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Motivating and demotivating factors for community health workers engaged in maternal, newborn and child health programs in low and middle-income countries: a systematic review.

Leah Shipton
Aga Khan University

Aysha Zahidie
Aga Khan University, aysha.zahidie@aku.edu

F. Rabbani
Aga Khan University, fauziah.rabbani@aku.edu

SYSTEMATIC REVIEW

Motivating and Demotivating Factors for Community Health Workers Engaged in Maternal, Newborn and Child Health Programs in Low and Middle-Income Countries: A Systematic Review

Leah Shipton, Aysha Zahidie and Fauziah Rabbani

Abstract

This systematic review aimed to synthesize primary research on motivating factors of community health workers (CHWs) for maternal, neonatal, and child health (MNCH) in low and middle-income countries (LMICs). Peer-reviewed literatures were systematically searched in five databases. Identified studies were then screened and selected for inclusion. The eligibility criteria were reported primary qualitative, quantitative, or mixed methods research, with participants being CHWs in LMICs who address MNCH, which investigated motivation or related concepts of retention, attrition, and performance. A thematic synthesis process was used to analyze findings of motivating factors, reported by included studies. Seventeen qualitative, quantitative, or mixed methods studies met inclusion criteria. Two overarching themes were developed: Levels of motivation (i.e. individual, community, and health system) and stages of motivation (i.e. recruitment, retention, and attrition). Nine sub-themes were further developed at the intersection of each level and stage of motivation. Each sub-theme comprises the motivating factors that are influential to community health workers at each stage and level. These themes and sub-themes are presented in a Community Health Worker Motivation Model. The motivation model can be used to identify what motivating factors are relevant to community health workers motivation and the stakeholders necessary to address each motivating factor. Recruitment of community health workers for maternal, neonatal, and child health relies largely on individual level of motivation. At retention, individual level motivating factors remain influential; and community and health system begin to influence motivation positively. But, overall health systems in low and middle-income countries are demotivating the health workers rather than motivating them.

Key Words: *Health worker. Motivation. Health system. Community. Low and middle-income countries. Maternal and child health.*

INTRODUCTION

Reducing maternal, newborn and child health (MNCH) mortality is a focused, but struggling outcome of many community health workers (CHWs) programs in low and middle-income countries (LMICs) since their inception in the 1970-80s.[1-3] Despite accelerated declines in child and maternal mortality,[4,5] 7.2 million under-five and 273,500 maternal deaths in 2011 reinforced MNCH as a central LMIC concern.[4] Deaths are persistent despite primary healthcare extension to rural and remote regions.[1,2,6] MNCH intervention scale-up is halted by fragile health systems[1], health worker shortages,[1,6] and hesitations to 'task shift' to community-based workers.[6] Furthermore, CHW programs exhibit problems with service uptake, retention and attrition, impact and cost-effectiveness.[2] Dire MNCH outcomes and health worker circumstances in LMICs rally sufficient reason to assess effective and sustainable CHW program scalability in the face of challenging contextual realities.[1,2,5]

CHW motivation is an integral component of program viability and implementation.[7,8] Health workers' motivation is an abstract concept with intrinsic and extrinsic dimensions, best understood as an outcome of an individual's interaction with his/her workplace environment and greater cultural norms.[9-11] CHW motivating factors are broadly divided into incentive and non-incentive categories and are often considered to influence performance through individual, community, or health system.[12] Incentives include regular salaries and monetary and material gains, which are supplemented by non-incentive factors such as altruism, recognition, knowledge and skill gain, empowerment, and career advancement.

Studies exploring motivation of CHWs for MNCH in LMICs are not systematically reviewed and synthesized as they are for the trained health workforce,[13] yet understanding CHW motivation is important to improve CHW programs that address MNCH issues.[7,8]

This systematic review aimed to assess and synthesize the motivating factors of CHWs for MNCH in a way relevant to policy and program development in LMICs.

Department of Community Health Sciences, The Aga Khan University, Stadium Road, Karachi-74800.

Correspondence: Dr. Aysha Zahidie, Senior Instructor, Department of Community Health Sciences, The Aga Khan University, Stadium Road, P.O. Box 3500, Karachi-74800. E-mail: aysha.zahidie@aku.edu

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METHODOLOGY

Peer-reviewed literature were systematically searched to identify, appraise, and synthesize evidence from studies investigating motivating factors of CHWs for MNCH in LMICs.

Community health workers were defined as salaried or unsalaried community-based workers that provide services related to MNCH, most often in the communities where they reside.[1,2,8] They do not have an accredited formal professional education,[2,8] but do receive on-the-job training. CHWs addressed MNCH if their primary responsibilities focussed on under-fives and maternal health, including reproductive health.[8] This study defined performance motivation as, 'the CHWs degree of interest and willingness to undertake and improve upon an allotted responsibility towards community health,[11] and recognized attrition and retention as possible reflections of motivation.

Before beginning actual search for the systematic review, PubMed, DARE and Cochrane Databases were searched with key terms as 'lay health worker' and 'motivation' to ensure this systematic review would address existing gaps in the literature. For the systematic review, PubMed, CINAHL, Embase, Soc Index, and Web of Science were searched to reach peer-reviewed literature in health science, social science, and nursing domains. The search strategy was developed in PubMed first, and then adapted for the remaining four databases. MeSH terms and subject headings were identified for each database based on four concepts: Community health worker, maternal, neonatal, and child health, motivation in low and middle-income country. Some of the MeSH terms for PubMed included: Community health worker, doula, 'maternal health, child health, infant health, motivation, job satisfaction, work performance, developing countries, Asia, and Africa. In combination with the MeSH terms or subject headings from each database, the search phrase also searched titles and abstracts for key terms such as village health worker, community health assistant, newborn health, mother, childhood illness, attrition, retention, incentive, and job performance. Searches were limited to English language and to a time period between 1980, set to coincide with global emergence of CHW programs,[14] and September 2015. Search results were exported to EndNote X7 to organize and remove duplicates. The citations were then exported to Microsoft Excel for the screening and selection process. Reference lists of included studies were searched to identify additional studies answerable to the review topic.

