



## **SCALING UP HEALTH AND EDUCATION WORKERS: COMMUNITY HEALTH WORKERS**

### **LITERATURE REVIEW**

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**ACRONYMS**

BRAC	Bangladesh Rural Advancement Committee
CHW	Community Health Worker
CSGV	Community Support Group Volunteers
DOTS	Directly Observed Therapy Strategy
FIGO	International Federation of Gynaecology and Obstetrics
HAS	Health Surveillance Assistant
ICM	International Confederation of Midwives
IMCI	Integrated Management of Childhood Illnesses
MDG	Millennium Development Goal
PHC	Primary Health Care
UNICEF	United Nations Children's Fund
UNMP	United Nations Millennium Project
WHO	World Health Organisation

## EXECUTIVE SUMMARY

The recent UN Millennium Project (UNMP) report recommended as a 'quick win' a "massive training of community-based workers". This review examines the evidence to support or reject the hypothesis that investment in 'community workers' can only impact on health outcomes with parallel investments in trained health workers and health systems.

Although this review is limited to Community Health Workers (CHWs), it is important to recognise that they rarely work in isolation: they are usually part of the health care team in a health care system. In view of the massive diversity in education, job descriptions and contexts of employment, it is extremely difficult to reach general conclusions about the impact that CHWs can be expected to have on health outcomes.

There are two main difficulties in reaching definitive conclusions from the literature. First, the literature offers examples of successful health programmes in which CHWs are involved, but the reports often do not isolate the contribution made specifically by CHWs. Second, CHWs may have roles that only have an indirect impact on health. Where CHWs can only be expected to have an indirect impact on health outcomes, a more appropriate indicator of success is whether the CHWs achieve their immediate objective.

With this qualification, the literature offers many instances where CHWs do have a positive impact. The literature reviewed shows that CHWs can and do have a positive impact on health outcomes even in national scale health programmes, though quite often the scale of the impact is rather less than had been hoped for. Where outcomes have been less positive, the principal reason appears to have been the failure of the health system -and the health professionals within that system - to provide the necessary support for the CHWs.

The references support the need for massive training of health workers, but the argument for training CHWs as opposed to other categories of health worker is not strongly made. Possibly, the over-riding argument for training CHWs is that there are important health related tasks that need to be done and that CHWs are capable of doing them. The types of tasks where CHWs have been successful include (but are not limited to) communication within communities, improving the health environment, supporting health programmes such as EPI, and diagnosis and/or treatment of diseases such as pneumonia and TB. There is generally a clear consensus that in many aspects of health care, CHWs have a vital role in the achievement of MDGs relating to health, that more CHWs are needed, and that they will need to be trained.

The literature also shows that merely training CHWs is not enough to ensure that they have an impact on health. Investment of time and expertise is required to analyse and define the work to be done by CHWs and the context in which they will work. This analysis is necessary to provide important information on the investment required for initial and continuing education of CHWs, as well as on the investment required to enable the health system to provide CHWs with adequate supervision, supplies, equipment and communication with health professionals. The nature and amount of the investment will vary from country to country depending on the work to be done by the CHWs and on the effectiveness of the country's health care system. Without this investment in analysis and in the health care system, CHWs are unlikely to achieve substantial health benefits.

## 1. INTRODUCTION AND RESEARCH STRATEGY

DFID's Scaling Up Services Team is set up to consider service expansion in a world where aid resources are escalating rapidly. As part of this it is looking at addressing the global shortages of health and education of health workers, in particular the 'crisis of health workers' in some countries of sub-Saharan Africa.

The recent UN Millennium Project (UNMP) report recommended as a 'quick win' a "massive training of community-based workers". This review will examine the evidence to support or reject the hypothesis that investment in 'community workers' can only impact on health outcomes with parallel investments in trained health workers and health systems. It will address five main issues:

1. What is a Community Health Worker (CHW)?
2. Can CHWs be trained to have the skills necessary in providing health care?
3. Can CHWs have an impact on health outcomes?
4. Should training large numbers of CHWs be a central strategy to achieve Millennium Development Goals?
5. The investment needed to complement training of CHWs.

The literature search was mainly based on literature accessible through websites, although documents already in the possession of the author were also used. The initial search was for any documents that included the key words "community health worker" or "CHW" and any of the following: "utilisation", "effectiveness", "evaluation", "impact", "quality" "sustainability", "retention" and "training".

