

## Early Initiation of Community-based Programmes in Nepal: A Historic Reflection

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### ABSTRACT

Community-based programmes have long been an integral part of Nepal's health sector strategy and has contributed to the progress seen in maternal and child health. This paper reviews three early community-based programmes - the acute respiratory infection programme and its evolution to the fully scaled-up community-based integrated management of childhood illness programme, the national vitamin A programme and the female community health volunteer programme - and how the Government of Nepal rapidly accepted them to address pressing maternal and child health issues in an evidence-informed manner, moving rapidly from research to feasibility studies, to implementation and scale-up.

**Keywords:** ARI programme; community-based integrated management of childhood illness; female community health volunteers; national vitamin A programme; Nepal

### INTRODUCTION

Community-based programs and community health workers - both paid and voluntary - have been successful in strengthening health systems in many developing countries. The progress made with regards to maternal and child health in Nepal has been achieved within the context of challenging geographic constraints and a strong commitment by the government to provide basic health care for all. To extend the reach of health services, a unique cadre of female community health volunteers (FCHV) was established in the late 1980s to inform, educate and provide essential maternal and child health (MCH) and family planning (FP) services at the community level. The FCHV programme was critical for the establishment of the national vitamin A supplementation and community-based integrated management of childhood illness (CB-IMCI) programmes, and that experience has led to their involvement in many other programmes.

This article, second in the six article series, provides a historical background on the FCHV, the national vitamin A and CB-IMCI programmes, and the role FCHVs played in the success of the latter two, thus leading to FCHV's

increased involvement in other community-based MCH programmes.

### LITERATURE REVIEW

Secondary desk review was conducted for this article. Authors looked at published documents, reports, journal articles, as well as relevant websites.

### THE FEMALE COMMUNITY HEALTH VOLUNTEER PROGRAMME

Nepal's FCHV programme was initiated to promote women's participation in health, especially in the areas of family planning (FP), maternal and child health (MCH).<sup>1,2</sup> The idea of organised community support for planning and programming public health activities is old in Nepal.<sup>3</sup> Earlier rural health programmes included ways of increasing community participation but relied on male health volunteers, such as the Community Health Leaders (CHL) programme.<sup>4</sup> The CHL programme was introduced by the government of Nepal (GON) in 1980 in 16 districts. Five thousand volunteers in total were

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chosen to serve as CHLs. All the volunteers were men with an exception of one district.<sup>1</sup> The CHL programme was later renamed the Community Health Volunteer (CHV) programme.

Assessment of the CHV programme showed that it was not as effective as expected in improving health practices, in part because of Nepal's socio-cultural environment, where women are reluctant to discuss their personal health issues or seek services from men.<sup>1</sup> On the other hand, it was discovered that the female volunteers in one district were better at relaying MCH and FP messages than their male counterparts in other districts. Consequently, the CHV programme was revised to recruit only female volunteers.

The FCHV programme was formally established in 1988, through the Public Health Division, Department of Health Services, under the Ministry of Health (MOH). The objective was "supporting the national goal on health through community involvement in public health activities. This includes imparting knowledge and skills for empowering women, increasing awareness on health-related issues and involvement of local institutions in promoting health care".<sup>5</sup> The initial focus was on education and promoting safe motherhood and family planning. The MOH planned to station one trained FCHV in every ward, for a total of over 48,000 throughout the country. Accordingly, the programme was initiated in 27 districts between 1988 and 1989 with plans for expansion to all 75 by 1993. A decision to revise the ward-based approach to a population-based one was made in 1992, where the different population densities in the country's various ecological zones were taken into consideration.<sup>6</sup>

Although more successful than its predecessor, the FCHV programme struggled in the beginning to show impact on behaviour. The role of the FCHV was limited to mostly educating the community about FP and MCH.<sup>1</sup> There were also concerns about sustaining this new approach using volunteerism. In 1993, however, the MOH granted permission for FCHVs to play a direct role in the National Vitamin A Programme (NVAP). They were given responsibility to distribute vitamin A capsules to all children 6-59 months old, twice a year.<sup>7</sup> This helped establish the FCHVs as tangible service providers and simultaneously elevated their status in the community's eye and raised their motivation. The community's positive feedback proved to be a powerful incentive for FCHVs to continue their work. This perception was further reinforced when, in 1995, the MOH piloted a new intervention in two districts, Makwanpur and Chitwan, where FCHVs were permitted to administer paediatric cotrimoxazole tablets to treat childhood pneumonia by using a pictorial algorithm.<sup>8</sup> This second tangible service

provision established FCHVs as credible and appreciated health volunteers.<sup>9</sup>

Apart from community acceptance, the strength of the FCHV programme lies in its government ownership and the FCHV's proximity to the community. FCHV policy dictates that the volunteers come from the wards they serve.<sup>5</sup> In addition to local recruitment, the FCHV programme is unique because volunteers need not be literate. As indicated in a 2007 report by USAID, New ERA and the MOHP, 38% of FCHVs were illiterate (Table 1).<sup>2</sup> The report suggests that illiterate FCHVs have performed as well as their literate colleagues. Moreover, the turnover rate is only 4%,<sup>2</sup> which is remarkable given that FCHVs do not receive money for the wide range of services they provide.

