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3MDG

Examining the evidence base for community-based health programmes and cadres within the health system: implications for the 3MDG Fund transition in Delta and Magway townships, and wider programme.

A summary report prepared for the 3MDG Fund Management Office

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Executive Summary:

Support to Delta and Magway townships is currently due to end at the end of 2016, with the remainder of the 3MDG funded Maternal, Neonatal and Child Health (MNCH) programme areas ending in 2017. This raises the issue of whether there will be a transition of important experiences and lessons learned being incorporated into national systems with support either/and of the Ministry budget of other stakeholder support. A number of important questions are attached to the nature of the transition of community components in these townships, in particular the relationship of the community-based service provision with the wider health system.

Planning a transition of the programmes provides an opportunity to review areas of community programme implementation and adapt them to best meet the needs of the population, as well as inform the vision for community- based health programmes and cadres within the health system in Myanmar, at this important time.

To support the discussions on the transition, available evidence on the effectiveness of community-based programmes and cadres, is assessed and applied to the 3MDG Fund programmes in Delta and Magway townships, to draw lessons for the programme transitions.

The review finds a "sizable" body of evidence that points to a positive role for community-based health programmes and cadres in improving health practices and outcomes in MNCH. In particular there is evidence that:

- Community-based health interventions are effective in supporting improved MNCH practices and outcomes
- Community-based cadres are an effective means to deliver health interventions to address MNCH
- Community-based interventions and cadres are effective in Myanmar
- Community-based interventions and cadres are cost-effective
- Financing of community health programmes can support equity and sustainability
- Community based health programmes can be delivered successfully at scale
- Scaling-up community based health programmes requires a realistic model, political commitment, careful planning, and financial support

The evidence base highlights 6 key areas of learning relevant to 3MDG- funded programmes in Delta and Magway townships, as well as more broadly. These are: roles and responsibilities of community

cadres; payments and incentives received by community cadres; financing of community programmes; links with the wider health system; community ownership, and opportunities for scale-up.

A number of recommendations are presented to aid discussion on the transition. These include a joint review of 3MDG Fund support to community-based health programmes in Delta and Magway townships; the development and agreement on options to take forward the review findings, and the piloting of options where necessary. It is expected that the final actions will be determined jointly by the Ministry of Health and the 3MDG Fund, with the support of other key stakeholders with an interest in contributing to the development of community-based programming at this time.

Abbreviations:

3MDG Fund	Three Millennium Development Goal Fund
AMW	Auxiliary Midwife
ANC	Antenatal Care
ARIs	Acute Respiratory Infections
CHW	Community Health Worker
DALYs	Disability-Adjusted Life Years
GHWA	Global Health Workforce Alliance
HIV	Human Immunodeficiency Virus
IPT	Intermittent Preventative treatment
JIMNCH	Joint Initiative in Maternal Neonatal and Child Health
LHW	Lay Health Worker (or Lady Health Worker – Pakistan)
MMR	Maternal Mortality Ratio
MNCH	Maternal, neonatal and Child Health
MoH	Ministry of Health
NCDs	Non Communicable Diseases
NGO	Non-Governmental Organisation

PHC	Primary Health Care
SDGs	Sustainable Development Goals
TB	Tuberculosis
U5M	Under 5 mortality
UHC	Universal Health Coverage
VHCs	Village Health Committees
WHO	World Health Organisation

Introduction:

Support to Delta and Magway townships is currently due to end at the end of 2016, with the remainder of the 3MDG funded Maternal, Neonatal and Child Health (MNCH) programme areas ending in 2017. This raises the issue of whether there will be a transition of important experiences and lessons learned being incorporated into national systems with support either/and of the Ministry budget of other stakeholder support. A number of important questions remain with respect to the nature of the transition of community components in these townships, in particular the relationship of community-based service provision with the wider health system.

To support the discussions on the transition, available evidence on the effectiveness of community-based programmes and cadres, is assessed, and applied to the 3MDG Fund programmes in Delta and Magway townships, to draw lessons for the programme transitions.

The transition of 3MDG Funded townships comes at a critical time. The Ministry of Health (MoH) has set the goal of Universal Health coverage (UHC) by 2030. Exploring the policy options to reach the most vulnerable and marginalised within the population is an important aspect of working to achieve the goal of UHC. The transition of 3MDG township support presents an opportunity to critically assess the role that community-based health programmes and cadres play in extending the reach of the health system to communities, and helping to achieve improved health practices and outcomes.

This report addresses 3 key questions to take forward the discussions on the transition of Delta and Magway townships:

1. What is the evidence base for community- based health interventions and cadres within the wider health system?
2. What are the implications of this evidence for the transition of Delta and Magway townships?
3. How can the transition in Delta and Magway townships help support the vision for community-based health programmes and cadres within the health system in Myanmar at this time?

The review draws on evidence from research studies, as well as learning from a number of large-scale programmes, published in the last 5 years (2010 to present). The resultant report is not

intended to provide a comprehensive review of the literature. Instead it aims to summarise the evidence with direct relevance to the discussions in Myanmar[1].

1. What is the evidence base for community based health interventions and cadres with the wider health system?

Current interest in community-based health interventions and community health workers (CHWs) as a means to achieve health goals, is high. It has led to a call for better evidence on the effectiveness of these approaches in support of improved maternal, child and neonatal health (MNCH) practices and outcomes.