Two authors independently conducted the literature search and selection. Studies were eligible for inclusion if they reported primary qualitative, quantitative, or mixed methods research, with participants being CHWs in LMICs who address MNCH, and investigated motivation or related concepts of retention, attrition, and performance. In phase one, titles and abstracts of records were screened for relevance to the review topic and according to eligibility criteria. Records that remained after screening were read for full-text assessment of eligibility criteria. Studies that met eligibility criteria were included for synthesis in the review. If studies had the same participant sample (as inferred by same author, study location, and/or sample size), then one with primary objective answering the review topic was included.

Of the 3,548 records identified from the database search, 339 were removed as duplicate. The remaining 3,209 were screened for relevance to the review topic using eligibility criteria. Records were excluded if the study was off topic (i.e. did not address motivation); the participant sample did not include CHWs in LMICs addressing MNCH, and if it did not report primary research. Fifty full-text articles were then assessed for inclusion according to eligibility criteria. Three articles were excluded because they had a duplicate participant sample of another included study. One article was excluded because, after unsuccessful efforts to obtain it through an inter-library loan, there was no full-text available. Twelve studies were included, and once their reference lists were searched, five additional articles were identified and included after meeting eligibility criteria. Subsequently, seventeen studies were included for synthesis in this review as illustrated in Figure 1.

A data extraction form was designed for quantitative, qualitative, and mixed methods studies using the Centre for Reviews and Dissemination Guide for reviews in

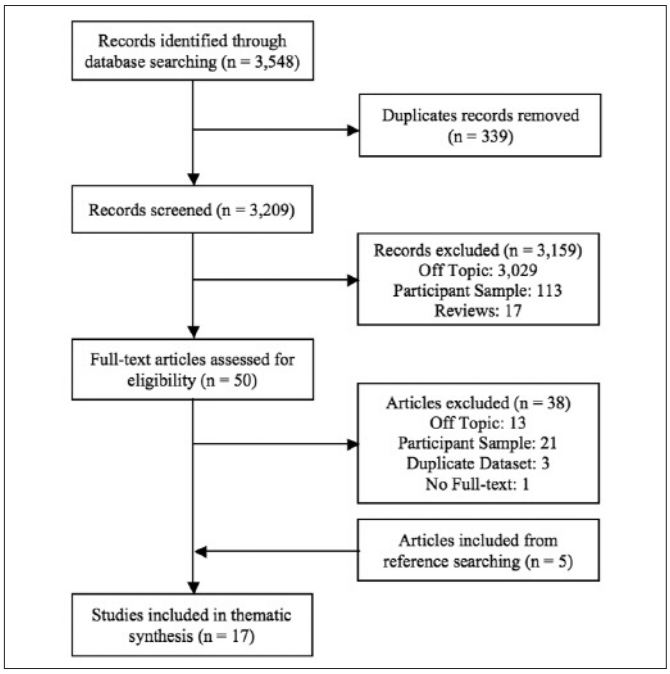

Figure 1: Consort diagram of review search, screening, and selection.

healthcare.[15] The form was piloted on one study and necessary adjustments were made before using for all other studies. One author extracted data such as study setting, objective, design, data collection tools and method, participant characteristics, key findings, and limitations. A second author reviewed these extracted data. Included studies were appraised by the mixed methods appraisal tool (MMAT).[16] The MMAT was used for its flexibility to assess the quality of qualitative, quantitative, and mixed method studies. Records were assessed separately by two authors, and assigned a score after consultation with consideration of the reliability and trustworthiness of study findings.

Methodologically diverse studies were included in this review, so a thematic synthesis approach guided by Lucas *et al*. was used for data analysis to capture the range of evidence illustrating CHW motivation.[17] First, two authors familiarized with the studies by reading through extracted data, particularly motivation related findings. From this analysis, authors began to aggregate data into motivating factors. Authors also worked to familiarize with the data through use of synthesis tools such as grouping/clustering by study design and tabulating study and participant characteristics. An evident overarching theme among included studies was the placement of CHW motivation at individual, community, and health system levels. As such, the authors adopted a thorough conceptual framework of multi-level motivation presented by Gopalan *et al*.[18] The authors continued to work iteratively to develop another overarching theme from the aforementioned questions. Two authors then clustered motivating factor data for each included study at the intersection of the two overarching themes, these motivating factors at the intersection of the two themes became sub-themes. These themes and sub-themes, and the relationships between and within them, were developed through frequent author debrief and discussion with consideration of the consistency and relevance of data for each study.[17] Furthermore, the themes and sub-themes were presented to the broader research team, including researchers with expertise in CHW motivation, throughout the analysis process to seek their input about the development of emerging themes and trends.

