

# Rapid vitamin A supplementation coverage surveys drive program improvement in Sierra Leone

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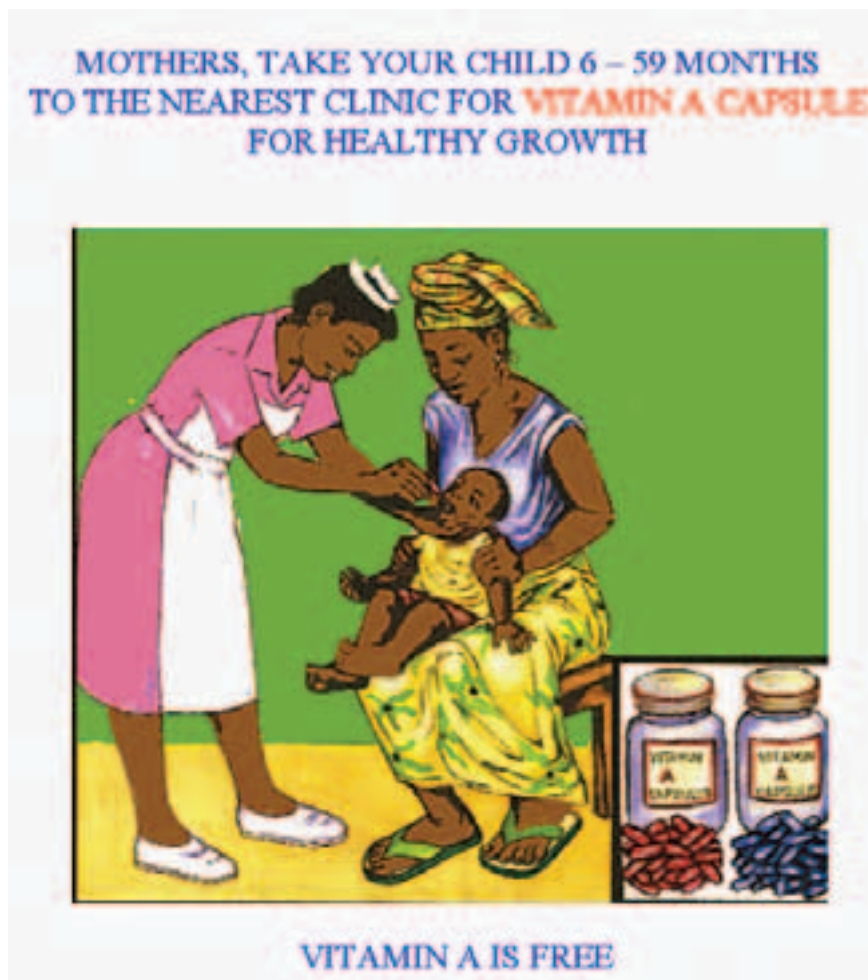
## Introduction

It is estimated that in sub-Saharan Africa over 42% of children under five years of age are at risk of vitamin A deficiency (VAD) and that sustained VAD control can avert over 645,000 child deaths per year (1). VAD control is an essential component of achieving the Millennium Development Goal (MDG) of reducing under-

five mortality by two-thirds by the year 2015 in sub-Saharan Africa in general, and in Sierra Leone in particular. UNICEF estimates that Sierra Leone has the highest under-five mortality in the world – 284 per 1,000 live births (2). It is estimated that 47% of children in Sierra Leone are at risk of VAD (3) and that sustained VAD control will avert over 37,000 child deaths over the next five years (4).

The Ministry of Health and Sanitation (MoH&S) of the Government of Sierra Leone is committed to sustained elimination of VAD. Bi-annual vitamin A supplementation (VAS) is the cornerstone of the VAD control strategy. The Nutrition Forum of the Economic Community of West African States (5) has set an objective of minimum 80% VAS coverage twice per year for children 6–59 months, in conjunction with National Immunization Days (NIDs) for all countries in the region.

Large-scale VAS started in 1999. Coverage estimates were based on tally sheets. Outdated census data (from 1985) and population movements due to the ten-year civil war resulted in very inaccurate estimates of the target

