at follow-up (Intervention 77.9%, Control 58.2%,  $P < 0.001$ ). Since marital status might have confounded with the level of satisfaction, a further analysis by controlling marital status was needed. Eighty-six percent of health workers having used MCH RB agreed that the MCH RB made their works more efficient than two separate records. And, 97% of them perceived that MCH RB helped them provide better health services, while 73% felt their work might have become busier and complicated. This may be because health workers are required to transcribe the health data from the MHR and CHR into MCH RB during the transition period.

## Conclusion

The findings of the study confirmed that use of the MCH RB is likely to promote CoC, by raising awareness on and preparation for MCH-related risks and encouraging women to seek essential services. The MCH RB is also highly accepted by both women and health workers, while the extra duty for the health workers during the transition period from the two separate records to the integrated home-based record need to be carefully considered with supportive measures. Based on the results of this piloting, the Ghanaian MOH launched the MCH RB for nationwide scaling-up, in March 2018.

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Table 2. Summary of DID analysis on Knowledge, Attitude and Practice related to MCH

Indicator	Intervention Group (N=440)			Control Group (N=442)			Difference-in Difference (DID) %	
	BL (%)	EL (%)	% change from BL	BL(%)	EL(%)	% change from BL		
<b>Knowledge</b>								
Know more than 5 danger signs during pregnancy	25.7	60.5	34.8	27.1	33.5	6.4	28.4	***
Know more than 5 danger signs for a child	17.7	55.0	37.3	17.0	29.6	12.6	24.7	**
Know more than 3 things to prepare for delivery	45.9	78.2	32.3	49.1	63.1	14.0	18.3	***
Know next visit	73.4	90.5	17.1	79.9	73.5	-6.4	23.5	***
Know how long Exclusive Breast Feeding should be practiced	73.0	94.5	21.5	80.1	86.0	5.9	15.6	***
<b>Attitude</b>								
Willingness to ask more questions to health worker	91.4	96.4	5.0	84.2	88.4	4.2	0.8	*
Willingness to discuss delivery plan with partner	90.5	98.2	7.7	87.6	91.2	3.6	4.1	
<b>Practice</b>								
Discussed Danger Signs for pregnancy with partner	77.9	81.8	3.9	79.0	85.1	6.1	-2.2	**
Discussed Danger Signs for a child with partner	62.0	90.6	28.6	55.4	66.8	11.4	17.2	***
Discussed Delivery Plan with partner	71.5	83.6	12.1	68.6	64.3	-4.3	16.4	***
Prepared for delivery according to the delivery plan	73.2	94.2	21.0	72.6	81.3	8.7	12.3	**
Asked more questions to Health Workers	75.9	90.3	14.4	68.1	80.6	12.5	1.9	
Health Worker explained the date of next visit	85.5	97.9	12.4	86.9	92.4	5.5	6.9	*
Encouraged by partner to seek health service	88.9	96.1	7.2	86.4	89.2	2.8	4.4	
Encouraged by the family members to seek health service	77.3	94.7	17.4	82.8	87.3	4.5	12.9	**

BL: Baseline; EL: End line

\*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$

### Further readings

- Hodgson A et al. GHANA: The role of CoC Card as an icon for continuum of care. Technical Brief for Global Promotion of Maternal and Child Health Handbook. Vol 7. July 2016. Japan International Cooperation Agency, Tokyo.