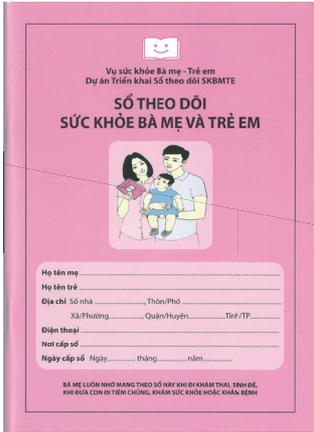




VIETNAM: Cost-savings by terminating parallel implementations of multiple home-based records for maternal and child health



Maternal and Child Health Handbook, Vietnam, 2014

Introduction

In Vietnam, there were a total of at least 23 types of home-based records (HBRs) for maternal and child health (MCH), as of 2014. Of them, three have been already nationally scaled up: (i) Maternal and Child Health Handbook (MCH Handbook); (ii) Child Vaccination Handbook; and (iii) Child Growth Monitoring Chart. Child Vaccination Handbook and Child Growth Monitoring Chart include the recording items exclusively on child immunization and child growth monitoring, respectively. MCH Handbook covers all the essential recording items that are included in the other two HBRs. This overlapping of recording items between the three HBRs is likely to have led to inefficient use of both financial and human resources. This Technical Brief attempts to estimate the magnitude of cost savings that are expected to be realized, through implementing exclusively the MCH Handbook and terminating the other two HBRs.

Estimating annual operation costs of HBRs

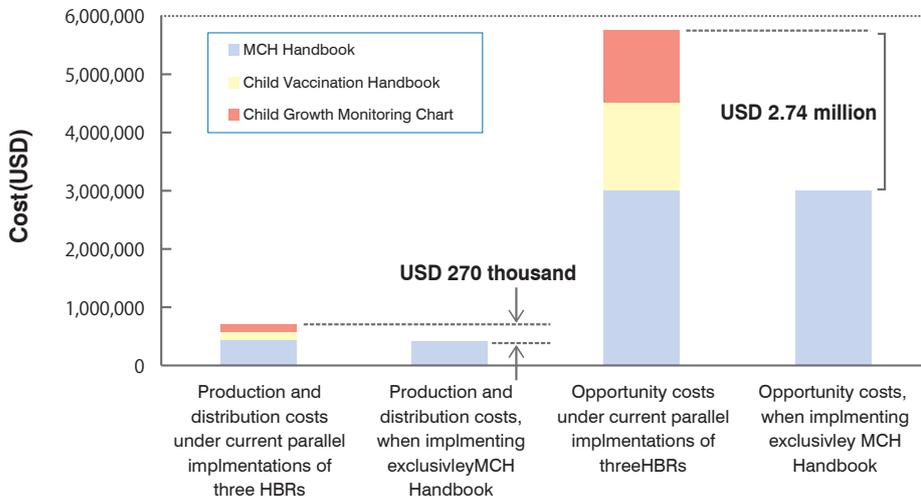
Secondary data on unit costs for HBR operations were collected: (i) unit costs of production and distribution costs of the three HBRs; (iii) unit time spent recording the results of MCH services common between MCH Handbook and other

two HBRs; and (iii) salary-scale-based wage unit for nurses/midwives stationed at commune health centers who take primary responsibility for recording data in HBRs. Moreover, secondary data on quantities as the multipliers to those unit costs were collected: (iv) total number of pregnant women and newborns as HBR recipients/holders per year; (v) total number of vaccinations to be administered to children per year; and (vi) total number of growth monitoring activities to be conducted for children per year.

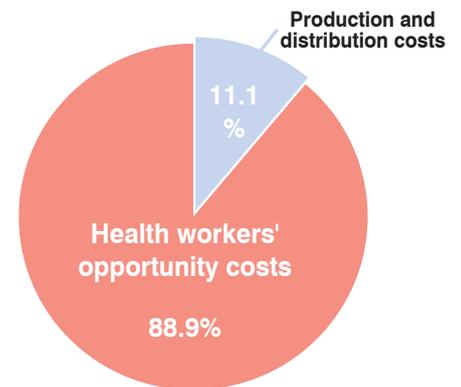
Recurrent operation costs (i.e. production, distribution, and health workers' opportunity costs) overlapping between three HBRs were estimated, by applying the following formula [1] for respective HBRs:

$$C_{it} = \sum_j C_{ij} = C_{ip} + C_{io} \\ = U_{ip} \cdot Q_{ip} + U_{io} \cdot Q_{io} \dots\dots\dots [1]$$