RESULTS

Study descriptions: Table I summarizes salient study and CHW participant characteristics. Eight qualitative, three quantitative, and six mixed methods primary research studies were included. Studies took place in rural and urban areas of South Asia (Bangladesh, India, Sri Lanka), Sub-Saharan Africa (Ghana, Kenya, Malawi, Tanzania, Uganda, Zambia), and Latin America (Guatemala, Mexico). CHWs worked for government health systems, non-governmental organizations (NGOs), or research projects. Most of the CHWs in studies were married women; men CHWs were primarily in Sub-Saharan Africa.[19-27] Only four studies reported CHWs to be salaried,[23,24,27,28] the remaining studies included CHWs that were volunteers,[20-22,25,26,29,30] some supplemented by drug sales, travel, training, or activity incentives.[19,31-34] Length of training ranged from two days to one year, and four studies reported that CHWs were provided refresher trainings.[19,24,31,32]

CHW motivation model: We identified two overarching themes in our analysis, level of motivation and stages of motivation. At the intersection of these themes, are motivating factor sub-themes. The first theme, level of motivation, is built on a conceptual framework found in included studies that stratifies CHW motivating factors into individual, community, and health system levels.[18] From our analysis, family support surfaced as a factor absent from the conceptual framework, thus it was added to individual level of motivation in our motivation model. The second theme, stages of motivation, illustrates that motivating factors are further crafted by recruitment, retention, and attrition stages of CHW program interaction. Simply, the relevance of a motivating factor tends to vary at each of these stages.

The CHW motivation model (Table II) uses a heat map to categorize motivating factors according to level of motivation (i.e. individual, community, health system) and stage of motivation (i.e. recruitment, retention, attrition). The model illustrates the regularity of occurrence for motivating factors at each intersection of level of motivation and stage of motivation, pinpointing their peak relevance. Regularity of occurrence is determined by summing the number of studies that report a motivating factor as influential to CHWs in their sample. Thus, the model highlights multi-level factors necessary to address motivation-related recruitment, retention, and attrition.

Individual level motivation to join: Motivation to begin working as a CHW was primarily sourced from individual level motivation. Indeed, social responsibility and altruism was mentioned as a motivating factor to join by CHWs in 11 studies,[18,20,22,23,25-28,30,32,33] and job satisfaction was reported by CHWs in ten studies.[18,20,22-24,26,28,30,32,33] Studies reported that CHWs were motivated to join as a way to progress community development.[20,22,23,25,27,30,33] Some CHWs felt obliged to help solve community problems, often through health education.[23,26,32] CHWs referenced personal experiences as motivating their work, having witnessed preventable loss that they wanted to shield others from.[23,32,33] Alongside their altruistic motivation, studies reported that CHWs perceived skill and knowledge advancements, professional development opportunities, and productive use of time as anticipated benefits of joining a CHW program,[18,20,22-24,26,28,30,32,33] Studies also

Table I: List of included studies' general and CHW participant characteristics.