The number of studies assessing the effectiveness of community programmes and cadres has increased in recent years, with several large reviews of the evidence conducted in the last 5 years. There is now a "larger body of evidence" on the effectiveness of community-based interventions and community cadres, in improving maternal, child and neonatal health (MNCH) practices and outcomes, and contributing to the achievement of health goals (Lassi et al, 2014).

An assessment of the evidence highlights a number of key areas with direct relevance to the discussion on the transition in Delta and Magway townships:

1. Community-based health interventions are effective in supporting improved MNCH practices and outcomes

Several recent systematic reviews assess the impact of community-based interventions on maternal, child and neonatal outcomes (Lassi et al, 2014; Lassi and Bhutta, 2015; Byrne et al, 2014). The reviews cover a number of intervention types, as well as the engagement of different cadres. Evidence also comes from reviews assessing specific interventions on maternal, child, and neonatal practices and outcomes, such as the use of community support groups, and task shifting (Prost et al, 2013; Younes et al, 2015; Dawson et al, 2014). Annex 2 provides a summary of findings from a number of reviews.

The findings point to a positive role for community interventions across different intervention types – particularly home visits, task shifting and women's groups. Studies highlight a range of positive impacts on health interventions and practices, such as improved ANC, immunisation coverage, breastfeeding initiation, hand-washing and increased care-seeking for neonates. In addition the

[1] The basis for the report is a set of 7 questions drawn up by 3MDG Fund and outlined in annex 1. This report is a summarised version of a more detailed report.

reviews show a positive impact on maternal morbidity and neonatal and perinatal mortality (Lassi et al, 2014; Lassi and Bhutta, 2015). A positive impact on maternal mortality is also seen with some interventions, for example women's groups. (Prost et al, 2013).

The evidence also supports a key role for community interventions, including through the use of CHWs, in extending the health system to communities in hard to reach and remote areas (Byrne et al, 2014).

2. Community-based cadres are an effective means to deliver health interventions to address MNCH

Community cadres are one of several cadres that support interventions at community level. Several large reviews published in the last 5 years, including a major global review of the role of CHWs by WHO and GWHA, have assessed the specific role of community cadres in delivering health interventions and their impact on maternal, child and neonatal outcomes. (Perry and Zulliger, 2012; Lewin et al, 2010; Bhutta et al, 2010; Gilmore and Auliffe, 2013). Annex 3 provides a summary of these reviews.

Overall the evidence points to a key role for community cadres in implementing a range of health and nutrition interventions, both preventative and curative, with a positive impact on health practices and outcomes, including on MDGs 4 and 5. CHWs are found to have a key role in supporting exclusive breastfeeding, immunisation coverage, prevention of diarrhoea, bednet distribution, case-management of pneumonia and other diseases, as well as newborn care (Gilmore and Auliffe, 2013; Perry and Zulliger, 2012; Lewin at al, 2010; Bhutta et al, 2010) . There is evidence that community cadres play a role in reducing child morbidity and child and neonatal mortality, as well as maternal morbidity (Perry and Zulliger, 2012; Lewin et al, 2010; Bhutta et al, 2010).

Ensuring that community cadres undertake roles that best utilise their skills, is a key aspect of promoting the most cost-effective distribution of tasks among health staff. WHO have reviewed evidence for "optimising" the role of different health workers to promote improved maternal and neonatal health. A list of recommended roles for cadres, including lay health workers and auxiliary midwives, is available (WHO, 2012). The recommendations with respect to LHWs are presented in annex 4.

3. Community-based interventions and cadres are effective in Myanmar

Community-based health programmes have been a feature of the health system in Myanmar for many years. Several studies on effectiveness of community programmes and cadres in supporting health outcomes have been published in the last few years, principally by those implementing

community-based programmes for malaria control and treatment. These studies provide selective evidence of a positive impact of community programmes and cadres in supporting health outcomes (Drake et al, 2015; Moh Moh Lwin et al, 2014).

In addition, a previous multi-donor trust fund supporting MNCH interventions in the Delta townships between 2010 and 2013, at facility and community levels, found that access to maternal, neonatal and child health services increased over the implementation period. Alongside skilled staff, community cadres were found to play a critical role in supporting improved outcomes in terms of DALYs-averted, while extending the roles of community cadres could potentially increase this impact (JIMNCH 2013).

Though limited in number, the studies are a clear indication that community health workers can have a positive impact on health outcomes in Myanmar, and could potentially make a greater contribution.

4. Community-based interventions and cadres are cost effective

The decision to invest in a community-based health programme, or cadre at scale, has important financial implications. Undertaking a costing exercise is recommended as a key action in the development or scale-up of a community programme (Perry et al, 2014a). There is limited data available on the costs of community-based programmes at the current time. The costs associated with a limited number of large scale programmes are provided in annex 5.

Analysis of cost-effectiveness of community approaches is also limited, and several authors highlight the need for more studies in this area (Lassi et al, 2014; Mangham-Jeffries et al, 2014). However evidence from several reviews suggests that community-based health programmes are cost-effective (Mangham-Jeffries et al, 2014; Perry and Zulliger, 2012; McPake et al, 2015; Vaughan et al, 2015). In addition, well- planned and resourced community health programmes can support the overall health system (Haines et al, 2007), and contribute to the cost-effectiveness of the system (Vaughan et al, 2015).

Several factors may influence effectiveness, such as programme design and context (Kok et al, 2015). The use of community cadres as part of a team of heath staff, and with the support of the health system, are factors impacting positively on effectiveness and cost-effectiveness (McPake et al, 2015).