- Where, C_{it} : Total annual recurrent costs of operation of HBR_i
- C_{ip} : Total annual cost of production and distribution of HBR_i
- C_{io} : Total annual cost of health workers' opportunities for recording data in HBR_i
- U_{ip} : Unit cost of production and distribution of HBR_i [USD/copy]
- U_{io} : Unit cost of health workers' opportunities for recording data in HBR_i [USD/copy]
- Q_{ip} : Quantities of copies of HBR_i
- Q_{io} : Quantities of time spent recording data in HBR_i by health workers



▲ Figure 1. Cost savings through operating exclusively MCH Handbook



▲ Figure 2. Share of health workers' opportunity costs in total cost savings



A young couple using the MCH Handbook (Photo: World Vision, Vietnam)

Expected cost savings

By implementing exclusively MCH Handbook and terminating the other two HBRs, a total of USD 3.01 million (= USD 2.74 million + USD 270 thousand) would be saved per annum. (Figure 1). Yet, conversion of saved opportunity costs (USD 2.74 million) into budgets of other cost items would be practically difficult, unless part of health workers responsible for recording data in HBRs could be laid off. Therefore, only the amount to be saved in HBR production and distribution (USD 270 thousand) can be realistically converted into other cost items, for a more efficient use of financial resources.

Production and distribution costs account for only 11.1% of total recurrent costs of HBRs (= USD 721 thousand / USD 6.48 million), despite often being thought to account for the greatest proportion (Figure 2).

Conclusion

The estimated amount (USD 3.01 million per annum) indicates expected minimum cost savings, because it represents the magnitude of savings exclusively in recurrent costs. Further cost savings can be expected in investment cost items. This is because, for instance, it would be unnecessary to train health workers on operations of the other two HBRs and conduct monitoring and evaluation for the other two HBRs.

While MCH Handbook has been implemented by Maternal and Child Health Department, Child Vaccination Handbook and Child Growth Monitoring Chart have been implemented by National Institute of Hygiene and Epidemiology and National Institute of Nutrition, respectively. Therefore, implementing exclusively MCH Handbook will not only lead to cost reduction, but also promote inter-departmental collaboration and coordination within the Ministry of Health.

Implementing exclusively MCH Handbook will significantly help increase continuum of care for MCH. This is because MCH Handbook, an integrated HBR, covers all the MCH steps: (i) antenatal care; (ii) delivery/birth; (iii) postpartum care; (iv) child immunization; (v) child growth monitoring; and (vi) early child development.

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Further readings

1. Aiga H, Pham HTK, Nguyen DC. Cost-savings through implementation of an integrated home-based record: A case study in Vietnam. *Public Health* 2018; **156**: 124-131.
2. Aiga H, Nguyen DV, Nguyen DC, Nguyen TTT, Nguyen TPL. Fragmented implementations of maternal and child health home-based records in Vietnam: Need for an integration. *Glob Health Action* 2016; **9** (2): 29924.

▼ Table 1. Cost savings through operating exclusively MCH Handbook

	Unit cost	Quantity	Cost [USD/year]
C_{ip} : HBR production and distribution costs			
(a) MCH Handbook	0.31673 [USD/copy]	1,423,991 [copy/year]	451,021
(b) Child Vaccination Handbook	0.09464 [USD/copy]	1,423,991 [copy/year]	134,767
(c) Child Growth Monitoring Chart	0.09464 [USD/copy]	1,423,991 [copy/year]	134,767
(b) + (c) Cost savings through operating exclusively MCH Handbook			269,533
C_{io} : Health workers' opportunity costs for recording data in HBR			
Recording child immunization results			
(d) MCH Handbook	4.15 [min/childhood immunization]	19,798,885 [child immunization/year]	1,741,588
(e) Child Vaccination Handbook	3.50 [min/childhood immunization]	19,798,885 [child immunization/year]	1,468,809
(f) Child Growth Monitoring Chart	(n.a.)	(n.a.)	(n.a.)
Recording child growth monitoring results			
(g) MCH Handbook	4.25 [min/child growth checkup]	14,126,560 [child growth checkup/year]	1,272,571
(h) Child Vaccination Handbook	(n.a.)	(n.a.)	(n.a.)
(i) Child Growth Monitoring Chart	4.25 [min/child growth checkup]	14,126,560 [child growth checkup/year]	1,272,571
(e) + (i) Cost savings through operating exclusively MCH Handbook			2,741,380
Total cost savings through operating exclusively MCH Handbook			3,010,913