Study authors [Citation]	Study characteristics					CHW characteristics			
	Country and Setting	CHW organizer	CHW title	Objective	Key motivation conclusions	Gender	Marital status	Payment status	Training
Qualitative									
Callaghan-Koru *et al.*, 2012 [27]	Rural Malawi	Government	Health Surveillance Assistant (HSA)	"To 1) program managers attitudes about Community Case Management (CCM) program and perceptions of HSA quality; 2) HSAs perceptions of CCM program and impact on motivation."	CHWs are motivated by community interactions and opportunities for increased responsibility, but are demotivated if inadequately supported.	Men and Women	NR	Salaried	10 weeks
Greenspan *et al.*, 2013 [26]	Rural Tanzania	Research Project	Community Health Worker	"To explore source of CHW motivation in Tanzania and similar contexts."	CHW motivation at individual, family, community, and health system levels. Altruistic motivation deterred by system factors. Retention relies on family support.	Men and Women	Most Married	NR	NR
Khan *et al.*, 1998 [32]	Rural Bangladesh	NGO	Shasthya Shebika	"To explore and identify reasons why the SS drop out of the Essential Health Care program, and to explore whether these dropouts affect the EHC program."	SSs dropped out because of unmet income expectations, family and community disapproval, and workload burdens that distracted from household responsibilities.	Women only	Most Married	Not salaried	16 days
Ramirez-Valles, 2001 [33]	Urban and Rural Mexico	NGO	Community Health Worker	"To analyze the motivation among a group of women CHWs from a community-based organization."	Personal satisfaction motivates CHWs, and is sourced from the opportunity to work outside the home, serve the community, learn, and improve women's wellbeing.	Women only	NR	Not salaried	Unknown
Ruano *et al.*, 2012 [24]	Rural Guatemala	Government	Facilitadores	"To explore how the values and personal motivation of community health workers influences their experience with this primary health care strategy in Guatemala."	Intrinsic motivation mitigates extrinsic demotivating factors. CHWs are satisfied by meaningful work. Support from family, community, and health system is important to motivation and job satisfaction.	Most Women	NR	Salaried	NR
Sharma, Webster, & Bhattacharyya, 2014 [34]	Rural India	Government	Accredited Social Health Activists	"To explain the factors that affect ASHA's work performance and strategies that can improve their performance."	Motivation is influenced by contextual factors. Professional factors are most influential, but community-based and geographical factors are important. Need to improve trust, respect, and rapport between all groups of community workers.	Women Only	NR	Activity-Based Incentive	23 Days
Takasugi & Lee, 2012 [25]	Rural Kenya	Government	Community Health Worker	"A qualitative study of CHWs in Kenya was undertaken to examine the determinants of their work motivation."	Monetary and non-monetary incentives influence motivation. Sustained motivation involves a package of incentives. Recognition for work and support from the health system is important.	Men and Women	NR	Not Salaried	NR
Zulu *et al.*, 2014 [23]	Rural Zambia	Government	Community Health Assistant	"To explore CHA experiences and how it effects how they do their work."	CHA motivation is influenced by individual, community, and health system factors. CHAs are desire opportunities for professional development, but require adequate health system support.	Men and Women	All Married	Salaried	1 year
Quantitative									
Alam & Oliveras, 2014 [31]	Urban Bangladesh	NGO	Shasthya Shebika	"To gather evidence about any long-term effects of previously identified retention factors and to determine whether there are any new factors associated with retention."	CHW retention is influenced by various factors whose importance changes throughout program duration.	Women only	Most Married	Activity-Based Incentive	3 weeks
Gisore P *et al.*, 2013 [29]	Rural Kenya	Research project	Village Midwife	"Assess the context specific incentives to reduce attrition during EmONC study after 40% attrition rate in first year."	Incentives are motivating, and preferences of incentives are variable. Important incentives are monetary remuneration, transportation, and identification.	Most Women	NR	Not salaried	Unknown
Mpembeni *et al.*, 2015 [22]	Rural Tanzania	Government and NGO	Community Health Worker	"To examine CHW motivation and satisfaction quantitatively across a larger number of CHWs and in light of a specific programme."	CHWs get involved for intrinsic rather than extrinsic motivation. CHWs satisfied when they had good relationships and integration with community and health workers. CHWs dissatisfied by poor logistical support.	Men and Women	Most Married or Once Married	Not Salaried	3 Weeks
Mixed methods									
Abbey *et al.*, 2014 [21]	Rural Ghana	Research project	Community Health Worker	"Examine CHW attrition in a RCT on community management of fever in children under-5 in Ghana and factors influencing retention."	Primary CHW motivating factors are community recognition, financial remuneration, and social responsibility. Community involvement in selecting CHWs seemingly benefited retention.	Men and Women	Most Married	Not salaried	3 days
Banek *et al.*, 2014 [20]	Rural and Urban Uganda	Government	Community Medicine Distributor	"To assess program support provided to CMDs and evaluate the capacity of CMDs to treat febrile children and to explore factors that motivate community members to volunteer and participate."	CMDs motivation is associated with met or unmet expectations. CMDs need more support from the health system. Monetary and non-monetary incentives are necessary to supplement altruistic motivations.	Most Women	NR	Not Salaried	2 days
Gopalan, Mohanty, & Das, 2012 [18]	Rural, India	Government	Accredited Social Health Activists	"(1) Assess the current level of performance motivation among the ASHAs, (2) understand the factors affecting their level of motivation and (3) their perceptions and experiences on the current status of the motivational determinants."	Being a rural women CHW is personally, socially, and financially empowering. Level of motivation was directly related to self-efficacy. Intrinsic motivation was related to CHW performance. CHWs proud of their connection to the community and health system. Demotivated by unsupportive health system and heavy workload.	Women Only	Most Married	Activity-Based Incentive	NR
Ludwick *et al.*, 2014 [19]	Rural Uganda	Research project	Community Health Worker	"1) Examine retention data for voluntary CHW in Healthy Child Uganda project, 2) Assess factors related to CHW selection and motivation."	CHWs are motivated by altruism and community progress. Retaining CHWs in rural areas requires attention to motivating factors such as income, community recognition, training, and supervision.	Most Women	NR	Not salaried	5 days
Rahman *et al.*, 2010 [28]	Rural Bangladesh	Research project	Community Health Worker	"To explore causes of attrition, and how attrition was analyzed and addressed by a community-based newborn intervention."	CHW motivation to become and remain a CHW includes family support, job satisfaction, income for financial independence, and a sense of social responsibility. CHWs motivated when the expected benefits of work are met.	Women only	Most Single	Salaried	6 weeks
Walt, Perera, & Heggenhouge n1989 [30]	Rural Sri Lanka	Government	Community Health Worker	"To assess feasibility of a large scale voluntary CHW program, including consideration of motivation."	Aside from social responsibility, CHW motivation is dependent on contextual factors such as acceptability of female mobility in the community and acceptance of CHWs by other health workers.	Most Women	Most single	Not salaried	5 days - 3 months

NR = Not reported by study.

Table II: CHW motivation model. Synthesis of CHW motivating factors by level and stages of motivation. Adapted from Gopalan *et al*., (2012) with the exception of family support.

Motivating factor[1]	Definition[1]	Motivation to join (Recruitment)	Motivation to stay (Retention)	De-motivated to leave (Attrition)
Individual				
Social responsibility and altruism	Interest in social work when existing social norms adversely impact community health	OM	OM	SM
Intrinsic job satisfaction	Better use of abilities and time, feeling of accomplishment, career advancement, employability, knowledge, skills, and overall happiness of being on job	OM	OM	OCM
Self-efficacy	Able to handle tough situations, solve problems, feel emotionally and physically capable of job	NM	SM	OM
Self-motivation	Working with a sense that the job is important, not for incentives alone	OCM	OCM	SM
Family Support	Family approval or disapproval through financial, moral, and social support or resistance	SM	SM	OCM
Recognition	Acceptance of CHW performance, its value, and talents by self and family	NM	SM	SM
Autonomy	Freedom to move in the community, express opinion, and execute responsibilities	SM	SM	NM
Community				
Community participation	Community's interest, acceptance, and participation in activities	NM	SM	SM
Opinion on public healthcare system	Community opinion on quality of care, availability of healthcare and community programs	NM	NM	OCM
Recognition	Acceptance of CHWs performance, its value, and talents by community	OCM	OM	OCM
Autonomy	Freedom to move in the community, express opinion, and execute responsibilities	NM	OCM	SM
Health system				
Nature of responsibilities	Interest in responsibilities and confidence to execute them	SM	OCM	OCM
Workload	Time to complete daily tasks, able to spend time with family, and flexibility in work schedule	NM	NM	OM
Incentive	Adequacy of financial and non-financial incentives and pattern of payment	OCM	OCM	OM
Healthcare infrastructure	Satisfaction on quality of infrastructure, communication, and supplies	NM	SM	OM
Work modality	Satisfaction on hierarchy, participatory approach, recording and reporting	NM	NM	OCM
Training	Knowledge and skills through trainings, and timing and organization of training	SM	OM	OCM
Supportive supervision	Help, monitoring, and supervision to execute responsibilities and solve issues	NM	SM	OM
Peer support	Moral support, advice and peer learning	NM	OCM	OCM
Recognition	Acceptance of CHWs performance, its value, and talents by health system	NM	SM	NM
Autonomy	Freedom to move in the community, express opinion, and execute responsibilities	NM	SM	NM