This initial search led to a number of useful websites which were explored in more detail. These sites included:

[www.cdc.com](http://www.cdc.com)

[www.eldis.org](http://www.eldis.org)

[www.globalhealthtrust.org](http://www.globalhealthtrust.org)

[www.human\\_resources\\_health.com](http://www.human_resources_health.com)

[www.unaids.org](http://www.unaids.org)

[www.unicef.org](http://www.unicef.org)

[www.unmp.forumone.com](http://www.unmp.forumone.com)

[www.who.int](http://www.who.int)

[www.worldbank.org](http://www.worldbank.org)

Articles were retrieved and selected on the basis of their strong relevance to the terms of reference for this review and which focused on evidence based on experience in lower income countries.

Terms of reference for the review are attached at Annex 1.

## 2. BACKGROUND

Throughout the history of organised health services, community health workers of various types have played an important role in complementing and supporting the services provided by health professionals. However, it was the WHO Alma Ata Declaration on Primary Health Care (PHC) in 1978<sup>1</sup> that established Community Health Workers (CHWs) as a generic title and defined their role internationally. This declaration envisaged that CHWs would contribute to “Health for All” through direct provision of health care, by creating awareness of health services and their value to the community, and by acting as an agent for community development.

As PHC became widely established during the 1980s, large-scale training programmes for CHWs were implemented in many countries. The CHWs were incorporated into both government health care systems and those provided by non-governmental organisations. During this decade, and subsequently, the initial enthusiasm for CHWs became tempered in the light of experience: achievements sometimes did not live up to possibly unrealistic expectations. A very valuable review of the situation at the end of the 1980s is given in “Community Health Workers in National Programmes: Just Another Pair of Hands”<sup>2</sup>.

Since 1990, alternative points of view concerning CHWs have become more established. The positive point of view is illustrated by the UN Millennium Project (UNMP)<sup>3</sup> report which has identified “massive training of community based workers” as having the potential for a “quick win” in contributing to the achievement of the Millennium Goals relating to poverty reduction and improved health.

In contrast, others take a more negative stance and question the effectiveness of CHW’s. For example, Onwukwe and Pearson<sup>4</sup> state, “Whilst there is evidence that CHWs have had some success in increasing access to, and expanding coverage of, key services used by the poor and in mobilising community action for health in small scale experiments it has generally not been possible to replicate these achievements on a large scale. Furthermore, there is little evidence that these achievements have made any detectable impact on overall health status.”

The broad purpose of this rapid review is to identify where the balance lies between these two views. Specifically, it aims to “examine the evidence to support or reject the hypothesis that investment in “community workers” can only impact on health outcomes with parallel investments in trained health workers and health systems.”

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<sup>1</sup> **Alma Ata Declaration**, WHO, 1978

<sup>2</sup> WALT, G (ed). **Community Health Workers in National Programmes: Just Another Pair of Hands?** Open University Press, 1990

<sup>3</sup> UNITED NATIONS MILLENNIUM PROJECT. **Investing in Development: A Practical Plan to Achieve the Millennium Development Goals**, 2005

<sup>4</sup> ONWUKWE, Iheadi, PEARSON, Mark. **Assessing the Effectiveness of Community Health Workers – Report to DFID**. Institute for Health Sector Development, July, 2000

### 3. WHAT IS A COMMUNITY HEALTH WORKER (CHW)?

The Joint Learning Initiative<sup>5</sup> identifies a framework of four levels of health worker: the family; informal and traditional workers; community workers and; professionals.

In this framework, the category of informal and traditional workers includes people who have had no formal training in western medicine. Examples of informal and traditional workers include traditional healers, traditional medicine practitioners and traditional birth attendants. This review will not consider this category of health worker apart from recognising that they can potentially be trained to become CHWs.

The fourth category, “professionals,” includes doctors, nurses, and paramedics. The latter generally have two to three years of initial training. Confusingly, paramedics may be employed to work fulltime in the community and may also be referred to as CHWs. However, this group of health workers will not be included in the review.

It is the third category in this continuum – community workers – that are the main subject of this document. In 1987, WHO published “The Community Health Worker”<sup>6</sup>. This book presents a definition of what is meant by the phrase “Community Health Worker” and a vision of how they can contribute to health. “CHWs are men and women chosen by the community” and “should have had a level of primary education that enables them to write, read and do simple mathematical calculations.” They “are responsible to local authorities and to supervisors appointed by health services.” They “may be employed full-time or part-time” and “are paid ... by the local community or by health services”. “Their duties will cover both health care and community development.” The main content of the book strongly implies that CHW’s will be involved in a wide range of health care activities, rather than solely within a programme that focuses on one disease or health problem. Their “initial training may be as little as six weeks, but can be longer”.

Whilst this 1987 description of CHWs generally applies today, the literature shows that there are many exceptions to nearly all of the statements. Some CHWs have very little or no prior education, whilst others may have much higher levels of schooling. Many are not chosen by their communities. Often CHWs work in programmes that only address a single health problem and the WHO emphasis on general community development is often absent. Some CHWs work almost independently of organised health services.