5. Financing of community health programmes can support equity and sustainability

There is an important decision to be made as to who who bears the cost of community programmes. In choosing an approach to finance a community-based programme, a range of options are available,

and currently employed. These include: government funding, community funding, volunteer financing, as well as external (donor) financing (Perry et al, 2014a).

All approaches have advantages and disadvantages. Annex 6 provides an overview of strengths and weaknesses of different approaches. Government funding can promote equity as well as job security for community cadres, though it can also mean substantial costs. Community funding can provide an element of self-sustainability but may disadvantage poorer communities, while external funding is unlikely to be sustainable in the longer term. An emphasis on voluntary cadres means that those at community level are subsidising the programme in part, through the opportunity cost of their engagement (Perry et al, 2014a). In Myanmar, Shwe Sin Kyaw (2015) estimated the value of the opportunity cost of a CHW's working time at US$130. This was for work on malaria activities and likely underestimates the opportunity cost for community cadres engaged in activities across multiple health interventions.

In terms of addressing equity, sustainability and ensuring that CHWs are fairly treated, some payment (or other incentive) to community cadres, and a contribution by the government, seem to be most advantageous.

6. Community based health programmes can be delivered successfully at scale

Successful community programmes are often small in scale and well-supported by finance and other inputs. The challenge is to deliver a successful community-based health programmes at scale (Hodgins et al, 2014). Evidence from a number of countries, including in Asia, shows that this is possible, and with significant positive outcomes.

The scale of community programmes differs across countries. Numbers of CHWs included in current large-scale programmes range from several thousand (Mali, Mozambique, Haiti) to tens of thousands (Afghanistan, Nicaragua, Iran, Nepal, South Africa, Pakistan, Ethiopia) to hundreds of thousands (Brazil, United States) to millions (India, Indonesia) (Perry et al, 2014b). Annex 5 presents an overview of several large scale programmes.

There is evidence that community programmes have made an important contribution to progress in health outcomes in several countries, including in Nepal, Iran, Indonesia, Ethiopia, Bangladesh and Brazil (Perry et al, 2014; JHPIGO, 2014; Perry and Zulliger, 2012; Bhutta et al, 2010).

Two categories of successful large scale programmes are highlighted. The first is the group of countries where programmes developed in the 1980s. These include Brazil, Bangladesh and Nepal (Perry et al, 2014). These countries are recognised as having made important gains in health over the last few decades (Perry and Zulliger, 2012). For example all 3 countries met their target for

MDG4, and all made progress on MDG5, though none met their target (Countdown, 2015). See table 1.

The second group of countries are those that have developed large scale programmes more recently i.e. since the 1990s. Prominent in this group are Ethiopia, Pakistan and South Africa. Ethiopia stands out as another country that met its MDG4 target and also made huge gains in terms of maternal health (Banteyerga et al, 2011).

Table 1: Progress against MDG targets for Under 5 mortality (MDG4) and maternal mortality ratio (MDG5). (Data from: Countdown 2015 final report)

	U5M				MMR		
	1990	2015	Target		1990	2015	Target
Bangladesh	144	38	48	Bangladesh	569	176	142
Brazil	61	16	20	Brazil	104	44	26
Ethiopia	205	59	68	Ethiopia	1250	353	312
India	126	48	42	India	556	174	139
Myanmar	110	50	37	Myanmar	453	178	113
Nepal	141	36	47	Nepal	901	258	225
Pakistan	139	81	46	Pakistan	431	179	108
South Africa	60	41	20	South Africa	108	138	27

7. Scaling-up community based health programmes requires a realistic model, political commitment, and careful planning and financial support

Scale–up of programmes in many contexts has been a gradual process over several decades, often shaped by context-specific factors. Learning from these programmes highlights a number of areas to be considered, such as policy and planning, as well as financing (JHIPGO, 2014). In particular there is a need to ensure that scale up is based on:

- a clear rationale for the community programme and how it relates to the wider health system (Perry et al, 2014c)
- a realistic model to underpin scale-up which reflects how the programme will work in practice (Hodgins et al, 2014).
- an assessment of current situation and identification of the gaps in the health system that a community programme is expected to support (Gergen et al, 2014)
- planning to clarify where the community component fits with the rest of the health system (across the various health system building blocks (Gergen et al, 2014)
- engagement and ownership by the community including community structures to support ownership and management of the programme (LeBan et al, 2014)

Perry and Zulliger (2012) discuss 14 areas for successful implementation at scale. These are outlined in annex 7.

2. What are the implications of available evidence for transition of 3MDG Fund programmes in Delta and Magway?

The available evidence on community-based programmes and cadres points to a number of areas of learning relevant to the 3MDG funded programmes in the Delta and Magway townships as well as more broadly. Six key areas are outlined in Table 2 together with the corresponding questions raised for 3MDG Fund programmes.

These areas cover:

1. Roles and responsibilities of CHWs and AMWs in areas funded by 3MDG - in particular whether current roles fully exploit the potential contribution these cadres can make to health outcomes.
2. Payments and incentives for community cadres - in particular whether there are options to introduce some payment for community health workers in line with most successful large-scale programmes (e.g. for the opportunity cost of working as a volunteer).
3. Linkages to the health system - in particular whether the current (and future) linkages promote a continuum of care, as well as support a regular supply of drugs and other commodities, and provide supportive supervision and monitoring for their effective performance as suggested by WHO/GHWA, 2012).
4. Financing of the community programmes - in particular options for funding of the Delta and Magway programmes beyond 3MDG financing, including opportunities for funding through government funds, either in part or whole, and of the provision of some compensation to volunteers to promote equity and sustainability.
5. Community participation and ownership - in particular the options to support important community structures and activities behold 3MDG funding, strengthening ownership and accountability within the health system in the future.
6. A viable model for scale up - in particular whether current (and any revised model) is sufficiently tested as a realistic model to provide the basis for scale up including health system governance and management structures.