*Regularity of Occurrence (Number of Studies Reporting Motivating Factor as Finding)**
Not Mentioned (0) NM; Seldom Mentioned (1-2) SM; Occasionally Mentioned (3-5) OCM; Often Mentioned (6+) OM;
**The scale is adjusted to reflect the skewed proportion of studies reporting Not Mentioned or Seldom Mentioned motivating factors*

reported that CHWs joined because they wanted to increase their knowledge and skills in order to benefit personal and family health.[20,26,32,33] Skill improvement and self-development were expectations of joining because CHWs perceived work as a stepping stone to greater goals and an appealing income-generating activity.[23,24,28,30,33]

Self-motivation, autonomy, and family support were mentioned less often as sources of recruitment motivation for CHWs. Three studies reported that CHWs who joined CHW programs had a history of involvement in other community development projects and they felt capable of contributing to an important job.[24,30,32,33] Two studies reported that CHWs also sought autonomy through gains in agency and financial independence.[28,33] Finally, three studies reported that CHWs felt motivated to join because they had the support and encouragement of their family and spouse.[21,24,28]

Ten studies reported that CHWs continue to work because they are proud of their contributions to community health and feel a moral or religious responsibility to serve their community.[18,19,21,23,24,26-28,30,33] CHWs in these studies accentuated their dedication to health education and activities to improve MNCH-specific concerns.[18,19,21,26,28,30,33] Job satisfaction remained a source of retention-related motivation for CHWs in eight studies.[18,20,23-25,28,30,33] Studies reported that CHWs continue working because it is a meaningful use of their idle time.[18,28,30,33] CHWs also hoped that their work as a CHW would create opportunities for

career advancement or permanent paid positions.[20,24,25,28] Furthermore, CHWs were motivated by opportunities to gain skills and knowledge that benefit their families and their professional development.[20,23,33]

Lesser mentioned factors that motivated CHWs to continue working were self-efficacy, self-motivation, family support, recognition, and autonomy. Three studies found that CHW retention was connected to their perceived ability to do the job well.[18,22,30] Complementary to this factor, self-motivation was identified by four studies as retaining CHWs because they viewed their work as important and contributing to the efforts of development.[18,24,27,31] For example, Bangladeshi CHWs were more likely to continue working as a CHW, if they were affiliated with NGOs doing similar work.[31] In two studies, CHWs were motivated by spousal encouragement and family support to domestic and income-generating tasks so they could continue their work.[25,26]

Individual level demotivation to leave: Seven studies found that challenges to CHW self-efficacy, either through difficulties working alone,[21,32] fear of traveling for work alone,[18,27,34] illness,[31,32,34] under qualified skill set,[18,34] or difficulty witnessing newborn deaths,[28] demotivated CHWs.

Four studies found that CHWs were willing to leave if they were not satisfied with professional development opportunities in their work or when they were offered other jobs or educational opportunities, particularly in urban area.[21,26] Job insecurity and lack of career advancement opportunities further demotivated CHWs to leave.[28,34] Also influential to attrition was lack of family support, which was predominantly identified as a demotivating factor by CHWs in South Asia.[19,28,31,32,34] Families or spouses opposed their work because they disliked the type of work, nighttime hours, male supervisors, and concerns for safety and reputation.[28,32,34] Seldom mentioned demotivating factors were lack of social responsibility and altruism (i.e. CHWs of Ghana speculated that dropout peers had weak social responsibility),[21] insufficient self-motivation (i.e. CHWs have other work commitments), and lack of recognition from individual caregivers (i.e. negative caregiver attitudes towards CHWs).[28]

Community level motivation to join: At the community level, four studies reported that CHWs joined CHW programs because they sought to be valued by the community and to benefit from the social prestige of the position.[22,28,30,32] In particular, CHWs foresaw increased credibility through affiliation with health services and professionals.[30,32]

Community level motivation to stay: Twelve studies found recognition from the community to motivate CHWs to continue their work because they felt appreciated and valued.[18,20,21,23,25-31] Recognition involved CHWs receiving positive feedback and appraisals, moral support, encouragement, and feeling that their skills are needed by the community.[18,19,21,25,26,28,31] CHWs enjoy increased social prestige and respect, particularly through affiliation with health professionals and institutions.[18,20,21,23,25,30] Some CHWs, request badges and uniforms to enhance their recognizability as a CHW.[25,29] For women working as CHWs, this increase in social prestige and recognition was particularly empowering.[18]

Two studies reported community participation as a motivating factor for CHWs when the community showed interest in their work and involvement in their families' health.[24,30] Additionally, three studies found that women CHWs in South Asia were motivated by gains in autonomy,[18,28,30] primarily attributed to increased acceptance of their mobility in the community due to their work.