Although this review is limited to CHWs, it is important to recognise that they rarely work in isolation: they are usually part of the health care team in a health care system. However, there is no consensus concerning the composition of this team. The Joint Learning Initiative document (pages 47 - 49) summarises the balance between different levels of health worker in 5 countries, showing that there is “extraordinary diversity in national [health] worker patterns” and that “there is no one optimal national pattern.”

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<sup>5</sup> JOINT LEARNING INITIATIVE, **Human Resources for Health: Overcoming the Crisis**. Harvard University Press, 2005

<sup>6</sup> **The Community Health Worker**. WHO, Geneva, 1987

In view of the massive diversity in education, job descriptions and contexts of employment, it is extremely difficult to reach general conclusions about the impact that CHWs can be expected to have on health outcomes.

#### 4. CAN CHWs BE TRAINED TO HAVE THE SKILLS NECESSARY IN PROVIDING HEALTH CARE?

There are many papers that report successful training of CHWs. For example, Solomon et al<sup>7</sup> assessed the skills of Ghanaian community health volunteers in diagnosing active trachoma and providing treatment. They found that the volunteers' "decision to treat" was correct in 83% of households and the dose of azithromycin was accurate in more than 98% of cases. Further, the volunteers' "drug management skills were good, the response of the community was excellent, and adverse reactions were infrequent".

Another example is provided by Baqui et al<sup>8</sup> who reported an evaluation of a five-week training programme in Bangladesh for the assessment and management of sick newborns using the IMCI algorithm. Skills were evaluated by observing each CHW as he or she assessed 10 cases in hospital and 8 cases in the community. All CHWs achieved a satisfactory standard in the community and 35 out of the 40 CHWs in the hospital setting, with the remaining 5 passing after further training. The study concluded, "If adequately trained and exposed to clinical cases....CHWs will have adequate skills to assess and manage neonates with serious infections."

In 1993, Ashwell and Freeman<sup>9</sup> investigated whether CHWs in Papua New Guinea maintained their skills after successfully completing initial training. They found that 92% "maintained their knowledge competency," but only 62% "maintained clinical competence." The study found that the CHWs were not given the opportunity to use their clinical skills in the work setting. At health sub-centres the CHWs used only 40% to 50% of their skills, whilst in health centres and hospitals they used only 20% to 30% of their skills. This finding illustrates a common experience: health workers' skills deteriorate over time if they do not use their skills regularly

The generally positive picture is qualified by experience with anganwadi workers in India. Manjula Dhatta<sup>10</sup> reported an evaluation that compared the diagnosis of 3,301 cases by trained anganwadi workers using IMCI guidelines with the diagnosis by doctors. The evaluation found that the "sensitivity of the anganwadi workers' diagnosis was moderately high, but for some specific conditions, such as dehydration or anaemia, sensitivity was low." The report concluded "anganwadi workers could use the IMCI guidelines effectively for the diagnosis and management of illness but that training methods could be improved to raise the sensitivity of diagnosis relative to a physician's gold standard."

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<sup>7</sup> SOLOMON, A., AKUDBILLAH, J. *et al.* **Pilot Study of the Use of Community Health Workers to Distribute Azithromycin for Trachoma Control in Ghana.** *Bull World Health Organ*, 2001, 79:p 8-14

<sup>8</sup> BAQUI, A., EL ARIFEEN, S. *et al.* **Evaluation of Community Health Worker (CHW) Skills to Recognize and Manage Sick Newborns in the Community.** *APHA Conference, Washington D.C.*, Nov 2004

<sup>9</sup> ASHWELL, H., FREEMAN, P. **The Clinical Competence of Community Health Workers.** *PNG Med J*, Sep 1995, 38 (3): 198-207

<sup>10</sup> DATTA, M., NEWBERRY, D. *et al.* **Community Health Workers: Use of IMCI Guidelines in India, Kenya, Nepal and Latin America.** 2002  
[www.icddrb.org/pub/publications](http://www.icddrb.org/pub/publications)

In general, the literature suggests that to achieve success, training must be competently designed and implemented. Training is more likely to be successful when:

- there is a clear job description for the CHWs that defines a limited number of tasks that the CHWs will be expected to perform<sup>11</sup>;
- the training is competency-based and closely linked to the job description;
- the training course allocates a high proportion of the available time to practice of skills;
- initial training is supplemented by opportunities for continuing education.