Table 2: Implications for the transition of 3MDG townships in Delta and Magway

Programme area	Learning from programmes/ evidence base to date	Questions for current 3MDG programme	Opportunities to generate learning in transition of Delta and Magway townships
Roles and responsibilities of community cadres	CHWs have been shown to be able to deliver a range of MNCH/other activities safely and cost-effectively	Do current roles and responsibilities of CHWs/AMWs ensure the most cost-effective use of these cadres?	• Mapping of roles and responsibilities against "optimised" roles for CHW/AMW cadres • Assessment of whether current cadres are able to take on additional duties • Assessment of whether CHW/AMW as currently conceived are the best cadres to deliver health activities at community level – or whether an alternative cadre is needed – enhanced training etc. • Piloting of any new roles/cadres
Payments and incentives	Majority of successful large scale programmes include some payment for CHWs (or other incentive)	CHWs/AMWs are currently volunteers. What are the options/challenges to introducing some payment for CHWs/AMWs?	• Review of opportunities and threats to change in volunteer status. • Costing of different re-numeration packages for CHWs/AMWs • Linked to roles and responsibilities – assessment of need for (at least) one paid cadre of CHW (as per several countries with both paid and unpaid CHWs)
Financing of	Majority of large scale	Current Delta and Magway	• Linked to costing of different remuneration

programmes	programmes are financed in part or whole by MoH or other government/state sources	programmes rely on payment via 3MDG Fund/donors and volunteer contribution. What are the options to shift financing to whole or part government funding?	packages for volunteers, costing of options to support community-based programmes within current government total/PHC budget
Links with the wider health system	Effective linkages to the health system are needed to promote a continuum of care, and support regular supply of drugs, supportive supervision and monitoring etc.	To what extent do current programmes in Delta and Magway foster coherent links between community- based interventions and wider health system?	• Assessment of current links (referral, supervision, governance) and strengths/challenges of linkages? • Assessment of steps necessary to ensure effective links between community programme and health system (across all health system building blocks) • Piloting of linkages
Community ownership	Community engagement and ownership are essential elements of strong community-based programmes	To what extent can support (financial, capacity development) to community structures and actions (e.g. VHCs) in Delta and Magway be sustained in the longer term?	• Assessment of opportunities for the institutionalisation of current support to VHCs and other community actions • Piloting of new institutional arrangements
Opportunities for scale up	Successful scale up of programmes is predicated on a realistic model that has been piloted and shown to be feasible	To what extent do Delta and Magway townships offer a realistic model/pilot for scale up? How would the programme need to change to make it feasible?	• Assessment of areas that need to be adapted to ensure a realistic/feasible model for scale up • Piloting of new model/arrangements and review of impact/ limitations

3. How can a transition in Delta and Magway townships help support the vision for community-based health programmes and cadres within the health system in Myanmar at this time?

The following section outlines a number of potential actions to take forward the transition of Delta and Magway townships. These recommendations are presented to aid discussion, with the expectation that the final actions will be determined jointly by the Ministry of Health and the 3MDG Fund, and other key stakeholders with an interest in a transition and contributing to the development of community-based programming at this time.

Many of the identified factors have direct applicability to the model of CHW/AMW programming currently outlined in MoH policy. This includes such elements as the CHW/AMW volunteer status as well as the roles and responsibilities of these cadres. The transition in Delta and Magway thus presents the opportunity to review these elements and support the development of potentially modified guidelines to ensure that the community element of the health system fully meets the health needs of the population and contributes to health outcomes at this time, and complements other reforms taking place to strengthen the health system.

Given the short-time frame available before support to the Delta and Magway townships are due to end and potentially transition, it is recommended that the discussions are taken forward at the earliest opportunity to provide time to come to an agreed plan and pilot new guidelines where agreed. An indicative outline of actions and time-frames is presented in table 3 below. In taking forward these recommendations it is envisaged that financial and technical support will be provided by the 3MDG and Development Partners and that the MOH will be fully supportive and participative.

Table 3: Outline of potential actions and timeframes for 3MDG Fund transition in Delta and Magway townships

TIME FRAME	OVERALL ACTIVITY	DETAILS OF ACTIVITIES
INITIAL SCOPING – 5 MONTHS, 2016	Joint review of 3MDG Fund support to community-based health programmes in Delta and Magway	• Review of roles and responsibilities of community cadres against WHO "optimised" guidelines to ensure fully utilised in supporting system/health outcomes • Review of the status and financing of community cadres against equity, fairness and sustainability criteria

		• Review of options for sustainability of support to community institutions • Assessment of linkages to the wider health system to ensure support and supervision and foster a continuum-of-care. This latter aspect to include governance and management arrangements under Ministry of Health and local authorities
DEVELOPMENT OF OPTIONS – 4 MONTHS 2016	Development and agreement on options to take forward review findings	• Agreement on options to address review findings • Costing of options • Development of pilots to test options (as agreed) • Agreement of options/pilots to be taken forward
10 MONTHS 2017	Piloting of options	• Pilots initiated in Delta and Magway townships (as agreed) • On-going lesson learning and review
3 MONTHS 2017	Agreement on roll-out/scale up	• Review and prioritisation of lessons from Delta and Magway pilots • Recommendations for scale-up to remainder of 3MDG townships/wider community based health programme within health system

Conclusion:

The issue of transitioning in Delta and Magway is a programmatic issue, but offers a unique opportunity for learning that can be applied to the wider community-based health programme within the health system in Myanmar at this time. It is an opportunity to link with a number of other developments taking place, such as the essential package of interventions to be delivered through the primary health care system, and the Human Resources for Health plan.