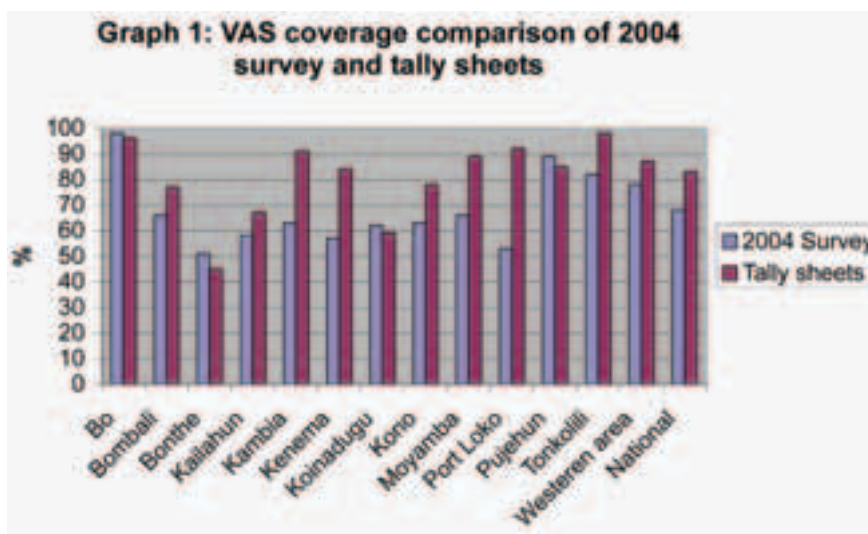


population. Therefore, rapid post-distribution coverage surveys have been critical to assess and improve VAS coverage. This article compares the results of the two rapid vitamin A coverage surveys that have been carried out, and describes the utility of the first survey in improving the subsequent VAS program.

**Material and methods**

Two surveys were carried out in 2004 and 2005, immediately following the national vitamin A distribution exercise, by independent research firms. Similar methodologies were used: seven mother-child pairs for each of 30 clusters were selected from each of the country’s 13 districts using a cross-sectional random cluster design. The total sample size was 2,730 child/caretaker pairs in 2004 and 2,940 child/caretaker pairs in 2005.

Data were collected through questionnaires designed with input from MoH&S, HKI and UNICEF. Interviews were conducted in local languages. Data input was done using Epi Info 6 software. Data cleaning and analysis were completed by the investigators using SPSS for Windows version



9. The chi-square test was used to check if there were any associations or differences in specific variables between the results of the two surveys.

**Results and discussion**

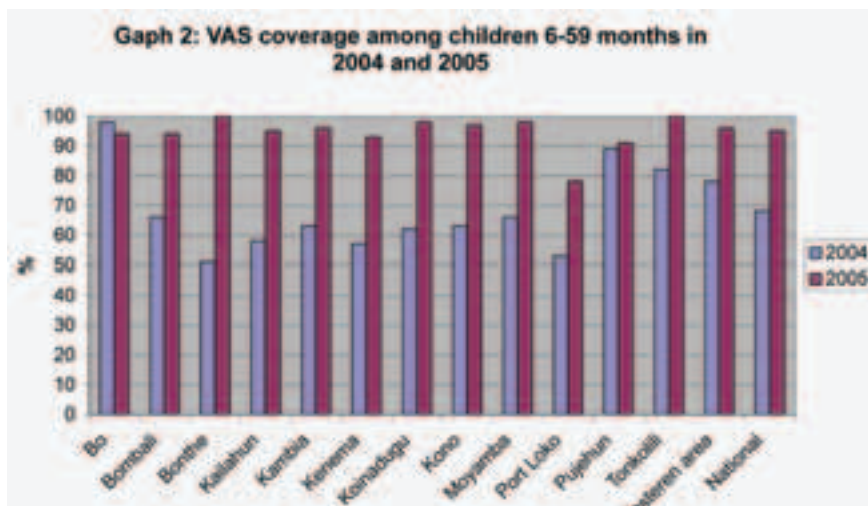
**Description of the samples**

Samples from the 2004 and 2005 surveys were compared; no significant differences were noted in terms of age distribution, sex ratio, and respondent’s relationship to the target child.

**Results and recommendations from the 2004 Survey**

The 2004 survey results showed that the vitamin A coverage rate

was 68.2% in children 6–59 months old, compared to the officially reported coverage rate of 83% by tally sheets (Graph 1). Coverage varied significantly between age groups: only 41% of children 6–11 months old received vitamin A capsules, versus 73% of children 12–59 months old. The 2004 survey showed a strong positive correlation between information received by mothers/caretakers on VAS and supplementation coverage among children 6–59 months old. Districts with high levels of information coverage also had high VAS coverage. This highlighted the need to intensify information dissemination through various channels in the districts, especially in districts with low



coverage rates. Recommendations based on the survey findings include: 1) Launch an intensive communication campaign prior to the distribution involving radio stations, community leaders, religious leaders, schoolchildren and women's groups; 2) Experiment with innovative distribution strategies in districts not yet meeting coverage goals; 3) Develop key messages and communication materials to promote VAS; and 4) Accelerate the transition from mass distribution to routine supplementation in districts that have attained high coverage. These recommendations were applied by MoH&S and its partners to improve the coverage and quality of VAS campaigns.

### Actions taken after the 2004 survey

#### Dissemination of the 2004 survey results

MoH&S, with technical assistance from HKI and UNICEF, developed and implemented a dissemination plan at national and district levels. The report was sent to all nutrition partners. Survey results were presented at micro-planning workshops for District Health Management Team members. The reasons for disparities between the tally sheets and the VAS coverage survey were discussed. Results

dissemination was achieved in conjunction with dissemination of VAS guidelines for children and postpartum women.

