

Costs and sustainable financing of integrated community case management of common childhood illnesses in Uganda and Mozambique

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Introduction

Integrated community case management (iCCM) involves the community-based diagnosis and treatment of malaria, pneumonia and diarrhoea, taking into account that children may often be ill from multiple causes simultaneously and that economic, geographical and social barriers may delay care-seeking at health facilities.

Objective

This study presents a cost analysis of two regional iCCM programmes in Uganda and Mozambique and discusses programme financing in relation to current national plans and global initiatives to support and sustain iCCM.

Methods

Expenditures and resource use data were collected through a combination of top-down and bottom-up approaches during the implementation of iCCM in mid-western Uganda and southern Mozambique in 2010-2013. The opportunity cost of time of the volunteering CHWs in Uganda was estimated and included in the analysis¹, as well as the time value of other community members participating in training, community sensitization and other project activities. Economic provider costs are presented, in 2016 USD.

iCCM programme characteristics	Uganda	Mozambique
Length of total CHW training	2 weeks	4 months
Length of iCCM element of training	6 days	2 weeks
Average population coverage per CHW	around 200	up to 2000
CHW patient fees	None	None
CHW remuneration	None (volunteers)	\$40
Number of CHWs in service at end of implementation (March 2013)	7,098	156
Average number of consultations in children <5 (2011/2012)	8.9 per month	39.7 per month
Average number of CHW household visits (2011/2012)	9.3 per month	49.6 per month
Estimated total annual number of CHW child <5 consultations in coverage area (in 2011/2012)	762,000	74,000
Proportion of ill children <5 first taken to a CHW for diagnosis and treatment (in 2011/2012)	20%	30%

iCCM implementation was managed by an international non-governmental organisation (Malaria Consortium) in close cooperation with the Ministry of Health and the local health districts. By the end of implementation (March 2013), 7,098 CHWs were reported to remain in post in Uganda (6% attrition rate) and 156 in Mozambique (5% attrition rate).

References: ¹Kasteng, F. et al. Valuing the work of unpaid community health workers and exploring the incentives to volunteering in rural Africa. Health Policy Plan 31, 2016; ²Lehmann U, Sanders D. Community Health Workers: What Do We Know About Them? WHO 2007; ³Rasanathan, K. et al. Community case management of childhood illness in sub-Saharan Africa - findings from a cross-sectional survey on policy and implementation. J Glob Health 4, 2014; ⁴Bennett, S. et al. Policy challenges facing integrated community case management in Sub-Saharan Africa. Trop Med Int Health 19, 2014. (Photo: Kasteng, F. Training of CHWs in iCCM in Massinga, Mozambique, 2011)

Discussion

Historically, CHW programmes have faced challenges in maintaining effectiveness at scale: Quality supervision, continuous training and delivery systems for drugs and other supplies to avoid stock-outs, are widely acknowledged in the literature as crucial for the sustainability of programmes². iCCM has been sponsored and promoted by international agencies, and in most countries in sub-Saharan Africa implementation has been managed by international organisations³. External financing can be an important driver in the decision to introduce a new health programme, however a lack of national ownership and national policy-maker concerns about sustainability, budgetary as well as operationally, has delayed alignment of iCCM into national health policies and budgets in many countries⁴. This may to some extent be mitigated by recently launched global funding models aiming at strengthening the financing for integrated health services delivery such as iCCM beyond commodity supply to also include investments in human resources and information systems strengthening.

Results

Start-up costs per CHW were \$397 in Uganda (6-day iCCM training) and \$4,746 (4-month general CHW training) in Mozambique. Average annual running cost per CHW by year 3 were \$347 in Uganda and \$6,697 in Mozambique. Drugs and diagnostics supply constituted 43% and 45% of running costs in Uganda and Mozambique respectively, the estimated time value of the volunteering CHWs in Uganda 27%, and CHW salaries in Mozambique 10%.