The papers quoted above demonstrate that it is possible to train CHWs – even those with limited formal schooling – to a standard where they are capable of providing a good quality care for a limited number of conditions. However, the more important question is whether CHW's can have an impact on health under normal working conditions. This issue is considered in the following section.

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<sup>11</sup> SWIDER, S. **Outcome Effectiveness of Community Health Workers: An Integrative Literature Review.** *Public Health Nursing*, Jan/Feb 2002, Vol 19, Issue 1

## 5. CAN CHWs HAVE AN IMPACT ON HEALTH OUTCOMES?

CHWs are an important part of health systems in many low or middle-income countries. For example, there are 417,000 village health guides in India. In Brazil, community health agents provide health care for 93 million people. In Sri Lanka, there are 100,000 volunteer health workers, whilst in Indonesia there are 1.8 million health cadres who are trained for 3 days<sup>12</sup>. Whilst there are clearly a large number of CHWs in these and other countries, the question to be answered is, do they have an impact on health?

The answer is, provisionally, positive. However, there are two main difficulties in reaching definitive conclusions from the literature. First, the literature offers examples of successful health programmes in which CHWs are involved, but the reports often do not isolate the contribution made specifically by CHWs. Second, CHWs may have roles that only have an indirect impact on health. For example, where CHWs have the objective of improving the environment, or of educating communities about health, or of encouraging people to attend health facilities, it is very difficult to quantify the health impact. Where CHWs can only be expected to have an indirect impact on health outcomes, a more appropriate indicator of success is whether the CHWs achieve their immediate objective.

With this qualification, the literature offers many instances where CHWs do have a positive impact. For example, an important study by Sazawal and Black<sup>13</sup> reviewed the evidence from 9 community-based programmes in 8 countries where the effects of pneumonia case management on mortality were assessed. The results of this meta-analysis showed that community-based interventions to identify and treat pneumonia led to “a reduction in all cause mortality of 27% in neonates, 20% in infants and 24% in the 0 – 4 years age group.”

This meta-analysis demonstrates that CHWs do (at least in the situations studied) have an impact on health outcomes. However, do they also offer cost advantages? The Bangladesh Rural Advancement Committee (BRAC) investigated this issue. A paper by Islam et al<sup>14</sup> compared two tuberculosis programmes in Bangladesh. One programme was implemented by BRAC and mainly relied on paid CHWs. The other was the government programme which did not use CHWs. Both programmes were based on the WHO DOTS (Directly Observed Therapy Strategy).

The analysis of the two programmes showed that the “overall treatment success rate in the BRAC area was 83.3% and 82.7% in the government area.” However, the cost per patient cured was US\$ 64 in the BRAC area compared to US\$96 in the government area. A further benefit in the BRAC area was that costs incurred by patients were also less since the treatments were mainly provided in the patients' homes.

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<sup>12</sup> JOINT LEARNING INITIATIVE, *Human Resources for Health: Overcoming the Crisis*. Harvard University Press, 2005

<sup>13</sup> SAZAWAL, S., BLACK, R. *Effect of Pneumonia Case Management in Neonates, Infants, and Pre-school Children: a Meta-analysis of Community-based Trials*. *The Lancet Infectious Diseases*, 2003, 3, 547-556.

<sup>14</sup> ISLAM, A., WAKAI, S. *et al. Cost-effectiveness of community health workers in tuberculosis control in Bangladesh*. *Bull World Health Organ*, 2002, 80 (6) p445 – 450.

The previous examples have all been of relatively small scale and/or NGO health programmes. What happens when the use of CHWs is scaled up to national programmes?

In 1992 the Ministry of Health of the Sultanate of Oman (supported by UNICEF) created a wide network of Community Support Group Volunteers (CSGVs) throughout the country. The initial role of the CSGVs was to support other women in breastfeeding and complementary feeding, but this role has now been expanded to include a variety of maternal and child health issues.

An evaluation<sup>15</sup> based on the perception of women in the communities showed that the coverage achieved by CSGVs was high (80% of women surveyed had been in contact with the “many volunteers”). The women “voiced overwhelmingly positive impressions of the volunteers” and especially valued the volunteers ability to “articulate health messages in a simple and informal manner easily understood by all” (in direct contrast to the difficulties found in communication with health staff). Observation of the CSGVs “revealed both strengths and weaknesses in volunteers’ interaction with local women,” though tests of knowledge had high scores overall (86.1%). The overall conclusion of the evaluation was that “volunteers can and do provide a useful service to their communities”.