Reviewing the transition of the 3MDG supported programmes also presents the chance to assess the opportunities to bring the 3MDG programmes and wider community-based health programming in line with the changing emphasis on broader health interventions needed to meet the burden of disease within the country. The Sustainable Development Goals (SDGs), place emphasis on UHC as a

critical strategy to meet Goal 3 for health, as well as highlighting the continuing need to focus on maternal, neonatal and child health issues. Additionally Goal 3 gives recognition to other health conditions, notably non-communicable diseases (NCDs), which are critical to achieving improved health. This is particularly pertinent for Myanmar, with its recognised NCD burden (WHO, 2014).

A review of community-based health programming and cadres within the wider health system is also in line with WHO's forthcoming Global Strategy on Human Resources in Health Workforce 2030. This strategy recognises the role that community cadres play alongside skilled and specialist staff in delivering a service that meets everyone's needs, and maximises the potential of community and other cadres (Campbell et al, 2015). The strategy will be discussed at the 2016 World Health Assembly (WHO, 2015). The potential transition of 3MDG programmes in Delta and Magway townships, and a review of the role of community- based health programmes and cadres within the health system in Myanmar, provides an opportunity to support this important agenda.

Annex 1: Questions covered by literature review

1. What evidence is there globally on the effectiveness of community based health intervention packages (with a specific focus on MNCH)?
2. What evidence is there globally on the effectiveness of community based health workers (CHWs) (with a specific focus on MNCH)?
3. What evidence is there globally on the scope of community based health programmes – e.g. national versus targeted, and the rationale/impact of this?
4. What evidence is there on the costs of community based programmes from different contexts/settings (with a focus on MNCH)?
5. What evidence (case studies/examples) is there on the national scale up of community based health programmes through the Ministry of Health/public health system in Asia/South East Asia context? What evidence is there on the process taken to scale up in different contexts, and implications of the approach adopted?
6. What evidence is there on the implications for government/MoH of the national scale up of community based programmes (policy/resources required etc)?
7. What evidence is there from the Myanmar context on the effectiveness of CHW cadres in supporting MNCH (CHW/AMW)?

Annex 2: Summary of results from a selection of reviews on community interventions

Reference	Type of study	Type of intervention	Quality of evidence	Impact on access/utilisation/coverage	Impact on morbidity/mortality
Lassi et al, 2014	Systematic review of 43 systematic reviews	Outreach services and home visitation	Moderate quality	Improved ANC, tetanus immunisation coverage, breastfeeding, clean cord care.	"Significantly" improved maternal morbidity, neonatal mortality and perinatal mortality
		Task shifting	High quality	"Significant" impact on immunisation uptake, breastfeeding initiation compared to routine care	Significant impact on child morbidity and TB cure rates compared to routine care.
		Human resource training (TBA training)	Moderate quality	"Significant" improvement in referrals and early feeding rates.	"Significant" improvement in neonatal mortality and perinatal mortality. Reduced perinatal and neonatal mortality (but there was insufficient data to establish training effectiveness)
		Community mobilisation and support groups	Moderate quality	Significant impacts on early breastfeeding	Significant impacts on maternal morbidity, neonatal mortality, perinatal mortality
Lassi and Bhutta, 2015	Systematic review of 26 randomised and quasi-randomised studies	Multiple	Some concerns raised on quality	Positive impact on uptake of a range of health behaviours e.g. increased uptake of tetanus immunisations (5%), use of clean delivery kits (82%), institutional deliveries (20%),early breastfeeding rates (93%); care-seeking for neonatal morbidities (42%) No impact on referrals for maternal morbidities, health care seeking for maternal morbidities, SBA, other neonatal care-related outcomes.	Significant reduction in maternal morbidity (25%) and neonatal mortality (25%) and perinatal mortality (22%). Possible effect on maternal mortality.

Prost et al, 2013	Systematic review. 7 studies	Women's groups	Assessed as "good quality"	Strong (including significant and non-significant) effects on clean delivery practices for home deliveries (especially hand-washing and use of clean delivery kits); noticable effects on breastfeeding; significant increases in the uptake of ANC and institutional deliveries	High coverage associated with 49% reduction in maternal mortality; 33% reduction in neonatal mortality. No effects in low coverage studies for any birth outcomes.
Younes L et al, 2015	Controlled before and after study	Women's groups		Positive impact on number of health behaviours in intervention (compared to control) group. Increase in proportion of children exclusively breastfed for 6 months (15%), fewer reports of illness in previous 2 weeks, improved care-seeking practices for ill-children. Not statistically significant.	
Dawson A et al, 2014	Narrative synthesis. 20 studies	Task shifting		Competence in injection technique, counselling and management of clients' re-injection schedule. Clients satisfied or highly satisfied with services	
Byrne A et al, 2014	Systematic review. 34 studies	Multiple-difficult to access locations	Mixed quality. Models varied and evidence on mountain range settings not of high quality.	Pakistan (Baluchistan)- LHW programme increased proportion of pregnant women who delivered with a SBA (51% compared with national average of 39%), 50% greater likelihood of women using contraceptives. Nepal - FCHV - increase in care-seeking behaviour for child illnesses (41%). Community- led planning activities improved health knowledge, care seeking and service utilisation in multiple sites.	Activities of community facilitators recruited from local communities in Indonesia led to increase in SBA utilisation from 35-53% and with a 33% reduction in early infant mortality