**Table 1. FCHV Characteristics**

Median Age	38 years old
Education	42% - Completed primary school 16% - Attended but not completed primary school 42% - Never attended school
Literacy	62% - Literate
Caste/Ethnicity/Religion	FCHVs represent Janajatis at almost their rate in the population FCHVs represent Muslims and Dalits at around half their rate in the population
Length of Service	4% average annual turnover
Workload	5.1 hours per week on average

At present, FCHVs are intensively involved in the NVAP. They assess the classification and management of pneumonia and diarrhoea through the Community-Based Integrated Management of Childhood Illness (CB-IMCI) programme; in providing iron supplements to pregnant and lactating women; in administering misoprostol to recently-delivered women to prevent post-partum hemorrhage; in administering chlorhexidine for cord care; and play a key role in the Community-Based New Born Care Package (CB-NCP). They also have an important role in the Extended Programme on Immunisation (EPI) by counseling mothers to bring their children to EPI outreach clinics for immunisation, and have contributed to the National Immunization Programme, by dosing under-5 children with polio drops. The Government of Nepal supports the FCHV programme in various ways including through the establishment of the FCHV fund and also helps during the annual FCHV day.<sup>5</sup>

FCHVs remain the foundation of community health services and a vital component of primary health care in Nepal. They serve as the primary bridge between communities and health facilities. Since the programme's

inception, FCHVs have demonstrated that they can provide essential MCH/FP services at the community level. The successful utilisation of FCHVs in programmes of the early 1990s cemented their indispensable role in MCH, prompting a large number of community-based interventions to use FCHVs in their programmes.<sup>7</sup>

The evolution of the NVAP and CB-IMCI, two of the earliest community-based programmes to have been scaled up in all 75 districts, are detailed below.

#### NATIONAL VITAMIN A PROGRAMME

Alfred Sommer's pioneering work on vitamin A in the 1970s and 1980s concluded that dosing children with vitamin A twice a year can reduce child mortality by 34%.<sup>10,11</sup> Despite the strong mortality impact from vitamin A supplementation beyond its importance for addressing nutritional blindness, and despite high infant mortality rates in Nepal, it took several years for the MOH to initiate a vitamin A supplementation programme. Before the Government established the programme, several research studies were undertaken to strengthen the evidence base.

Two such studies - one in Sarlahi and one in Jumla district - concluded that periodic vitamin A supplementation at the community level significantly reduced child mortality.<sup>12,13</sup> After careful consideration of this growing body of evidence, the MOH, developed an implementation strategy and objectives for a national vitamin A supplementation programme with support from external development partners in 1992.<sup>7</sup> In 1993, the NVAP was piloted with the intention of distributing vitamin A capsules through FCHVs to all children from 6 to 59 months of age, twice a year. The programme was piloted in eight districts suspected to have the highest prevalence of vitamin A deficiency. By 1997, the programme had been introduced in 32 districts and was scaled-up reaching all 75 districts by 2002.<sup>7</sup> Because of its success, in 1999, de-worming was added to this twice yearly event, immediately achieving high coverage among children of 12-59 months, and making a strong contribution to reduction in child anemia.<sup>14</sup>

The NVAP, since its very beginning has shown tremendous success by sustaining very high coverage of vitamin A supplementation among the surveyed districts.<sup>8,15,16</sup> During its phased-in implementation, each district achieved and sustained 80%-90% coverage for all 6-59 month old children.<sup>17</sup> The programme's consistently high coverage is in no small part due to the substantial contribution by FCHVs, 98% of whom are engaged with this programme.<sup>2</sup>

FCHVs have not only been central to the success of the NVAP, they have also been empowered and have gained

respect and status in their communities as awareness raising agents. Without them, nationwide coverage would have been exceedingly challenging. Because of the FCHVs' accomplishment and key role in the NVAP, the GON increased their role in other programmes.