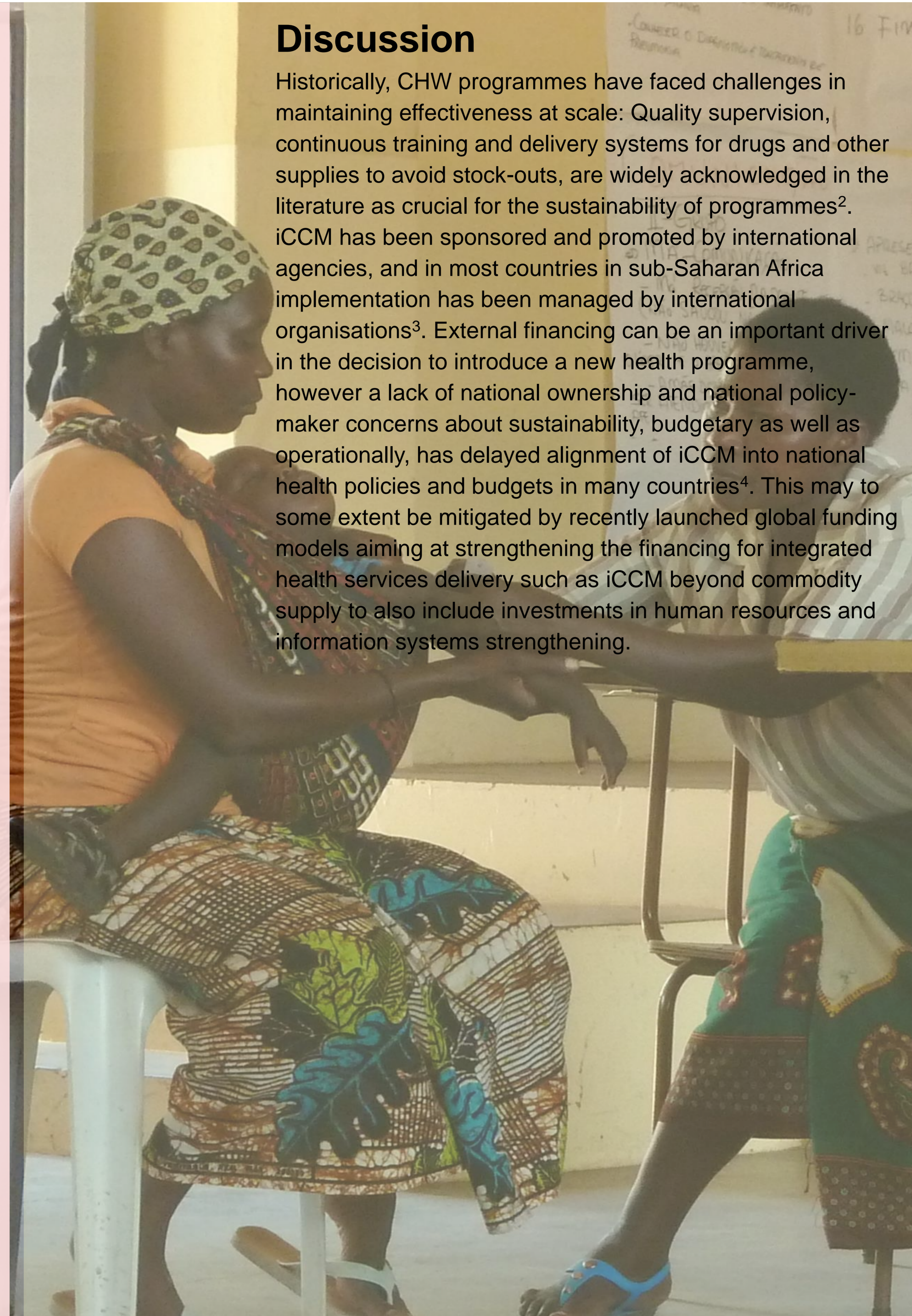
iCCM implementation costs per CHW	Uganda (n=7,098 CHWs)	Mozambique (n=156 CHWs)
Total set-up cost per CHW	\$6	\$38
Development of training tools	82%	59%
Administration and project management	18%	41%
Total start-up cost per CHW	\$397	\$4,746
Health district planning	2%	4%
Community sensitization	9%	21%
Training of CHWs and supervisors (facility health workers)	46%	29%
CHW medicine boxes and work tools	27%	11%
Administration and project management	17%	36%
Annual running cost per CHW	\$347	\$6,697
Drugs and diagnostics	43%	45%
Time value of volunteering CHWs (Uganda) or CHW salaries (Mozambique)	27%	-
Support supervision of CHWs	-	10%
Refreshment and replacement trainings	9%	0.6%
Routine data collection	2%	4%
Administration and project management	6%	0.4%
	13%	41%

The cost per household visits was \$0.9 in Uganda and \$2.9 in Mozambique and the cost per child consultation \$2.3 in Uganda and \$8.8 in Mozambique.

Annual costs per CHW output	Uganda		Mozambique	
Annual average workload per CHW	(n=112 household visits)	(n=107 child consultations)	(n=595 household visits)	(n=476 child consultations)
Annual running costs per unit of output	0.9	2.3	2.9	8.8

Conclusion

Start-up and running costs per CHW during implementation differed substantially between the two iCCM programmes with different training lengths and population coverage per CHW. However, the cost per child consultation - dependent of CHW workload - differed less and was partly explained by higher absolute costs of drugs in Mozambique. iCCM implementation costs and the drug/diagnostic supply constitute a substantial investment. This expenditure may be suboptimal if not supported by well-functioning communication between the facility and community level, and working models feasible for CHWs, to encourage CHW retention and performance. This will determine long-term costs and effectiveness of iCCM.



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