In Oman the CSGVs had a limited job description. In contrast, a study by Kadzandira and Chilowa<sup>16</sup> examined the impact of Health Surveillance Assistants (HSAs) in Malawi where the HSAs had a comprehensive role in health care. Key points from their paper are summarised below:

The Malawi Ministry of Health (MOH) employs HSAs who each have responsibilities for about 2000 people. The HSAs are trained for 8 weeks and have a comprehensive job description. Their tasks include: vaccination; growth monitoring; sanitation and water source protection; disease surveillance; health education; following up tuberculosis patients; providing family planning methods; providing treatment for common diseases; and supervision of traditional birth attendants.

- The coverage of households in each HSA’s catchment area is not complete but is probably between 60% and 90% in most cases. They do not perform all of the tasks in their job description, though immunisation coverage is quite high (80%) and most (>80%) mothers in the sample surveyed “applauded the HSAs very highly for the work they were doing.” In short, the HSAs did do useful work that can be expected to lead to positive health outcomes, but not always to the quality expected.
- Factors limiting the range and quality of the HSAs’ impact were reported to be:
  - I. extreme shortage of basic drugs and irregular supply of vaccines and condoms;
  - II. lack of transport
  - III. inadequate and irregular supervision;

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<sup>15</sup> Evaluation Report, **Voices from the Community in the Sultanate of Oman: Local Women’s Perceptions of Community Support Group Volunteers.** UNICEF, 1999/2003

<sup>16</sup> KADZANDIRA, J., CHILOWA, W. **The Role of Health Surveillance Assistants (HSA) in the Delivery of Health Services and Immunisation in Malawi.** Gov. of Malawi/UNICEF, Dec. 2001,

- IV. lack of equipment and non-functioning equipment;
- V. inactive village health committees;
- VI. insufficient initial training / continuing education;
- VII. low status and remuneration.

The Joint Statement by WHO and UNICEF on Management of Pneumonia in Community Settings<sup>17</sup> gives further examples of where CHWs have a positive impact on health. This statement cites examples from a variety of countries (Nepal, Honduras, the Gambia, Kenya and Pakistan) that all support the proposition that CHWs can and do have a beneficial impact on health.

So far, all of the examples selected from the literature have reported positively on the skills and impact of CHWs. This is because no negative reports were found in the literature search. However it would be optimistic to assume that no negative experiences have occurred.

In summary, the literature reviewed in this section shows that CHWs can and do have a positive impact on health outcomes even in national scale health programmes, though quite often the scale of the impact is rather less than had been hoped for. In general, CHWs are reported to have had a positive impact when they are employed to:

- enable people to look after their own health better; and/or
- encourage increased utilisation of health facilities; and/or
- support preventive health programmes; and/or
- diagnose and treat a limited range of common diseases.

Where outcomes have been less positive, the principal reason appears to have been the failure of the health system -and the health professionals within that system - to provide the necessary support for the CHWs.

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<sup>17</sup> Joint Statement: **Management of Pneumonia in Community Settings**. WHO/UNICEF, May 2004

## 6. SHOULD TRAINING LARGE NUMBERS OF CHWs BE A CENTRAL STRATEGY TO ACHIEVE MILLENNIUM DEVELOPMENT GOALS?

The publication of the Millennium Development Goals (MDGs) relating to health and to poverty reduction has stimulated international debate on strategies to achieve the goals. A common theme in the strategies has been the need to massively expand the health workforce. Nullis-Kapp<sup>18</sup>, reporting a High-Level Forum in Abuja, points out that the number of health workers per capita in Africa is “10 – 15 times lower than in OECD countries” and that Africa “accounts for only 1.3% of the world’s health workforce but 25% of the global burden of disease”. Further, this gross shortage is exacerbated by the inequitable distribution of health workers with rural areas suffering in comparison to cities and especially capital cities.

The Global Equity Initiative<sup>19</sup> estimates “the global shortage [of health workers] at more than 4 million.” “Sub-Saharan countries must nearly triple their current number of workers by adding the equivalent of 1 million workers...if they are to come close to approaching the MDGs for health.” This paper does not specifically quantify the proportion of these health workers that should be CHWs, but elsewhere quotes a current ratio of 3 “informal, traditional, community and allied workers” for each health professional.

The UNMP Report makes several references to the need for training health workers of various types. These appear in two chapters – “10 Key Recommendations” and “Country Processes”.

- a. Recommendation 2 states that MDG-based poverty reduction strategies should “Include operational strategies for scale-up, such as training and retaining skilled workers”. Presumably this recommendation refers to both health care professionals and CHWs.
- b. Recommendation 5 outlines several “quick wins.” One of the quick wins is a “massive training program of community based workers....to ensure, by 2015, that each local community has “Expertise in health....”
- c. The chapter on Country Processes also lists quick wins. “With adequate resources”, the quick wins include “Training large numbers of village health workers.” In this reference, it is not clear whether it is health care professionals who should be trained to work in villages or only CHWs.

