TECHNICAL BRIEF

Sustainability of Vitamin A Supplementation Programs

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THE EVOLUTION OF VITAMIN A SUPPLEMENTATION PROGRAMS

Vitamin A supplementation has had a dramatic impact on child mortality, leading many countries with high rates of under-five child mortality to implement universal supplementation programs of children 6-59 months old. To date, the most effective delivery mechanism is a regular twice-yearly event with programs striving to achieve >80% coverage of this target group.

The initiation of such programs requires an adequate supply of vitamin A capsules, often in two different doses, and an effective delivery mechanism that can be maintained through the health care system. International partners, primarily UNICEF and the Canadian International Development Agency (CIDA), have mechanisms in place to provide vitamin A capsules for delivery to under-five children, twice yearly. Donor support has also brought technical and financial assistance for initiating and maintaining programs. As programs mature, Ministries of Health within countries will face increasing pressure to incorporate these costs into their health budgets.

Several forces have the potential to adversely affect vitamin A programs, which are still relatively young compared to established immunization and clinical programs. As part of decentralization, districts are being asked to develop their own health priorities and budgets, and different programs are competing for the limited funds available. With donors increasingly funding general health 'baskets,' funds are directed less toward specific programs. This trend may progress to donor funds applied to the overall government budget of countries, thus making health issues compete with other government ministries for funds.

In this changing environment, countries are challenged to sustain successful vitamin A programs. Currently, high under-five mortality countries are divided into those without established programs, those with established programs but inadequate coverage, and those with established programs and coverage > 80 percent. Some countries experience high rates and stable coverage, while for others, it varies greatly from distribution to distribution, and between districts.

As programs mature, monitoring and evaluation systems should determine whether the program has achieved reasonable stability, what factors might threaten this stability, and what factors suggest a risk of program vulnerability in the future. This technical brief discusses sustainability indicators and tools, provides an example of their use, and discusses factors that affect program sustainability and vulnerability.

Photo courtesy of L. Lartigue

Checking a list of students to be given vitamin A

ASSESSING SUSTAINABILITY IN MICRONUTRIENT PROGRAMS

Very little has been done to assess sustainability for micronutrient programs, in part because such programs are still relatively young. However, sustainability assessments in other health programs, such as the global onchocerciasis program, (APOC and WHO, 2004) and reviews of the shifting financial responsibility for immunization programs (WHO et al., 2004) can serve as models. A number of studies exist on the cost-effectiveness of vitamin A supplement programs (MOST, 2004; 2005) as well as comparisons of Ministry costs to establish and maintain a preventive program. While these studies use theoretical models, the cost-effectiveness of vitamin A programs is well established, demonstrating dramatic savings for countries initiating successful programs.

Salt iodization is one micronutrient program with sustainability assessments. Established in the 1990s to address iodine deficiency, many of these programs are now quite mature. Since they represent a partnership between government and private salt industry, sustainability depends on factors affecting both. In theory, consumer demand and producer economics allow for long-term sustainability for salt iodization because producers pass off the costs to consumers, who demand iodized salt. However, until stability is achieved, a number of variables can threaten salt iodization efforts. To assess sustainability, UNICEF developed regional tools that measure the progress of salt iodization programs based on impact, coverage, production, legislation, enforcement, political commitment, management, communications, and monitoring. Program vulnerability was assessed from a series of 'sustainability indicators' derived from these key indicators, as outlined in table 1.

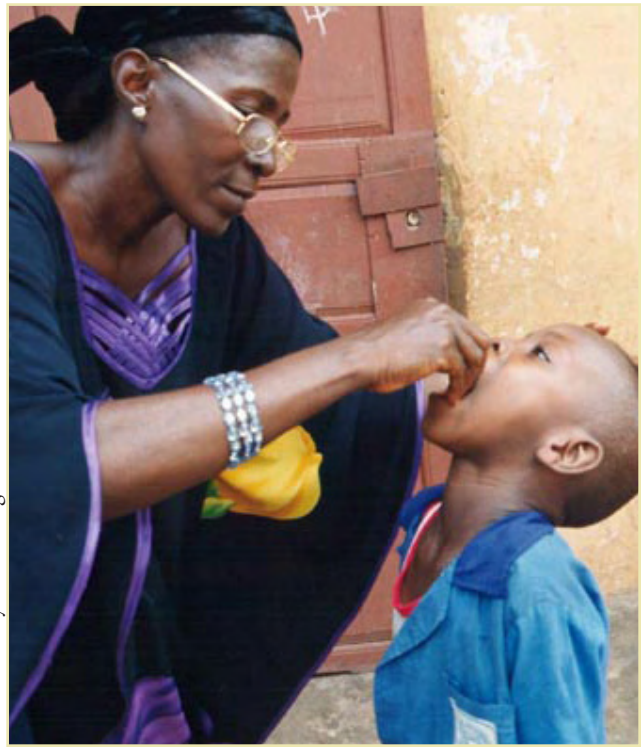
The United States Agency for International Development (USAID), through A2Z: the USAID Micronutrient and Child Blindness Project, used this approach to develop a similar model for vitamin A supplement programs. A list of program indicators was developed that incorporated commonly assessed indicators such as coverage along with information on policy, health infrastructure, procurement and logistics supply, and donor coordination. Sustainability indicators were derived from this list (table 2). Most of the information needed to calculate a sustainability score is available at the national level for many countries.