Annex 3: Summary of results from a selection of reviews on community cadres

Author/year	Type of study	country context	Type of interventions	Quality of studies	Access/utillisation/coverage	Morbidity/mortality
Gilmore B and McAuliffe E, 2013	Systematic review 19 studies	Bangladesh; India; Pakistan; Uganda; South Africa; Burkina Faso; Nigeria; Ghana; Mexico; Philippines.	Preventative only	Moderate	Effective delivery IPT medication; positive influence sleeping under nets.	Decrease in diarrhoea, malaria, underweight prevalence; decrease in U5M (through household education on various child health issues).
Perry H and Zulliger R, 2012	Overview of current evidence on community health worker programmes.	Global – in relation to MDGs	Multiple interventions	No specific details on quality assessment process	Increased access to range of interventions to address MDGs - expanding immunisaton coverage, provision of micronutrients; identifying malnourished children; case management of serious childhood illness; access to reproductive services; bednet distribution and use.	Improved morbidity and mortality - "substantial" evidence of reduction of U5M; reductions in death from serious illnesses such as pneumonia, reduction in newborn mortality of 24%; potential impact on maternal mortality.

Bhutta et al, 2010	Large global review of evidence and case studies on CHW programmes.	Global – in relation to MDGs	Multiple interventions - maternal health, birth and newborn care; breastfeeding promotion, neonatal health	Range of study methodologies included	Increased access to a range of maternal, child and neonatal health practices- improvements in ANC, perinatal and post-partum service utilisation; increasing institutional deliveries and deliveries with SBA	"Significant" impacts on maternal, perinatal and neonatal mortality
Lewin S et al, 2010	Systematic review. 82 studies	High and low income contexts	Multiple interventions	Moderate quality	Positive impact on childhood immunisation uptake, breastfeeding and exclusive breastfeeding; improved pulmonary TB cure rates; little or no effect on TB preventive treatment completion.	
				Low quality	Increase in care-seeking for childhood illness.	Reduction in child morbidity and child and neonatal mortality

Annex 4: WHO list of recommended tasks for Lay Health Workers (Taken from: WHO/HSR, 2013). For illustration only. Please refer to the publication for more information on the recommendations.

The use of Lay health workers is recommended for:

- Promoting the uptake of maternal and newborn-related care behaviour and services such as:
- Promotion of reproductive health and family planning
  - Promotion of appropriate care-seeking behaviour and appropriate antenatal care during pregnancy
  - Promotion of adequate nutrition, iron and folate supplementation, HIV/AIDS testing and sleeping under insecticide treated nets during pregnancy
  - Promotion of birth preparedness, companionship during labour, and skilled care for childbirth
  - Promotion of basic newborn care, exclusive breastfeeding, postpartum care, and kangaroo mother care for low-birth-weight infants
  - Promotion of immunisation according to national guidelines
- Administration of misprostol to prevent post-partum haemorrhage
  - Where a well-functioning lay health worker programme already exists, skilled birth attendants are not present and oxytocin is not available.
- Providing continuous social support during labour (in the presence of a skilled birth attendant)

The use of lay health workers should be considered for the following interventions, but with targeted monitoring and evaluation:

- Oral supplement distribution for pregnant women

The use of lay health workers for the following interventions should be considered only in the context of rigorous research:

- Administering oxytocin to prevent and treat postpartum haemorrhage using a standard syringe or a compact, pre-filled autodisable device (CPAD) such as Uniject TM
- Administering misoprostol to treat postpartum haemorrhage
- Distribution of low dose aspirin to pregnant women at high risk of pre-eclampsia/eclampsia
- Managing puerperal sepsis by administering antibiotics (orally or using a standard syringe or CPAD)
- Initiation and maintenance of kangaroo mother care for low-birth-weight infants
- Delivering antibiotics with standard syringes or CPAD devises for neonatal sepsis
- Performance of neonatal resuscitation
- Inserting and removing contraceptive implants

The use of lay health workers is NOT recommended for :

- Insertion and removal of intrauterine devises

More details on the recommendations are available from www.optimizemnch.org

Annex 5: Overview of country programmes and features (Compiled from several case study sources and reports: Perry et al, 2014; JHPIGO, 2014; Perry and Zulliger, 2012; WHO/GHWA, 2010; Banteyerga et al, 2011)