Community level demotivation to leave: CHWs in four studies were demotivated when they did not receive community recognition, either because the community and community officials did not value their work,[24,26,28] or they did not experience increases in social prestige as expected.[20,28] Relatedly, four studies reported that CHWs were demotivated when the community held negative opinions or misunderstood their work with the health system, often because the health system failed to supply medicines and other supplies, and therefore the community lost trust in them.[18,20,24,27,34] In two studies, Bangladeshi CHWs were demotivated by difficulties with autonomy and travelling around communities as women.[28,32] Finally, two studies reported that CHWs were demotivated by community members that were uncooperative, uneducated; and in the case of women CHWs, unwilling to accept them working.[25,32]

Health system level motivation to join: Three studies reported that CHWs joined CHW programs anticipating monetary (i.e. consistent income) or material (i.e. access to medicines) gains to support themselves and their families.[26,30,32] In two studies, the nature of job responsibilities motivated them because CHWs had prior work experience or interest in MNCH.[22,23] Interest in training opportunities as well as encouragement from peers in the health system motivated CHWs in two other studies to join.[24,30]

Health system level motivation to stay: Eight studies reported that CHWs were motivated by opportunities for training that could increase their skills and confidence in their work.[18,19,22,23,25,27,29,31] CHWs appreciated stipends for transportation, trainings, and meetings,[19,27] and depended on salaries, sales from drugs, and activity-based incentives as income to support children and households.[19,28,29,31] CHW motivation was supplemented by material gains such as bikes, medicines, and first aid kits.[29] Five studies found that CHWs were motivated when they worked with supportive and encouraging

peers who created a positive work environment and opportunities for learning.[18,19,22,24,28]

Three studies found that CHWs continued with the program because they enjoyed their work and had clear responsibilities to fulfill.[18,24,28] Under good supervision, CHWs in two studies were motivated by the opportunity to learn from their supervisors and improve their skills.[18,23,26] Autonomy to control one's workday,[18,23] recognition from the health system,[18] and availability of medical supplies for their job motivated CHWs to continue their work.[22]

Health system level demotivation to leave: Dissatisfaction with incentives, overwhelming workloads, inadequate healthcare infrastructure, and unsupportive supervision were identified as being most influential on CHW demotivation among included studies. In twelve studies, CHWs identified lack of incentives and irregular salaries, especially considering increasing workloads or alternative employment opportunities, as demotivating and disrespectful.[18,20-23,25-28,31,32,34] Dissatisfaction was rooted in the CHWs inability to meet basic household needs after expecting a high income.[23] CHWs felt burdened by unexpected large and draining workloads compounded by evening, nighttime, and weekend work schedules.[18-20,25,27,28] These hours strained commitments to household and family responsibilities.[19,31,32] When the demands of work and household duties relented, CHWs were demotivated to resignation.[19,27] CHWs in seven studies felt demotivated by the difficulties imposed by inadequate healthcare infrastructure, such that they did not have transportation, medicines, vaccines, or supplies to fulfill their job responsibilities.[18,20,22,23,25,27,34] In six studies, demotivation from inadequate healthcare infrastructure was aggravated by ineffective supervision.[18,20,23,25,27] CHWs had unsupportive and exclusionary supervisors, unclear and disorganized instructions from supervisors, and even lack of supervision. This compromised their motivation to work and reduced their opportunities for professional development.[27]

While positive peer support motivated CHWs to remain in programs, negative responses from peers such as discrimination, competitive mentalities, mistreatment, and abusive behaviour, demotivated CHWs.[23,27,30,31,34] In three studies, CHWs were demotivated by inadequate or poorly timed training opportunities;[18,30,34] and in three other studies, CHWs were demotivated by work modality wherein program management disregarded their role in the health system by assigning them only menial tasks or ignored their requests.[23,27,28] Finally, CHWs in three studies were demotivated because they did not find their interest.[21,31,34]

DISCUSSION

This review synthesized motivation findings from included studies into two overarching themes that inform CHW program planning and policy development. These themes are illustrated in the CHW Motivation Model. The first theme, levels of motivation, categorizes motivating factors into individual, community, and health system levels, which is consistent with other literature.[8,12] The motivating factors related to financial incentives, recognition and appreciation, and career advancement were also consistent with findings from a systematic review on health worker (i.e. nurses, doctors) motivation in developing countries. These levels also highlight which stakeholders are relevant to address each motivating factor. The second theme, stages of motivation, illustrates how motivating factors vary in their influence over CHW decisions to join, stay, or dropout of programs. Motivating factors at recruitment, retention, and attrition stages of CHW programs are explored in our included studies and existing literature, but yet to be formalized widely as a framework for understanding CHW motivation.

The CHW motivation model illustrates three unique features of CHW motivation. First, the model shows the varying relevance of each factor to CHW motivation. Second, the model shows when these factors are most influential to CHW motivation (recruitment, retention, or attrition stages). Third, the model highlights which stakeholders are relevant to CHW motivating factors, (i.e. community members, family members, co-workers, supervisors, program managers). In unison, the model offers program planners and policymakers a way of identifying when each motivating factor is most relevant and how and with which stakeholders motivating factors can be addressed to improve or protect CHW motivation.