DISTRICT LEVEL SUSTAINABILITY ASSESSMENT IN TANZANIA

Although the vitamin A sustainability model has not yet been widely applied, the A2Z Project adapted it and applied it as a district sustainability tool in Tanzania. In that country, decentralization is rapidly occurring and donors are shifting funds from program specific support to 'basket' funds. The sustainability of the vitamin A supplementation program in Tanzania was examined in the face of these changes.

The Tanzania program has achieved apparent stability, with most regions consistently achieving coverage above 80 percent. Districts have included the twice-yearly distribution in their planning, and other than centralized procurement and distribution of capsules to district centers, most districts receive little additional help. However, with increasing district autonomy over funds, and decreasing supplemental funds, there is a concern that rates of vitamin A supplementation coverage might fall.

In 2006, the questionnaire-based district sustainability tool was developed, tested, and modified, and is now being applied to all districts in Tanzania. The vitamin A supplementation tool is used to collect data from all districts on factors that might affect the stability of the program as well as impressions from district and health facility staff on areas of vulnerability. The instrument provides a mechanism for scoring each question, which results in a vulnerability score for each district that can be compared against coverage trends. The tool includes a number of questions directed at district staff, health facility staff, and community leaders. The questions are organized by informational categories as shown in table 3.



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A school administrator giving a dose of vitamin A

For each of these informational categories, those questioned were asked whether they thought various aspects of the program were likely to be sustainable. Their responses were included in the overall scoring used for all questions. The 'sustainability score' allows district and national managers to identify potential risk areas and compare coverage rates and trends across districts.

A more basic, but similar analysis is underway in Zambia where coverage has been much less stable, with large variations in reported coverage between districts and between supplementation rounds. For the past several years, following each round, districts provide the national coordinator with data on the round, and this includes information on financial and human resources, logistics, and programmatic activities. Since the program is not yet stable, this information is not being used to assess sustainability, but it will help determine the most important variables influencing the likelihood of achieving and sustaining adequate coverage.

FACTORS AFFECTING PROGRAM SUSTAINABILITY AND VULNERABILITY

From these exercises, and from discussions with national and district vitamin A supplementation program managers, a number of critical factors that affect program vulnerability and the likelihood of program stability are emerging. To demonstrate progress toward a more sustainable system, part of the assessment for sustainability must interpret some of this critical information over time. For example, it may take many years for national programs to become independent of donor funds for vitamin A capsules. However, incremental incorporation of this and other program costs suggests progress toward a sustainable program. Similarly, decreasing variability in coverage and positive trends in national and regional estimates suggest increasing stability of the program.

The following general categories of information are likely to be needed to understand program vulnerability:

- National level government commitment, as reflected in policy development and commitment to an effective delivery mechanism
- National level vitamin A capsule procurement, with decreasing dependence on donors, and incorporation of vitamin A capsules into normal essential drug distribution systems
- Integration of vitamin A supplementation distribution mechanisms into national level activities, such as training, communication plans, and monitoring systems
- District level staff awareness and acceptance of the importance of the program
- District level planning, management, and budgeting
- District level staffing and use of distributors (volunteer or other)
- District logistics supply management and limitations of stockouts at distribution sites
- District level quality of data used for monitoring vitamin A supplementation programs
- Community-level engagement in planning and mobilization
- Coverage achieved, trends and variability in coverage

As programs mature, the need will increase for further testing of different mechanisms to assess program vulnerability and the likelihood that the program will achieve sustainability. With data from several countries allowing a correlation between different 'sustainability indicators' and coverage achieved, these approaches can be refined, and a tool developed to assist national and district managers in the prioritization and allocation of resources to ensure continuation of high vitamin A supplementation coverage.