Country	Total numbers of CHWs	Cadres	Coverage	Training	Role of CHWs	Status of CHWs	Links to health system	Community role	Information on scale up	Information on financing/costs		Impact
										cost per capita population/cost per CHW	Funding source	
Afghanistan	29,000	Single cadre: Community Health Worker	Approaching national coverage (ratio of health posts to population)	9 weeks training (3 * 3 week modules) plus 1 month field training.	Comprehensive set of services. Health promotion; CCM; referral, vital events reporting	Volunteers	Supervised by Community Health Supervisor based at health posts. CHWs come to health post once per week.	Community level health committee helps select, support and supervise the CHW in the community	CBHP has been part of BPHS from the beginning and scale up has been part of national planning process.		External funding from range of donors including World Bank, USAID and EU	Provide a large portion of PHC. Recognised as making important contribution to improvements in health over last 10 years.
Bangladesh	91,000	NGO cadre: Shasthua Shebika (SS)	Approximately 70%. 46 districts out of 64	4 weeks training at local BRAC office	Comprehensive set of services. Health promotion. Treat common uncomplicated medical conditions. Refer to health facilities.	Volunteer with no salary. Works approximately 15 days per month; average 2 hours per day. Given small loans to establish drug revolving fund. Make approx US $10-20 per month on drug sales. Receive performance payments approx US $8-10	Refer to health facilities. Supervised by higher level BRAC programme staff	Recruited from the community. Answerable to the community for their activities.	Deliberate, slow growth over 2 decades based on a viable model		Self-sustaining. Managerial and organisational costs met by BRAC	Several studies show good performance. Recognition that programme has contributed to progress on MNCH in country
Bangladesh	25,000 (FWAs); 20,615 (HA); 12,991 (CHCPs)	Multiple cadres: Family Welfare Assistant (FWA); Health Assistant (HA); Community Health Care Provider (CHCP)		FWAs and HA receive 21 days training; CHCPs receive 12 weeks training	Scope varies with cadre. FWAs involved in health promotion activities. HA provide immunisations, vitamin A, ORS and treat infections. CHCPs provide ANC and PNC, treat range of infections, provide injectable contraceptives	All Government salaried. FWAs $98/month; HA $103/month; CHCPs $110/month	All supervised within health system. CHCPs based at clinic.	No explicit role for communities in selection, training and supervision of FWAs and HAs. Committees involved in design, planning and monitoring of community clinic. May help with maintenance			Supported by Government funds. World Bank provided funding in initial stages	No evaluations but programme considered to have contributed to progress on U5M and MMR
Brazil	240,000	Single cadre: Community Health Agent	>90% of municipalities and more than 110 million people equating to just over 50% of population	6 weeks formal training and 4 weeks supervised field training. Monthly and quarterly on-going training provided	Scope varies with location. Comprehensive set of services. Health promotion. Prevention and treatment services eg. treat AFIs, provide immunisation, screen and treat HIV/AIDS and TB. Refer to formal health system	Full-time salaried (100-135 USD per month)	CHA programme is closely integrated into formal health services. Supervised by nurses and physicians from local clinics. Supervisor nurses spend 50% of their time on CHWs and rest in clinic	Community involved in organisation and budget of health system. Public able to vote on proportion of budget going to health in some cases.	Implemented as part of national PHC programme, building on initial successful pilots. Scale up over 15 years	Annual cost per capita per person served US $9-11	Integrated into primary health care system. Funding from multiple sources - national, state and municipal	Progress on range of indicators including MCH over last 30 years. Acknowledged that community programme has been an important element in improved health outcomes
Ethiopia	>24,000 (HAD); >34,000 (HEW)	Multiple cadres: Health Development Army Teams (HDAT); Health Extension Worker (HEW)	Approximately 100% (HEW)	1 year training (HEW)	Comprehensive set of services. Health promotion, IMCI, basic obstetric and neonatal care, on-going support for chronic illness. May spend 50% of time at health posts	HEWs are formal employees with salary ($4USD per month). HDAs are volunteers with non-financial incentives	Supervision of HEWs by Woreda supervision team. Approx quarterly. HEWS manage other CHW cadres	Village health committees involved in selection and oversight of HEWs and may also be involved with HDAs	CHW programmes have been implemented since late 1970s. HEW programme since 2004-2005 and scale up fairly rapid.		HEWs mixed sources of funds including national and sub-national budgets, donors, user fees	Good progress made on health MDGs. HEWs credited with expansion of services and helping to achieve declines in U5MR and MMR
India	1,205,300 (AW); 885,306 (ASHA); 207,866 (ANM)	Multiple cadres: Anganwadi Worker (AN); Accredited Social Health Activist (ASHA); Auxiliary Nurse Midwife (ANM)		ASHAs receive 23 days training; AWWS receive one months training; ANMs receive 18 months training	Scope varies with cadre. ASHAs provide comprehensive set of services. Encourage ANC and assist in health events. Provide basic first aid and supplies e.g. ORS. Provide DOTs for TB, Manage family planning, immunisation and MCH programmes. Refer to local health centre	ANMs receive government salary; AWWS are volunteers but receive US$27-$29/month as an "honorarium"; ASHAs received performance based incentives of US $6 for basic tasks and additional payments for other tasks	Each cadre is supervised by own supervisory system	Community choose and recruits ASHAs and AWWS. ASHAs are selected by local village level government and accountable to them. ASHAs work closely with village health and sanitation committee.		Annual cost of ASHA per year is approx USD 170	ANM and AWWs funded through national government budget (AWW 10% from state budget)	Variable reports of impact across the different cadres
Indonesia	1,500,000	Multiple cadres: 4 types of CHW (nutrition, health, family planning, mental health)	Quality and coverage vary by region	One week formal training. On-going skills training thereafter.	Comprehensive set of basic services. Nutrition advice, counselling for family planning, growth monitoring, prevention and treatment of diarrhoea, registration and recording on mother-infant cards. update target and immunisation data	Volunteers with no salary. May receive informal compensation in the form of free medical treatment. Work approximately 5-10 hours monthly	Sub-district health centre provides technical advice and support but accountability mostly to Village Committee	Village health committee supervise CHWs. The selection of the supervising committee and CHWs is based on consensus in village level meeting and attended by village leaders and village members.			Start-up costs financed from a range of sources (community, private, government). Minimal costs thereafter.	MoH attribute improved maternal and child health and life expectancy to work of CHWs
Iran	31,000	Single cadre: Behvars		Pre-service and in-service training over 2 year period	Comprehensive set of services. MNCH care, communicable and non-communicable disease management and detection, care of elderly, completion of reports and forms	Employees with fixed salary (approximately 1/6th physicians)	Integral part of Iran's PHC system. Rural health centres provide regular supervision.	CHWs selected by their community - local people including religious leaders and families involved in selection			Financing of CHWs is part of national health planning regulations	Strong progress in health since 1970s attributed to PHC service with Behvars important part of this. CHWs attributed with reducing rural/urban inequities in health
Nepal	49,000 (FCHW); 2,500 (MCHW); 3000 (VHW)	Multiple cadres: Female community health worker (FCHW); Maternal Child Health worker (MCHW); Village Health worker (VHW)		FCHW receive 18days training plus 5 days refresher every 5 years; MCHWs and/or HWs both receive 3 months initial training	Each cadre has defined scope of work. MCHW provide health education and health promotion, treatment of patients at outreach clinics, CCM of childhood illness, facilitate referrals	MCHW and VHW are full-time employed and salaried; FCHW are part-time volunteers but may receive non-financial incentives (e.g. dress allowance. Can also draw on village endowment fund of UD$500 for income-generation activities)	All CHWs are based out of local health facilities and serve catchment pop of 5000-10,000	Women's groups and Village development committees are involved in selection and oversight of FCHVs. 9 FCHVs to every VDC. Local health committees assist with FCHV selection and oversite but not involved with CHW selection.	Original FCHW programme initiated in late 1980. Part of national health policy since early 1990s. Continuing to expand.		VHWs and MCHWs paid through MoH. FCHV programme receives support from donors.	Leading country in reducing U5M (LICs). General agreement that CHWs (particularly FCHW) have played important role in success to date.
Pakistan	95,000	Single cadre: Lady Health Worker (LHW)	70% of rural population. Approx 1/1000 population	3 months classroom training plus 1 year on-the-job training. 15 days refresher training per year	Comprehensive range of services. Health education, health promotion, campaigns, ANC, DOTs for TB, treatment of range of illnesses- AFIs, diarrhoea, malaria, intestinal worms. Referral of more serious cases	Salaried ($45USD per year) 30USD per month paid LHW bank account	Attached to local facility but work from home. Supervised by a LHW supervisor based at public health clinic. Supervision a monthly. LHWs link community to formal health system.	Community members are on LWH selection committee. Community also involved in programme decisions, planning and M+E.	Launched in original form in 1994. Part of national PHC programme. Continuing to expand	US$745 per year per CHW; USD 0.75 per person served per year	Costs covered by government (89%) and donors (11%) in period 1995-2005	Several reports of improvements in a range of health indicators as a result of LHW programme. Some challenges remain in coverage and motivation.