We see two major trends depicted in the CHW motivation model that support this conclusion. First, recruitment of CHWs relies heavily on the individual sense of social responsibility and altruism and individual desire for job satisfaction (e.g. career advancement). In comparison, recognition from the community and health system incentives and training were mentioned only occasionally or seldom as motivating CHWs to join CHW programs. At the retention stage, community recognition and training match individual social responsibility and altruism and job satisfaction as the most often mentioned motivating factors for CHWs. Occasionally mentioned, motivating factors of incentives, nature of their responsibilities, and peer support were important to retention, indicating where health system factors begin to play a positive role for CHW motivation.

Even so, the second trend highlighted by the model illustrates that while most health system motivating factors are relatively dormant in their influence during retention, and certainly at recruitment, they yield great influence at the attrition stage, signalling their role in demotivating CHWs. According to the model, burdensome workloads, unsupportive supervisors, inadequate

healthcare infrastructure, and disappointing or minimal incentives were often mentioned as reasons for CHWs to discontinue their work with CHW programs. The incentives offered to CHWs dwarf in comparison to the growing workloads, in particular, the expectation for CHWs to work long hours on evenings and weekends. Reinforcing this demotivation were additional health system factors: Training (i.e. insufficient or inconvenient), work modality (i.e. neglected by management), peer support (i.e. negative work relationships), and a dislike or disinterest in the CHW responsibilities. At community level, negative opinions of healthcare quality or availability or unmet expectations of recognition from the community contributed to CHW demotivation. The pattern of unmatched expectations continues at the individual level as CHWs previously motivated by job satisfaction were either disappointed by the lack of opportunities for professional development offered by the CHW program or found those opportunities in other positions. Further, self-efficacy was mentioned often as a demotivating factor because CHWs were unable to fulfill the expectations of their work for safety or health reasons. Family support or lack of support thereof, was a demotivating factor, primarily for women CHWs in South Asia, who experienced pressure to dropout from family members who disapproved their work or consequences to family reputation.

Recommendations: Given the importance of motivation to the functioning of CHW programs,[7,8] understanding what factors contribute to CHWs willingness to join programs and continue fulfilling their responsibilities is crucial. Moreover, the CHW Motivation Model pinpoints areas where CHW demotivation should be addressed. Informed by the trends of the CHW Motivation Model, the following recommendations are made with acknowledgement of the unique context and difficulties of managing CHW programs in diverse LMIC settings. These recommendations offer an entry point to address CHW motivation by forwarding motivating factors that facilitate greater recruitment and retention:

1. Create, encourage, and promote opportunities for career advancement, skill development, and training for CHWs;

2. Connect CHWs with their impact on community development through progress reports and presentations on health and social indicators;

3. Involve CHW family members with the recruitment process to communicate the role and value of CHWs in the community and address reasons for disapproval;

4. Involve communities with the establishment and progress of CHW programs to communicate the role and boundaries of CHWs (e.g. working hours, expectations of care, status of remuneration) in a way that clarifies their responsibilities and reduces misperceptions regarding their work;

5. Enhance recognition of CHWs by community members through uniforms and badges;

6. Offer monetary or non-monetary incentives appropriate for the community context and assure they are proportionate to CHW workload;

7. Foster positive supportive supervision relationships and peer support networks for CHWs that include diverse health professionals; and

8. Provide CHWs with supplies, medicines, and transportation necessary to fulfill their job description and meet the expectations of the community.

Limitations: This review focussed on the motivating factors of MNCH CHWs. It is possible that motivating factors of MNCH CHWs are similar to other cadres of CHWs, so we acknowledge that limiting our review to MNCH CHWs may have excluded additionally relevant articles. However, our choice to focus on the MNCH CHW cadre reflects the persistently high rates of MNCH-related deaths in LMICs. As the CHW motivation model aims to summarize motivating factors mentioned by all studies to illustrate broader trends, our analysis does not explore in-depth aspects of motivating factors presented in included studies. Therefore, our analysis did not convey the priority of motivating factors according to the specific contexts of each included study. This model also uses a heat map and scale to present findings developed through a thematic synthesis process involving qualitative, quantitative, and mixed-method studies. While a heat map and scale is typically used strictly to present quantitative data, we believe it effectively represents the qualitative, quantitative, and mixed-method data by presenting the trends of the iterative thematic analysis in terms of regularity of occurrence (i.e. number of studies that report each motivating factor finding).

REFERENCES

1. Haines A, Sanders D, Lehmann U, Rowe AK, Lawn JE, Jan S, *et al.* Achieving child survival goals: Potential contribution of community health workers. *Lancet* 2007; **369**:2121-31.
2. World Health Organization: Community health workers: What do we know about them? Geneva: *World Health Organization;* 2007.
3. World Health Organization. Declaration of Alma Ata. In: International Conference on Primary Health Care. Alma Ata, USSR: *World Health Organization*; 1978.
4. Lozano R, Wang H, Foreman KJ, Rajaratnam JK, Naghavi M, Marcus JR, *et al*: Progress towards millennium development goals 4 and 5 on maternal and child mortality: An updated systematic analysis. *Lancet* 2011; **378**:1139-65.
5. Bryce J, Black RE, Victora CG. Millennium development goals 4 and 5: progress and challenges. *BMC Med* 2013; **11**.
6. Bhutta ZA, Ali S, Cousens S, Ali TM, Haider BA, Rizvi A, *et al.* Interventions to address maternal, newborn, and child survival: What difference can integrated primary healthcare strategies make? *Lancet* 2008; **372**:972-89.