ASSESSMENT READINESS

Most countries are not currently in a position to assess sustainability, since they have either not achieved high coverage, or their coverage is not yet stable. Assessing sustainability should not be undertaken until the vitamin A supplementation program is stable, with a coverage > 80 percent for children 6-59 months old (or other targeted age group). Once this has been achieved, it may be valuable for countries to assess their program for vulnerability, particularly if districts are taking on more overall responsibility for planning, implementing, and financing the vitamin A supplementation distribution.

At the national level, program managers with mature programs should develop tools to assess the level of commitment of the government, the trend of including costs into the national budget, and the direction that national vitamin A capsule procurement is going—continued reliance on donor supplies vs. national procurement. In addition, an instrument should be developed to gather information from districts on the variables discussed above, to enable managers to compare districts with regard to coverage and related variables.

Analysis of this information will provide managers with specific actions that can be taken to reduce program vulnerability. These may include advocacy to strengthen government support, capacity-building to increase district efficiency, logistics management systems to improve vitamin A capsule availability and timely distribution, or addressing the specific concerns of districts with high coverage variability.

Table 1. Indicators developed for assessing the sustainability of salt iodization programs

11. SUSTAINABILITY
11.1 Producers of iodized salt fully maintain production without external support
11.2 National legislation on iodized salt exists AND is enforced
11.3 Elimination efforts of iodine deficiency disorders (IDD) can be maintained without external funding
11.4 Population iodine status and iodized salt use is monitored
11.5 Political commitment for IDD elimination and national ownership of the program is evident
Sustainability score (0-5)

Table 2. Indicators developed for assessing the sustainability of vitamin A supplementation programs

PROGRAM AREA	SUSTAINABILITY INDICATOR	CRITERIA
Policy and political commitment	National policy exists and provides a distribution mechanism demonstrated to be able to achieve high coverage	yes
	Policy outlines twice yearly and clinical use of vitamin A supplements in children 6-59 months old, and use in post-partum women	yes
	Political commitment for vitamin A elimination and national ownership of the program is evident	yes
Procurement and logistics supply	Vitamin A capsules (VAC) purchased nationally using >50% government funds	yes
	Health facilities (HF) routinely provided with adequate vitamin A capsules	0 % of HF report stock out on annual basis
	VAC included in routine district drug distribution to HF (for post-natal, clinical and twice-yearly event if no other mechanism exists)	yes
	% of distribution sites/distributors reporting disruption of service due to lack of vitamin A supplements	<10%
Management	Vitamin A elimination efforts can be maintained without external funding	All program elements (except periodic surveys) done through existing Ministry system
	Twice-yearly (or viable alternative) distribution is included in district plans	yes
	Mechanisms are tested and in place for communicating timing of twice-yearly distribution to HF and population	yes
Coverage	District monitoring mechanism for twice yearly distribution is in place, including clear tally sheets and data aggregation mechanism	yes
	Most recent national coverage in children is >80%	yes
	VAC coverage does not vary by more than 15% from round to round, or between districts	% of districts meeting this criteria
	Coverage in children and post-partum women is monitored nationally	100% of districts report coverage estimate; HMIS includes post-partum dose
	% of last 10 cases of VA treatable illnesses with VA recorded as being given, among sampled health facilities	>80%
	SUSTAINABILITY SCORE (0-15)	15

Table 3. Tanzania district sustainability assessment tool component

CATEGORY OF INFORMATION	TYPES OF INFORMATION COLLECTED
Planning	Presence of a VAS coordinator, inclusion in district planning meetings
Management and leadership	Sites and staff used, population served, measures of efficiency, perceptions of whether program is simple to implement
Logistics supply	National procurement, district distribution and timing, estimation of needs, availability of transport for supplies, partnering with other groups
Training, supervision and monitoring	Whether distribution is 'routine', perceptions of workers, extra payment of workers, perceptions of importance of distributions
Advocacy and community ownership	Awareness of program importance among community leaders and management teams, degree of community planning
Financial resources	Amount of funds allocated compared to needs, sources of funds, use of basket vs. other supplemental funds
Human resources	Adequacy of manpower for distribution, ratio of distributor to population, involvement of NGOs
Coverage	Coverage achieved, coverage trends, coverage variability from round to round

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