#### Consolidation of partnership and leadership

The results of the 2004 survey strengthened the partnership between the MoH&S, HKI and UNICEF. Within the MoH&S, it fostered collaboration between the Nutrition and Expanded Program on Immunizations (EPI) Divisions. This has resulted in improved planning at national and district levels and integration of VAS into routine EPI activities.

#### Improvement of vitamin A capsule supply

UNICEF focused on improving vitamin A capsule supply at district and national levels, both for the VAS campaigns and routine VAS.

#### Strengthening communication strategies

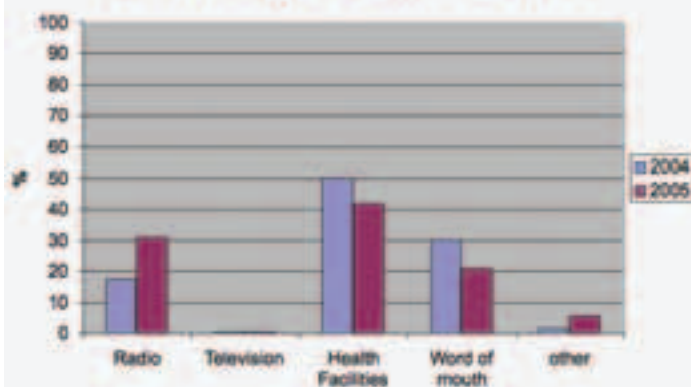
The social mobilization and communication campaign used mass media (television and radio), as well as district level communication channels such as posters, banners, town-criers and community radio. Emphasis was placed on strengthening the capacity of social mobilization units at district

and chiefdom levels, and of community radio stations with information in local languages. Current government policy encourages private sector participation in the information sector. This has led to increasing radio coverage as new FM stations were established in districts, complementing the government radio and television service. Eighteen new stations have emerged since the adoption of a private media law in 1996. These new community radio stations make frequent broadcasts in various local languages.

### Results of the 2005 survey

National VAS coverage in children 6–59 months increased from 68% to 95% between 2004 and 2005 ( $\chi^2=699.7$ ,  $df = 1$ ,  $P<0.0001$ ). Two out of 13 districts (15.4%) reached more than 80% of coverage rate in 2004 against 12 out of 13 health districts (92%) in 2005. Only Port Loko health district among those with the lowest coverage rates in 2004 did not reach 80% in 2005 (Graph 2). In addition to this major improvement, the coverage difference between age groups, as shown in the 2004 survey, was significantly reduced in 2005: 91.8% in infants 6–11 months old versus 95.5% in children 12–59 months old. Mothers' knowledge of the campaign also increased (79% in 2004 versus 96% in 2005). The most important sources of information on the VAS campaign for mothers/caretakers were the health facilities. The proportion of mothers informed through radio increased from 17.4% to 30.9% ( $\chi^2=139.6$ ,  $df=1$ ,  $P<0.0001$ ) (Graph 3). About 54% of respondents stated that they had access to radio. The radio station network has greater potential for health and nutrition information dissemination compared to television, particularly due to the growing network of community radios. The proportion

Graph 3: Main source of knowledge regarding vitamin A during campaigns of 2004 and 2005





of the population informed by television remains very low because of low access to television.

## Conclusion and recommendations


MoH&S and its partners implemented biannual VAS campaigns through NIDs, Day of the African Child, and measles vaccination campaigns. In 2004, the first survey showed a low VAS coverage with large disparities between districts. Officially reported coverage rates through tally sheets were usually very high at national and district levels, giving an illusion of good performance. Implementation of the 2004 survey recommendations gave the MoH&S and its partners an opportunity to refine distribution strategies and to significantly improve VAS coverage in preschool children in all health districts. This experience shows that national rapid coverage surveys are a vital tool to assess and improve coverage. They are a complement to monitoring and evaluation tools designated to promote full and sustained protection of under-five children from VAD.

The major issues to address in the future are:

- How to maintain and sustain this high level of VAS coverage by developing and implementing a national action plan
- How to use the biannual platform to deliver a package of low cost, high impact child survival interventions.
- How to expand VAD control to include food fortification, breast-feeding support and promotion, and dietary diversification in addition to VAS.

## Acknowledgements

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*The following report was compiled by Anne-Catherine Frey, based on various correspondence and reports from Mr Bani Mora (editor).*

## Philippe Bani Mora, Bembereke, Benin

Already a qualified nurse, I wished to pursue my studies in the field of nutrition. So I contacted SIGHT AND LIFE requesting a student grant to study at the Institute of Public Health (ISP) in Niamey (Niger) with a view to becoming a Public Health Technician, with a focus on Human Nutrition.

This involves three years of training at the ISP. At the end of the course, the nutritionist must be capable of conducting nutritional surveys, educating the public about nutrition, taking charge in cases of malnutrition and



*First work with undernourished children.*



*Children waiting for vitamin A capsule distribution.*