So far, the references support the need for massive training of health workers, but the argument for training CHWs as opposed to other categories of health worker is not strongly made. Other references indicate four main reasons why CHWs are important.

- 1) First, the training of CHWs can be expected to have a quicker impact than the training of health professionals. This is because a decision today to make a major expansion in the number of doctors cannot have an impact on the service provided for at least six years as a result of the long period of training and the need to establish facilities for that training. In contrast, a large number of CHWs

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<sup>18</sup> NULLIS-KAPP, C. **Health Worker Shortage Could Derail Development Goals.** *Bull World Health Organ.* Jan 2005, vol.83, no.1.

<sup>19</sup> CHEN, L., EVANS, T. *et al.* **Human Resources for Health: Overcoming the Crisis.** *The Lancet*, 2004, 364: 1984 – 90

- could be trained and working within, say, one year of the decision to start the training.
- 2) Second, CHWs can provide health care in parts of a country where health professionals are very unwilling to work. Hence the employment of CHWs can reduce inequities in the provision of health care. This argument is particularly important because it has been estimated that about 60% of children who die from the most common diseases of childhood have not attended a health facility or received any treatment from a health professional<sup>20</sup>. CHWs can provide a quality of care that would substantially reduce the number of deaths.
  - 3) Third, CHWs generally cost less to train and employ than health professionals.
  - 4) Fourth, CHWs are likely to be more effective in communicating with the people in the communities where they work. Nemcek and Sabatier state “CHWs are indigenous, trusted, and respected members of the underserved community. They can act as a bridge between peers and health professionals”<sup>21</sup>

These arguments need to be weighed against the views that:

- 1) The quality and range of care provided by CHWs is likely to be lower than that provided by health care professionals
- 2) The public, in many settings, has less confidence in CHWs than in health care professionals and has come to expect health services to be provided by doctors or nurses.
- 3) Professionalisation of health care is the way to achieve progress in health, so the employment of CHWs (and paramedical staff) delays this progress.

The balance between the importance of these, and possibly other, factors will vary from one country to another.

Possibly, the over-riding argument for training CHWs is that there are important health related tasks that need to be done, that CHWs are capable of doing them and there are simply not enough professional health workers to do the tasks. The literature describing past experience of using CHWs indicates that the work that CHWs might do includes (but is not limited to) any combination of:

- helping community members to live healthier lifestyles by providing information and support;
- encouraging community members to seek health care at health facilities;
- supporting community members who are following courses of treatment that have been prescribed by health care professionals, e.g. for TB or HIV/AIDS;
- improving the health environment in communities, e.g. through taking part in programmes to improve water supplies, sanitation, housing, or nutrition;
- supporting “vertical” health programmes such as EPI;
- diagnosing and treating in the community diseases and conditions such as pneumonia or diarrhoea;
- supporting the provision of health care by working in health facilities.

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<sup>20</sup> Joint Statement: **Management of pneumonia in community settings**. WHO/UNICEF, May 2004.

<sup>21</sup> NEMCEK, M., SABATIER, R. **State of Evaluation: Community Health Workers**. *Public Health Nursing*, 2003, vol. 20, iss. 4, p. 260-2003.

The literature relating to MDGs provides specific examples of ways in which CHWs can support the diagnosis and treatment of diseases. WHO and UNICEF emphasise the value of CHWs in the treatment of pneumonia. They propose that countries can “reduce pneumonia related mortality in community settings” if they [countries]:

- “support the role of CHWs to identify and treat pneumonia”;
- “authorise the use of antibiotics by trained CHWs”;
- train “existing or new CHWs in pneumonia case management.”

These actions need to be integrated with adequate supervision, strong drug supply systems, monitoring and evaluation of CHW activities, and with other programmes such as IMCI.

Another very important condition where CHWs might have a significant role is HIV/AIDS. The “three by five” strategy to increase access to AIDS treatment indicates the need to train health workers<sup>22</sup> and it is reasonable to assume that CHWs are amongst the categories of health worker that should be trained. For example, in Botswana, the MASA (“new dawn”) antiretroviral programme has reported<sup>23</sup> “a recruitment drive to bring on board....new types of counsellors to help patients adhere to their drug regimens.” The report also states that “reaching people in villages beyond the tarred roads and airstrips presents formidable challenges.” There is a strong implication here that CHWs have an important role to play.

Other documents refer to the importance of CHWs in diagnosing and treating conditions such as diabetes, diarrhoea, tetanus, and blindness.

