Nepal Family Health Program
Technical Brief #2

Vitamin A Supplements for Children

Child receiving vitamin A from a trained Female Community Health Volunteer.

BACKGROUND

Two field trials conducted in Nepal, by the Nepal Nutrition Intervention Project, Sarlahi (NNIPS) and John Hopkins University[1] (Sarlahi, 1989) and John Snow Inc. (Jumla, 1991) demonstrated that high dose supplementation with vitamin A of pre-school children every four-to-six months can reduce mortality by about 30 percent.

Based on this evidence, in 1993, the Nepal Ministry of Health initiated a program to provide high-dose vitamin A to children 6-59 months old twice yearly.

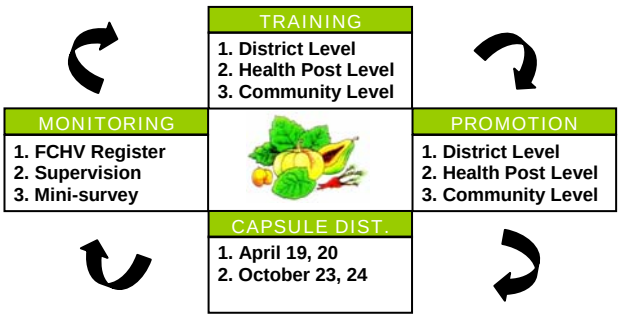
PROGRAM STRATEGIES

The Nepal Family Health Program (NFHP)—a program designed to improve the delivery and use of family planning and maternal and child health (MCH) services, particularly at the community level—partnered with a local nongovernmental organization, the Nepal Technical Assistance Group (NTAG), to provide technical support to the Ministry of Health and Population (MOHP) for the implementation of the National Vitamin A Program (NVAP), the primary element of which has been the supplementation of pre-school children. Vitamin A supplements are delivered to the children 6-59 months through Female Community Health Volunteers (FCHVs) who act as a vital link between the public health services and the community. FCHVs are unpaid local women who have been trained to provide basic health care and promote health awareness, use of health services and family planning in their own communities.

Currently there are about 49,000 FCHVs working throughout the country (see **NFHP Technical Brief #1: FCHVs**). Institutionalizing the role of FCHVs within the NVAP has played an essential part in the success of the program. The program was initiated in 1993, with technical assistance from NTAG, which developed an approach to roll out the program district-by-district with approximately 10 new districts added annually until national coverage was achieved. In order to establish the program in each district, four activities—training, promotion, distribution and monitoring—played a critical role in the introduction of NVAP. These activities are interrelated as they strengthen the link between the program and the community.

In each district NTAG provided technical support in initiating the program and for two rounds of capsule distribution. Subsequently, the district continues managing the program on its own. By October 2002, the program was established in all 75 districts. Biannual capsule distribution is now a routine activity and the focus of support is on sustaining the high coverage achieved.

Figure 1. Cycle of Activities for Expansion of NVAP



The supplement program uses a broad multi-sectoral and community-based approach. This approach involves the integration of different sectors of society (such as health, education, agriculture, local development) to provide a comprehensive health service. It consists of program advocacy with different sectors and levels of government. This approach helps generate widespread awareness and support for the program. It also engenders a sense of ownership and facilitates social mobilization. NVAP uses mass media and interpersonal channels to promote the program. FCHVs are also important interpersonal

channels and have an extensive reach within their communities delivering information regarding vitamin A and time and location of the supplementation event. They play a crucial role in providing knowledge to the community that can transform behavior and are the main service providers of the program, distributing capsules to children and postpartum women. NVAP has facilitated community participation and emphasizes capacity building. It has made huge efforts to involve the community in all aspects of the program, enabling a self-managed, self-reliant, sustainable intervention.

RESULTS

The overall results of the NVAP are impressive: the supplementation program for children has been successful in reaching out to every ward in the country. In 2007, both in spring and fall, vitamin A capsules were provided to 3.5 million children aged 6-59 months old through successful mobilization of 49,000 FCHVs.

Routine district-level mini-surveys have been conducted in 8-10 districts after every distribution round and these provided assessment of supplement coverage. The average coverage of vitamin A capsule distribution has been consistently high at 90 percent or higher every year for the past 10 years. This high coverage has also been validated by a number of external surveys including the Nepal Micronutrient Status Survey (1998), the UNICEF BCHIMES survey, and the 2001 and 2006 Demographic Health Surveys (DHS).

There is good reason to believe that this program has played a significant role in the very notable declines in under-five mortality documented in Nepal's last several DHS surveys.

Deworming Added to Supplement Distribution

Beginning in 1999, the success of NVAP's capsule supplementation approach led to integrating distribution of deworming tablets to children 12-59 months old with the biannual vitamin A supplement at distribution. Deworming was implemented in phases and covered all 75 districts by 2004. As with vitamin A, high coverage has been achieved.