7. Rowe AK, de Savigny D, Lanata CF, Victora CG. How can we achieve and maintain high-quality performance of health workers in low-resource settings? *Lancet* 2005; **366**:1026-35.
8. Glenton C, Colvin C, Carlsen B, Swartz A, Lewin S, Noyes J, *et al.* Barriers and facilitators to the implementation of lay healthworker programmes to improve access to maternal and childhealth: Qualitative evidence synthesis (review). *Cochrane Database Syst Rev* 2013; 10.
9. Dieleman M, Cuong PV, Anh LV, Martineau T. Identifying factors for job motivation of rural health workers in North Viet Nam. *Hum Resour Health* 2003; **1**:10.
10. Franco L, Bennett S, Kanfer R. Health sector reform and public sector health worker motivation: A conceptual framework. *Soc Sci Med* 2002; **54**:1255-66.
11. Bennett S, Franco L. PHR primer for policymakers: Health worker motivation and health sector reform. Bethesda, MD: Parnterships for Health Reform; N.D.
12. Bhattacharyya K, Winch P, LeBan K, Tien M. Community health worker incentives and disincentives: How they affect motivation, retention, and sustainability. Arlington, VA; 2001.
13. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P. Motivation and retention of health workers in developing countries: A systematic review. *BMC Health Serv Res* 2008; **8**:247.
14. Nkonki L, Cliff J, Sanders D. Lay health worker attrition: Important but often ignored. *Bull World Health Organ* 2011; **89**:919-23.
15. Dissemination CfRa: Systematic reviews. CRD's guidance for undertaking reviews in health care. York, UK: University of York; 2009.
16. Pluye P, Robert E, Cargo M, Bartlett G, O'Cathain A, Griffiths F, *et al.* Proposal: A mixed methods appraisal tool for systematic mixed studies reviews. *Montréal: McGill University* 2011.
17. Lucas PJB, Arai J, Law L, Roberts C. Worked examples of alternative methods for the synthesis of qualitative and quantitative research in systematic review. *BMC Med Res Methodol* 2007; **7**:4.
18. Gopalan SSM, Das SA. Assessing community health workers' performance motivation: A mixed-methods approach on India's accredited social health activists (ASHA) programme. *BMJ Open* 2012; **2**.
19. Ludwick TB, Kyomuhangi T, Wotton KA, Kabakyenga JK. Poor retention does not have to be the rule: retention of volunteer community health workers in Uganda. *Health Policy Plan* 2014; **29**:388-95.
20. Banek KN, Maiteki-Sebuguzi C, DiLiberto D, Taaka L, Chandler CIR, Staedke SG. Community case management of malaria: Exploring support, capacity and motivation of community medicine distributors in Uganda. *Health Policy Plan* 2015; **30**:451-61.
21. Abbey MB, Nonvignon J, Chinbuah MA, Pappoe M, Gyapong M, Gyapong JO. Factors related to retention of community health workers in a trial on community-based management of fever in children under 5 years in the Dangme West District of Ghana. *Int Health* 2014; **6**:99-105.
22. Mpembeni RNB, LeFevre A, Chitama D, Urassa DP; Kilewo C, Mdee RM, *et al.* Motivation and satisfaction among community health workers in Morogoro Region, Tanzania: Nuanced needs and varied ambitions. *Hum Resour Health* 2015, **13**:44.
23. Zulu JMK, Michelo C, Hurtig AK. Hope and despair: Community health assistants' experiences of working in a rural district in Zambia. *Hum Resour Health* 2014; **12**:30.
24. Ruano AH, Dahlblom A, Hurtig K, Sebastian AK. It's the sense of responsibility that keeps you going: Stories and experiences of participation from rural community health workers in Guatemala. *Arch of Public Health* 2012; **70**:18.
25. Takasugi KL. Why do community health workers volunteer? A qualitative study in Kenya. *Public Health* 2012; **126**:839-45.
26. Greenspan JAM, Chebet JJ, Mpunga M, Urassa DP, Winch PJ. Sources of community health worker motivation: A qualitative study in Morogoro Region, Tanzania. *Hum Resour Health* 2013; **11**:52.
27. Callaghan-Koru JAH, George A, Gilroy KE, Nsona H, Mtimuni A, Bryce J. Health workers' and managers' perceptions of the integrated community case management program for childhood illness in Malawi: The importance of expanding access to child health services. *Am J Trop Med Hyg* 2012; **87**:61-8.
28. Rahman SA, Jennings L, Seraji MHR, Mannan I, Shah R, Al-Mahmud AB, *et al.* Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Hum Resour Health* 2010; **8**:12.
29. Gisore PR, Marete I, Nekesa-Mangeni J, Tenge C, Shipala E, Mabeya H, *et al.* Commonly cited incentives in the community implementation of the emergency maternal and newborn care study in western Kenya. *Afr Health Sci* 2013, **13**:461-8.
30. Walt GP, Heggenhougen K. Are large-scale volunteer community health worker programmes feasible? The case of Sri Lanka. *Soc Sci Med* 1989; **29**:599-608.
31. Alam K, Oliveras E. Retention of female volunteer community health workers in Dhaka urban slums: A prospective cohort study. *Hum Resour Health* 2014; **12**:29.
32. Khan SHC, Karim F, Barua MK. Training and retaining Shasthyo Shebika: Reasons for turnover of community health workers in Bangladesh. *Health Care Super* 1998; **17**:37-47.
33. Ramirez-Valles J. I was not invited to be a [CHW]. I asked to be one: Motives for community mobilization among women community health workers in Mexico. *Health Educ Behav* 2001; **28**:150-65.
34. Sharma RW, Bhattacharyya S. Factors affecting the performance of community health workers in India: A multi-stakeholder perspective. *Glob Health Action* 2014; **7**:25352.