However, despite the wide range of tasks that CHWs can do, they cannot do everything. Their limited educational background and limited period of training in health care mean that each CHW can only be expected to perform a limited number of specific tasks that complement the work of health professionals. This issue is illustrated in a joint statement by WHO, the International Confederation of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO)<sup>24</sup>. This statement emphasises the need for “skilled attendants” rather than CHWs in all aspects of obstetric care, where a skilled attendant is defined as an accredited health professional such as a midwife, doctor or nurse. However the statement also acknowledges “the skilled attendant will need the collaboration of ... other care providers (including traditional birth attendants, traditional healers, social workers, etc.)”.

In summary, there is generally a clear consensus that in many aspects of health care, CHWs have a vital role in the achievement of MDGs relating to health, that more CHWs are needed, and that they will need to be trained.

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<sup>22</sup> News release: **Strong Foundations Built to Increase Access to AIDS Treatment**. WHO, July 2004  
<http://www.who.int/mediacentre/news/releases/2004/pr48/en/>

<sup>23</sup> Accelerating Action against AIDS: **Treatment Gaps**. UNAIDS, Sep. 2003  
[http://www.unaids.org/icasa/en/ICASA14\\_en.htm](http://www.unaids.org/icasa/en/ICASA14_en.htm)

<sup>24</sup> **Making Pregnancy Safer: the Critical Role of the Skilled Attendant**: a joint statement by WHO, ICM and FIGO. WHO. Geneva. 2004

## 7. THE INVESTMENT NEEDED TO COMPLEMENT TRAINING OF CHWs

None of the papers cited in this review claims that CHWs are likely to achieve worthwhile health benefits without significant investment beyond the investment required for their training. The papers that consider this issue state (or strongly imply) the need for CHWs to work within a health system that provides:

- I. supervision,
- II. supplies,
- III. equipment and,
- IV. communication with health professionals.

To determine the amount of this parallel investment, an initial investment of time and expertise is required to analyse and then define the work to be done by CHWs and the context in which they will work. This analysis is required in each country and within the different health settings of each country. The analysis is required because the literature provides many examples where the effectiveness of CHWs has been limited by failure to define tasks in detail or by the tendency to change the work expected of CHWs.

For all types of work done by CHWs, decisions about the context will be needed. Key issues in the context include:

- Where the work will be done – in health facilities, in meeting places in the community, or within the houses of members of the community?
- Whether the CHWs will be paid – and if so, how much?
- What incentives will be provided – payment in kind, preferential opportunities for further training, etc.?
- Who will manage the CHWs –
  - will they be independent or
  - will they be managed by the communities (e.g. by a local health committee) or,
  - will they be managed by the health system (which may be private, non-government or government)?
- How will the quality of work be supervised and what type of supervision will be provided? The literature indicates that supervision should be supportive, i.e. it should focus on helping CHWs to achieve a higher quality of work rather than merely policing whether CHWs are on duty or are carrying out the required quantity of work.
- How will continuing education be provided for CHWs?
- How will the work done by CHWs complement the work done by health care professionals who may also be working in the community?
- What equipment, supplies, or facilities will be required by CHWs?

An additional analysis is required of the amount of work to be done and hence to determine the number of CHWs required. An example of this type of analysis is provided by a study in Bangladesh<sup>25</sup> which assessed how many additional health workers would be needed to implement IMCI protocols.

<sup>25</sup> KHAN, M., AHMED, S., et al. **Implementing IMCI in a developing country: estimating the need for additional health workers in Bangladesh.** *Hum Res Health Dev*, May-Aug. 2000, vol. 4, no.2

The results of this initial analysis and decision making will provide the basis for calculating the levels of initial investment and recurrent expenditure that will enable CHWs to deliver worthwhile benefits in the communities where they work.

## **8. CONCLUSION**

The literature shows that CHWs can be trained so that they achieve high levels of skill and that they can apply these skills in the field. The literature also shows that CHWs may have advantages over health care professional in that they are members of the communities in which they work and hence are more likely to continue to work in that community, and are more likely to be able to communicate effectively with members of the community.

However, the literature also shows that merely training CHWs is not enough to ensure that they have an impact on health. Investment of time and expertise is required to analyse and define the work to be done by CHWs and the context in which they will work. This analysis will give important information on the investment required for initial and continuing education of CHWs as well as on the investment required in the health system where they work. The nature and amount of the investment will vary from country to country depending on the work to be done by the CHWs and on the effectiveness of the country's health care system. Without this investment in analysis and in the health care system, CHWs are unlikely to achieve substantial health benefits.