The deworming program was examined in four districts during its introduction and found to reduce the prevalence and intensity of infection and substantially decrease anaemia rates. This significant reduction in anaemia has been verified at national scale by the recent 2006 DHS results.

Cost-Effectiveness

Vitamin A supplementation has been shown in a number of studies to be one of the most cost effective approaches for reducing child mortality. According to a study conducted by JL Fielder in 2001[2], the overall cost per child receiving one vitamin A capsule a year is US$ 0.34 and that of a child receiving two doses is US$ 0.74.

LESSONS LEARNED

- **Close collaboration and coordination** between the program partners is imperative. The MOHP, USAID, UNICEF, AusAid, NTAG and NFHP have worked together closely in making NVAP a 'people's program'.
- **Training people at different levels**, **from different sectors strengthens the program** (see the three-tier training depicted in the cycle of activities on Page 1). Including district, health post and community levels has strengthened the support for NVAP. Multi-sectoral representatives at all levels are brought together in trainings to understand the NVAP and how best to support its successful implementation.
- **Phased implementation enabled NVAP to lay a solid foundation in each district over time.** From 1993 until it was fully implemented in all 75 districts of the country in 2002, the program was implemented in phases. This has resulted in local ownership and self management of the program and a remarkable stability in coverage among all districts.
- **A strong sense of community ownership** towards NVAP helped the program generate extensive participation of community members and provided support to the FCHVs.
- **Regular program monitoring** enabled assessment of its effectiveness and identification of any weaknesses, allowing corrective measures to be taken.
- **Behavior change communication messages that address parents' concerns are more effective than generalized messages.** Communication through use of local announcements ("miking"), magic shows and school-based promotions are simple, straightforward, and effective in reaching the public. The messages used by NVAP addressed the most common concern of each parent—the health and well being of their children.

- **Consistently providing vitamin A on the same dates enables distributors and communities to plan more effectively.** Since its inception in 1993, supplementation has taken place every year on the same dates in April and October, making the supplementation service consistent and reliable.
- **Cost effectiveness can be achieved by integrating new interventions into the existing health structure.** With additional training and resource mobilization, NVAP, by using the existing government health structure—even with low technical and financial support—can create sustainability.
- **Community health workers—**such as Village Health Workers (VHWs)**—encourage and support FCHVs by meeting with them regularly.** In many districts monthly review meetings are conducted where FCHVs report on their service delivery, receive informal refresher training and collect their logistics supplies. This is working well to motivate them in their service to their communities.

CHALLENGES

- **Supply and logistics:** Perhaps the most critical element of the program is ensuring the supply of capsules to FCHVs. The overall logistics system needs to be strengthened in order to accurately estimate the total eligible children in each district, improve efficiency, and avoid inadequacy or stock-outs of supplies during distribution days.

  A standard protocol needs be developed in order to calculate the number of eligible children in each district and avoid inadequacy of supplies during supplementations.
- **Sustaining motivation:** NVAP has helped motivate FCHVs by addressing basic factors such as recognition, respect and support. However, motivation is not static but a dynamic process and in order to sustain the motivation of these able volunteers (before the FCHVs become less dedicated), the program needs to address more non-monetary incentives.

  In order to sustain the motivation of FCHVs, a support system should be created from existing community groups. By involving mothers groups and schools from the community to help the FCHV, her workload will be eased and she will feel well supported.
- **Endowment funds:** The FCHV Endowment Fund was started in 2001 in an effort to generate local financial incentive for volunteers. It is established with the interest accrued from the annual budget allocated to the Village Development Committee (VDC) and is at the disposal of nine FCHVs serving that VDC. Endowment funds have now been established in 50 districts.
- **Supervision and review meetings:** Health workers should support the volunteers through effective and regular supervision and review meetings. Review meetings should be held regularly to provide logistic support and motivation. While such meetings are conducted in some areas, they need to be held more broadly.

FCHV dispensing vitamin A.

- **Long-term behavior change:** Sub-clinical vitamin A deficiency among pre-school children is still high and justifies continuation of vitamin A supplementation. Measures should continue to be taken to encourage change in dietary behaviour, breastfeeding, and weaning through nutrition education. However, locally available vitamin A-rich foods will take a long time to exert an impact on the vitamin A status of the population. It has now been recognised that plant sources of vitamin A are less bio-available than previously understood. Animal sources are better but not likely to be consumed in adequate quantities for most Nepalese due to economic constraints.

  Promotion of animal sources should continue, as these are readily bio-available and (unlike plant sources), directly convert to retinol.

FCHV counselling a mother with child.

REFERENCES

1. "Efficacy of vitamin A in reducing child mortality in Nepal", Keith P et al; 1991, Lancet (8759)

2. “The Nepal National vitamin A Program: Cost Estimates for 2000 and Alternative Conjurations of a Nationwide Program." John L. Fiedler, March 2001, PHR *plus*.

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