#### COMMUNITY-BASED INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

Diarrhoea and pneumonia are two of the leading causes of childhood mortality in Nepal.<sup>13</sup> To address these challenges, the MOH established the Control of Diarrhoeal Disease (CDD) and the Acute Respiratory Infection (ARI) programmes in 1982 and 1987, respectively and implemented them at the health facility level.<sup>18</sup> In addition, *Noon Chini Pani*, salt-sugar-water solution for the treatment of diarrhoea, was promoted at the community level through the CHL programme. During this early phase, the integrated management of childhood illness or IMCI programme was implemented at the health facility level and focused on under-5 case management for five major childhood diseases i.e. ARI, diarrhoea, malaria, measles and malnutrition.<sup>19</sup> The community-based (CB-IMCI) programme, was introduced later and focuses on community case management of ARI and diarrhoea by FCHVs and referral of severe under-5 and neonatal cases to health facilities.<sup>20</sup>

The CDD and ARI strengthening programmes evolved over the years, going through several policy changes and were ultimately combined into the CB-IMCI programme in 1999.

#### Community-Based Case Management of ARI

Because of the contribution of pneumonia to child mortality, an early implementation trial was conducted in Jumla from 1986 to 1989. It demonstrated that trained community health workers could successfully diagnose and treat childhood pneumonia based on a classification algorithm using respiratory rate and clinical signs.<sup>21</sup> The intervention showed a substantial 28% reduction in child mortality. However, despite favourable results, concerns about semi-skilled workers using antibiotics delayed further piloting. It took several more years of policy discussion before the ARI Strengthening Programme was initiated in 1995.

This early programme examined two intervention models.<sup>22</sup> The 'treatment model' was carried out in two districts, Chitwan and Makwanpur. There, the peripheral health workers, i.e. FCHVs, village health workers and maternal and child health workers assessed, classified and treated children with pneumonia. The 'referral model' was done in two other districts, Morang and Sunsari and involved use of the same algorithm, but referring

all pneumonia cases to the nearest health facility. An external assessment study reviewed the outcome of the two models, concluding that the treatment model resulted in better management of pneumonia.<sup>22</sup> Findings included the following:

1. The number of deaths from pneumonia had fallen as a result of the program
2. The program was thought to be especially useful for poor people, those living in remote areas and for times when other providers were not available
3. Although mothers preferred that FCHVs treat pneumonia in their children, they appreciated the role of those who were only able to refer
4. FCHVs in general were enthusiastic and motivated
5. Mothers were aware of some of the danger signs of pneumonia but almost half did not recognise fast breathing as a danger of severe illness

**CBAC to CB-IMCI**

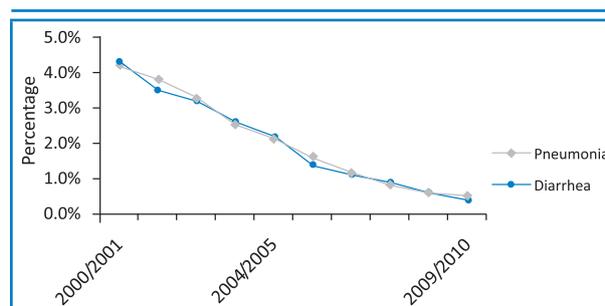
The success of the ARI Strengthening Programme, and particularly the intervention's use of community health workers for treatment, resulted in merging the ARI Programme with the CDD Programme to create the Community Based Management of ARI/CDD or CBAC Programme. It was implemented in 1998 in 11 districts.<sup>20</sup> The programme also included immunisation and nutrition components. A year before CBAC was implemented, WHO and UNICEF piloted the Integrated Management of Childhood Illness (IMCI) programme, involving the management of pneumonia, diarrhoea, measles, malaria and malnutrition of under-5 children at the health facility level in Mahottari.<sup>19</sup>

Although both approaches attempted to address the same childhood illnesses, because CBAC was implemented at the community level and focused only on pneumonia and diarrhoea, it resulted in an increase in the percentage of expected pneumonia cases receiving standard treatment. After implementation of community case management of pneumonia in the CBAC districts, the percentage of treated pneumonia cases grew steadily whereas in the non-program districts, cases were managed only by HFs.<sup>23</sup> Based on these results, the MOH concluded that the most effective way forward would be to combine IMCI with the community-based approach of CBAC.

This decision led to the creation and piloting of the CB-IMCI programme in 1999 in three districts. CB-IMCI was steadily expanded and currently covers all 75 districts, thus providing a full spectrum of child health care from the community to the health facility level.<sup>24</sup>

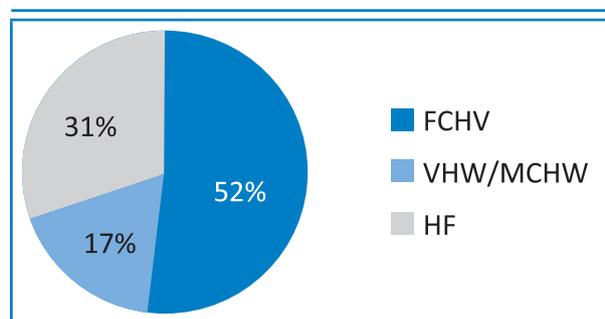
The programme has been successful in increasing the number of cases that received a quality standard of care, among those seeking care at government facilities.<sup>9</sup> There has also been a reduction in the prevalence of diarrhoea and pneumonia.<sup>8,15,19</sup>

In addition to the decline in prevalence of both diarrhoea and pneumonia, the severity of cases seen at health facilities has also dropped. A ten year analysis of HMIS data on the severity of the two illnesses shows a steady decline (Figure 1).<sup>24</sup> This likely reflects the early recognition and management of these illnesses at the community level, avoiding delays in care-seeking to health facilities.