Annex 6: Opportunities and challenges for financing of CHW programmes (Summarised from Perry et al, 2014)

Type of financing	Opportunities	Challenges	Examples of programmes
Government funding	• Job security for CHW • Promotes high degree of equity	• May be vulnerable to government funding cuts • Requires strong political support • Numbers of CHWs mean that overall costs can be substantial even though individual CHW costs small	Various e.g. Brazil, Iran
Community funding	• Can be self-sustaining (within limits)	• May disadvantage poorer communities • Fee for service by CHW may be open to abuse if not well managed • Communities may be reluctant to make payments	BRAC programme in Bangladesh
Volunteer financing	• Serving as a volunteer may offer personal rewards • Serving as a volunteer may provide social status	• May be unsustainable in longer term • Availability of volunteers may be subject to seasonality • Liable to attrition of CHWs • May be unjust if significant duties involved	Jamkhed comprehensive programme (NGO) India
External (donor) financing	• May pay for start-up costs/ technical support etc.	• Unlikely to pay for long-term recurring costs	Afghanistan

Annex 7: Factors influencing performance of CHW programmes and improving large-scale programmes (Extracted from: Perry H and Zulliger, 2012)

1. Countries need a comprehensive policy framework that is supportive of CHW programmes
2. Communities need to be involved in design and oversight of CHW programmes
3. CHW programmes need support (financial, planning etc) from all levels – central, regional and district
4. CHW roles and responsibilities need to be well-defined with clear job descriptions
5. The number and distribution of CHWs should be adequate to ensure that they can perform the tasks defined and reach those in need
6. CHWs should be provided with adequate pre-service training and sufficient continuing in-service training
7. CHWs need to be linked effectively with the formal health system for supervision, continuing education , receipt of supplies and referral of patients
8. CHWs need to be provided with supportive supervision and constructive feedback
9. CHWs need adequate financial and non-financial incentives
10. CHWs need to be properly equipped, supplied and supported through functioning supply-chains
11. CHWs need opportunities for professional growth and career advancement
12. CHW programmes need to be systematically monitored and evaluated
13. CHW can be supported through mobile health technology
14. CHWs should be seen as a long-term foundational cadre of health systems in low-income settings

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