## **ANNEX 1 SCALING UP HEALTH AND EDUCATION WORKERS: LITERATURE REVIEW**

### **TERMS OF REFERENCE**

#### **Background**

DFID's Scaling Up Services Team is set up to consider service expansion in a world where aid resources are escalating rapidly. As part of this it is looking at addressing the global shortages of health and education of health workers, in particular the 'crisis of health workers' in some countries of sub-Saharan Africa. On health we are engaged with the Joint Learning Initiative and the High Level Forum on Health.

#### **Purpose**

The purpose of the four discreet literature reviews described below is to provide the evidence base, and where appropriate examples of successful and unsuccessful interventions, to inform the thinking and work of DFID and its partners. It will identify gaps in the current knowledge base.

#### **Objectives**

The objective of these reviews is to understand the evidence relating to approaches to improving outcomes through increasing the numbers, productivity, quality, distribution and retention of health and education workers:

- 1. Community and informal health workers** – The recent UN Millennium Project (UNMP) report recommended as a 'quick win' a "massive training of community-based workers". Informal/ community-based health workers can play an important role in both preventative and curative interventions. Some experience, e.g. from the Integrated Management of Childhood Illness programme, suggests that, to be most effective and impact on health outcomes, community-based workers need to be supervised and linked to formal health systems. This review will examine the evidence to support or reject the hypothesis that investment in 'community workers' can only impact on health outcomes with parallel investments in trained health workers and health systems.
- 2. Increasing the productivity of an existing 'stock' of health workers** - training significant numbers of new health workers will take time. Graduate training takes a number of years and many countries have only limited capacity to train doctors and nurses. This review will look at strategies that have been undertaken to increase the productivity of health workers in delivering quality of care to more clients. It will examine the evidence to support or reject the hypothesis that short-term training, incentives, better equipment, supplies and conditions and other things can be employed that improve outputs and health outcomes without increasing the numbers of health workers.
- 3. PRSPs and Education** – In 2003, the HSRC undertook a review of the human resource content of PRSP and HIPC documentation in 6 selected African countries. This review will undertake a similar analysis to assess how well human resources for education are covered in the PRSPs or linked documents of selected countries in the major change programmes embarked upon by government.
- 4. Systems for training** – This literature review should cover the history of skills training in health and education in developing countries (mainly low income

Africa and Asia) to examine the following hypotheses: i) training for teachers and health workers is normally controlled by the state – but in some instances, the private sector can be regulated to provide quality workers; ii) training institutions for teachers and health workers have largely been developed to supply the public sector, which leads to undersupply if there are many providers, emigration prospects, AIDS and state-only training of workers; and are normally exclusively controlled by state; iii) private demand for training is often wasted in “rent-seeking” for limited public sector training places; iv) there are useful examples of total-market planning of the supply of skilled workers; v) there are useful examples of public and private provision of training.

### Recipient

The work is being commissioned by Policy Division’s Scaling up Services Team. The output is intended to inform the work of DFID and the wider international community when supporting service delivery in difficult environments.

### Scope

The consultants will be expected to draw upon a wide range of sources including, but not restricted to:

- Academic
- The International Community:
- Grey literature, e.g. evaluation reports

### Method

The consultants will be expected to develop an appropriate methodology in order to systematically conduct and produce the review.

### Outputs

The main output from this consultancy will be 4 short reports (maximum 10 pages each) that summarise the literature and evidence in the areas outlined above. Each report should

- a) Briefly define the problem and its scope
- b) Use country examples to provide illustrations of successful and unsuccessful approaches
- c) Where appropriate draw some conclusions of what we know about what works and under what conditions.

### Timeframe

The consultancy should commence as soon as possible and all outputs should be completed and agreed by 15 March 2004.

Stages	Time frame	Consultant days	Reimbursable
Literature search of existing documents and information on increasing levels of skilled attendance	Mid to end February	Community and informal health workers – 2 days Increasing productivity of an existing stock of health workers – 2 days PRSPs and Education - 4 days	

		Systems for Training - 2 days Research assistance time - 8 days	
Telephone interviews with country teams for PRSP and Education	End February	2 days	Telephone calls
Analysis of documents and interviews to determine the gaps and areas that need further strengthening and report writing	Early to mid-March	Community and informal health workers - 3 days Increasing productivity of an existing stock of health workers - 3 days PRSPs and Education - 4 days Systems for Training - 3 days	Printing costs
TOTAL DAYS		25 days expert time 5 days research assistance	

### Reporting and Management

The consultants will report directly to Ali Forder ([A-forder@dfid.gov.uk](mailto:A-forder@dfid.gov.uk)). The DFID project officer is Peter Clarke ([p-clarke@dfid.gov.uk](mailto:p-clarke@dfid.gov.uk))

### Costs

Across the reports, a total of 30 days of consultancy inputs.