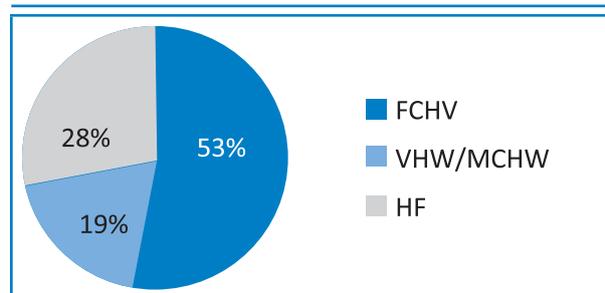


**Figure 1. Ten-Year Trend on Severity of Pneumonia and Diarrhoea**

FCHVs play a big role in the identification and management of ARI and pneumonia. The latest Annual Report of the DOHS shows that more than 50% of pneumonia and diarrhoea cases at the community level were treated by FCHVs (Figures 2, 3).<sup>24</sup>



**Figure 2. Treatment of Pneumonia**



**Figure 3. Treatment of Diarrhoea**

Programmatic evidence and survey data has shown repeatedly that FCHVs, literate and illiterate, are able to correctly classify a child as having pneumonia, and provide the correct treatment for age.

## WAY FORWARD

In many countries, community-based programmes have brought services closer to the people and have contributed to the reduction in the mortality and morbidity of under-5 children.

The Accredited Social Health Activists (ASHA) in India, for example, have similar characteristics as the FCHVs but differ in significant ways. Both are chosen by their community, both reside in the communities they serve, usually serving 1000 people or fewer. However, ASHA workers prioritise pregnancy and newborn care rather than case management.<sup>25</sup> In the 2011 evaluation of the programme, a high percentage of ASHA workers visited homes multiple times during a pregnancy, but unlike FCHVs, only a small percentage had cotrimoxazole in their drug kit.<sup>25</sup> The view of the role of the ASHA worker as referral facilitator or provider of lifesaving care also varies for different states in India. In Pakistan, a similar cadre of workers, the Lady Health Worker (LHWs), was established in 1994, with similar characteristics and catchment populations, although requiring a much longer training period of 15 months.<sup>26</sup> Like FCHVs, LHWs promote breastfeeding and immunisation, provide iron and folic acid supplements, distribute condoms and oral contraceptives, treat minor illnesses in women and children, and refer ill patients to health facilities. However, unlike FCHVs, they are required to have a minimum eight years of education, which has often resulted in few or no candidates, leading to uneven coverage of LHWs.<sup>26</sup>

In Nepal, the national vitamin A and CB-IMCI programmes, implemented through FCHVs, were the two earliest and most successful community-based programmes. Applying global meta-analysis figures, under-5 mortality has likely been reduced by up to 30% with vitamin A supplementation and an estimated 6000 lives are currently saved each year through community-based pneumonia case management.<sup>20</sup>

Therefore, these three historic programmes have made a substantial contribution to the improvement in health of children, and the community-based component is perhaps one of the most successful approaches in the world.<sup>17,20</sup> The FCHV programme is unique because their level of education, their presence in all wards of the country and the degree of responsibility given to the semi-skilled worker. Other countries have community

health workers, but often with higher education levels or greater catchment areas that may make it more difficult for them to be volunteer providers and may limit their interaction with the communities they serve. In addition, they may have a different spectrum of responsibilities or priority activities and are often not given the responsibility for treatment.

In Nepal, FCHVs cover all 75 districts and play a major role in the management of pneumonia, diarrhoea and other more tangible tasks and that when given this responsibility they perform well. The interplay between FCHVs and the health facilities that support them has strengthened the overall health delivery system, for example, helping increase compliance with iron, institutional deliveries, and management of neonatal sepsis by both FCHVs and peripheral health workers. There is strong evidence that FCHVs are capable of providing more than just education: FCHVs' contribution clearly resulted in the high vitamin A supplementation coverage and increased the percentage of pneumonia cases receiving a good standard of care, with apparent reduction in the severity of cases reaching health facilities. Success with pneumonia and vitamin A supplementation has led to other responsibilities being given to FCHVs, including maternal and newborn services, with similar results.

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## CONFLICT OF INTEREST

We declare no conflict of interest for this article

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